Haven for Hope
Where Homelessness Ends and Healing Begins

Request for Proposal (RFP) – Resource Center Sump Pump
Basis for Proposal/Pricing
May 7, 2025

1. Statement of Purpose & Background:

Haven for Hope of Bexar County ("Haven for Hope") has operated its 22-acre Transformational Campus just west of downtown San Antonio, Texas for the last 15 years. Haven for Hope's mission is to provide a place of hope and new beginnings by providing, coordinating, and delivering an efficient system of care for people experiencing homelessness in San Antonio, with a vision of ending homelessness by empowering individuals and families to transform their lives.

Haven for Hope currently has a sump pump system located in the basement of its Resource Center building. Haven for Hope is seeking proposals for the design, construction, and installation of a new sump pump system located in the basement of the Resource Center building.

2. Project Specifications / Scope of Work:

This project includes the turnkey design, construction, and installation of an upgraded sump pump system, as specified below:

- *System Design & Installation*
  - *Install a new sump and pump system at the Resource Center*
  - *Discharge water shall be piped (via ceiling hangers) to the existing discharge water system.*
  - *For bidding purposes, assume:*
    - *36-inch by 36-inch square, 7-foot deep, concrete-lined sump*
    - *Two (2) heavy duty 50 GPM pumps with floats*
    - *Associated electrical*
    - *Associated plumbing*
    - *Convert an existing bunk room area to be a staging space for the new sump pump system.*
- *Bid should include*
  - *Design and installation,*
  - *Labor, clean-up, and haul-off,*
  - *Protection of existing improvements, and*
  - *All necessary materials, permits, fees, general conditions, and mark-up.*
- *Cleanup and Restoration:*
  - *Upon project completion, the contractor must clean and restore the work area to its original or better condition. This includes debris removal and ensuring no disruption to Haven's operations.*
  - *Haven for Hope will provide 100% construction documents, including stamped MEP plans, as part of this RFP. These plans are to be used for bidding and construction. The*

selected contractor may be required to submit either redlined construction drawings reflecting any field deviations or full as-built drawings, at Haven for Hope's discretion. This requirement will be confirmed prior to contract execution.

Warranty: Upon final payment there will be a 60-day, 10% retainage that will be withheld and a 2-year warranty on workmanship and parts. Payments will be made in three milestones.

3. COMPLIANCE, INSURANCE, & OTHER REQUIREMENTS:

- All materials and installations must adhere to state and federal procurement regulations. All work conducted under this RFP must strictly adhere to and comply with all applicable legal and regulatory guidelines throughout the duration of the project.

- All contractor staff assigned to this project must meet the requirements to gain access to Haven's property. Additional access information will be provided upon request.

- Proposals must include costs and a timeline to obtain all necessary permits for installation and any other work required under the proposal.

- Interested parties must obtain and maintain any insurance required by law, but must at least include: (i) broad form commercial general liability insurance in amounts for bodily injury and property damage of $1,000,000 per occurrence and $2,000,000 general aggregate (or equivalent in umbrella or excess liability coverage); (ii) causes of loss-special form property insurance, issued on a replacement-cost basis and insuring the full value of the contractor's property and property for which contractor is legally liable, including vehicles; (iii) workers' compensation and employer's liability in amounts of at least $1,000,000; and (iv) business automobile liability, for owned, leased, non-owned and hired vehicles, with combined single limit for bodily injury and property damage of $1,000,000 per occurrence (or its equivalent in umbrella or excess liability coverage).

    - All policies shall be primary, name Haven as an additional insured, and be issued by insurance company(ies) qualified to do business in the State of Texas and having a Best Rating of at least A-VII.

- The awarded contractor must furnish a performance and payment bond equivalent to **100% of the contract value** before starting the project.

- **Worksite Safety & Security:** The contractor is responsible for securing the worksite, ensuring OSHA compliance, and maintaining a safe work environment and protecting employees, clients, and visitors during the project.

- **Work Schedule Restrictions:** Work may only be conducted Monday through Friday, 8:00 AM to 6:00 PM, unless approved in advance by Haven for Hope

4. PROPOSAL SUBMISSION GUIDELINES:

Interested parties should submit their proposals by **5:00 PM on Thursday, May 22, 2025,** via email to RFP@havenforhope.org and Earvin.reinhardt@havenforhope.org.

Proposals should include:

- Detailed project plan and timeline;
- Cost breakdown including materials and labor;
- List of required permits, including associated costs and timelines;
- Description of relevant experience; and
- Certificate of Insurance (COI)

A site visit will be conducted on **Wednesday, May 14, 2025, at 10:00 AM** at 1 Haven for Hope Way, San Antonio, TX 78207. We will meet outside the Volunteer Center. The site visit is highly recommended to answer all questions and to provide clarification.

Any other inquiries and/or requests for clarification should be sent in writing to Earvin Reinhardt and the RFP evaluation group at the contact information listed in this RFP.

5. Contact Information:

Earvin Reinhardt
Director of Logistics and Facilities Management
Email: Earvin.reinhardt@havenforhope.org with CC to RFP@havenforhope.org
Office: 210-220-2112

6. Attachments:

- Attachment A – 100% Construction Documents

7. Evaluation Criteria:

Proposals will be evaluated based on:

- Adherence to project specifications;
- Proposed timeline;
- Cost-effectiveness; and
- Relevant Experience

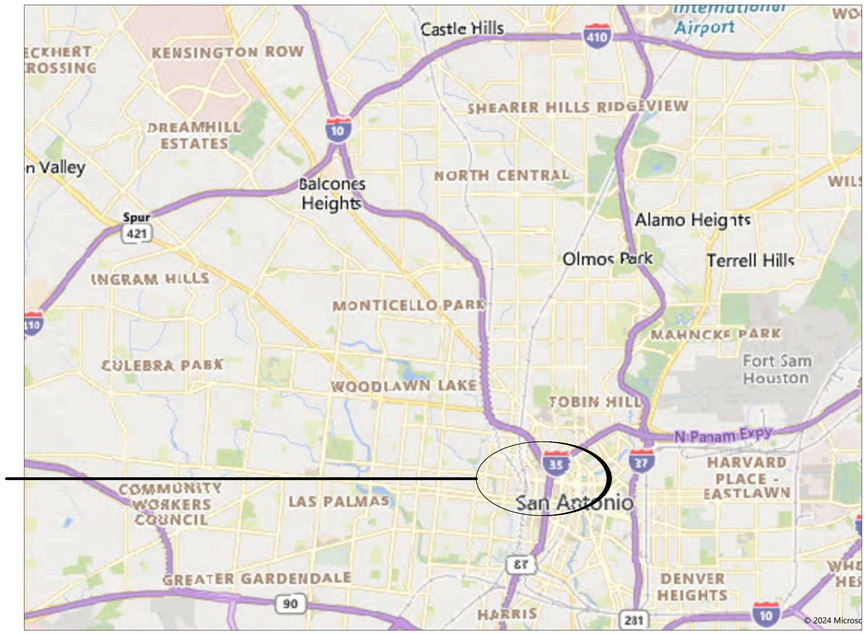
Haven for Hope reserves the right to reject any or all proposals received in response to this RFP, to waive any informalities or irregularities in the proposals received, and to negotiate with any qualified interested party.

Thank you for your interest in this project at Haven for Hope. We look forward to reviewing your proposal.

ATTACHMENT A

100% Construction Documents

HAVEN FOR HOPE
RESOURCE CENTER SUMP SYSTEM
1 HAVEN FOR HOPE WAY
SAN ANTONIO, TX 78207



SHEET INDEX

GENERAL:

SHEET NUMBER	SHEET TITLE
G0.0	GENERAL COVER SHEET

STRUCTURAL:

SHEET NUMBER	SHEET TITLE
S0.1	STRUCTURAL NOTES
S0.2	SPECIAL INSPECTIONS & LEGENDS
S1.1	FOUNDATION PLAN

MEP:

SHEET NUMBER	SHEET TITLE
MEP000	MEP SYMBOLS AND ABBREVIATIONS
MEP101	MEP OVERALL FLOOR PLAN
MEP201	MEP LOWER LEVEL PLAN - NEW WORK
MEP301	MEP DETAILS
MEP401	PLUMBING SPECIFICATIONS
MEP402	ELECTRICAL SPECIFICATIONS
MEP403	ELECTRICAL SPECIFICATIONS

PROJECT # 25-019

Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

SEALED DOCUMENTS

DATE OF ISSUE: 05/02/2025

S T R U C T U R A L N O T E S

1000 COORDINATION

A. The Contractor shall compare the Architectural, Structural, Mechanical, Electrical, Plumbing, and other series drawings and report any discrepancies between each set of drawings and within each set of drawings prior to fabrication and installation of any structural members.

B. Only larger sleeve openings and framed openings in structural framing component members are indicated on the Structural Drawings. However, all sleeves, inserts and openings, including frames and/or sleeves shall be provided for passage, provision and/or incorporation of the work of the contract, including but not limited to Mechanical, Electrical and Plumbing work. This work shall include the coordination of sizes, alignment, dimensions, position, locations, elevations and grades as required to serve the intended purpose. Openings not indicated on the Structural Drawings, but required as noted above, shall be submitted to the Engineer for review.

C. Refer to Architectural, Mechanical, Electrical and Plumbing drawings for floor elevations, slopes, drains and location of depressed and elevated floor areas.

D. Compatibility of the structure and provisions for building equipment supported on or from structural components shall be verified as to size, dimensions, clearances, accessibility, weights and reaction with the equipment for which the structure has been designed prior to submission of shop drawings and data for each piece of equipment and for structural components. Differences shall be noted on the submittals.

E. Shop drawings shall be prepared for all structural items and submitted for review by the Engineer. Structural Drawings shall not be reproduced and used as shop drawings. All items deviating from the Structural Drawings or from previously submitted shop drawings shall be clouded.

F. The details designated as "Typical Details" apply generally to the Structural Drawings in all areas where conditions are similar to those described in the details.

G. All dimensions and conditions of existing construction shall be verified at the job site prior to the preparation of shop drawings. Differences between existing construction and that shown on the Structural Drawings shall be referred to the Architect. Differences shall also be clouded on the shop drawings.

H. All structural elements of the project have been designed by the Engineer to resist the required Code vertical and lateral forces that could occur in the final completed structure only. It is the responsibility of the Contractor to provide all required bracing during construction to maintain the stability and safety of all structural elements during the construction process until the lateral-load resisting or stability-providing system is completely installed and the structure is completely tied together. Temporary supports shall not result in the overstress or damage of the elements to be braced nor any elements used as brace supports.

I. The Contract Structural Drawings and Specifications represent the finished structure, and except where specifically shown do not indicate the means or methods of construction. The Contractor and their Sub-Contractors shall supervise and direct the Work and shall be solely responsible for all construction means, methods, procedures, techniques, sequences and safety measures including, but not limited to, adherences to all OSHA guidelines. The Engineer shall not have control of, and shall not be responsible for, construction means, methods, techniques, sequences or procedures, for safety precautions and programs in connection with the Work, for the acts or omissions of the Contractor, Subcontractors, or any other person performing any of the Work, or for the failure of any of these persons to carry out the Work in accordance with the Structural Contract Documents.

J. Where conflict exists among the various parts of the Structural Contract Documents, Structural Drawings, General Notes, and Specifications, the strictest requirements, as indicated by the Engineer, shall govern.

K. Periodic site observation by field representatives of Intelligent Engineering Services, LLP (IES) is solely for the purpose of determining if the Work is proceeding in accordance with the Structural Contract Documents. This limited site observation is not intended to be a check of the quality or quantity of the Work, but rather a periodic check in an effort to inform the Owner against defects and deficiencies in the work of the Contractor.

1010 SUBSTITUTIONS

A. All requests for substitutions of materials or details shown in the Structural Contract Documents shall be submitted for approval during the bidding period.

B. Once bids are accepted, proposed substitutions will be considered only when they are officially submitted with an identified savings or duration to be deducted from the contract and/or schedule impact. Submittals not satisfying the above criteria will not be reviewed.

1020 CODES

A. The General Building Code used as the basis for the structural design is as follows:

City of San Antonio Building Code 2021 International Building Code with City of San Antonio Amendments)

1030 IBC 2021 DESIGN LOADS

A. Dead Loads include the self-weight of the structural elements and the following superimposed loads:

B. Live Loads

OCCUPANCY OR USE	UNIFORM (psf)	CONCENTRATED (lbs.)
Grating	N/A	300
Assembly	100	N/A

Notes:
1. Live load shall not be reduced.
2. Uniform live loads have been reduced using either the basic or alternative live load reduction equations in accordance with the General Building Code, Section 1607.12 as follows:

   a. Basic Uniform Live Load Reduction:

   $L_{red} = LL\ (0.25+(15/\sqrt{(K_{LL}*A_T)}))$

   Where L_{red} = Reduced Live Load (psf), shall not be less than 0.5 LL for members supporting one floor and 0.4 LL for other members.
   LL = Unreduced Live Load (psf)
   K_{LL} = Live Load Element Factor
   A_T = Tributary Area (sf)

3. Live loads exceeding 100 pounds per square foot have not been reduced, except members supporting 2 or more stories, live loads have been reduced 20 percent maximum.

C. Snow Loads

Ground snow load, P_g	5 psf

D. Roof Rain Loads

Rain intensity, i	4.7 in/hr

E. Wind Loads

1. Wind lateral load on structural frame is based on ASCE 7 using the following:

Ultimate Design Wind Speed (V_{ult})	115 mph
Nominal Design Wind Speed (V_{asd})	90 mph
Exposure Category	C
Internal Pressure Coefficient, GCpi	+/-0.18
Risk Category	III

F. Seismic Loads

1. The structure and structural components of the building have been designed in accordance with General Building Code with the following criteria:

Seismic Importance Factor, I_e	1.25
Risk Category	III
Mapped Spectral Response Accelerations	
S_s (g)	0.051
S_1 (g)	0.023
Site Class	D
Design Spectral Response Accelerations	
S_{DS} (g)	0.054
S_{D1} (g)	0.036
Seismic Design Category	A

1100 SUBMITTALS

A. Shop drawings shall be prepared for all structural items and submitted for review by the Engineer. Structural Drawings shall not be reproduced and used as shop drawings. All items deviating from the Structural Drawings or from previously submitted shop drawings shall be clouded.

B. Contractor shall review shop drawings for compliance with the Structural Drawings and shall certify that they have done so by a stamp noting that the drawings have been "Approved" and which bears the signature (or initials) of an authorized representative of the Contractor and the date. Submittals which do not reflect the Contractor's approval, signature and date will be returned without review.

C. Contractor shall be responsible for delays caused by rejection of inadequate shop drawings.

D. Where review and return of shop drawings is required or requested, the Engineer will review each submittal and, where possible, return within 2 weeks of receipt.

E. Corrections or comments on shop drawings or manufacturer's data sheets do not relieve the Contractor from compliance with requirements of the plans and specifications. Engineer's review is for general conformance with the requirements of the Structural Drawings. Contractor is responsible for confirming and correcting all quantities and dimensions, selecting fabrication processes and techniques of construction, and coordinating the work with that of all other contractors.

F. Refer to individual sections for specific submittal requirements.

3000 CAST-IN-PLACE CONCRETE

A. Structural Concrete Code: Building Code Requirements for Structural Concrete, American Concrete Institute, ACI 318, as referenced by the General Building Code.

B. Classes of Concrete

1. All concrete shall conform to the requirements as specified in the table below, unless noted otherwise on the Structural Drawings:

2. Concrete Mix Schedule:

Conc Class	Strength psi	Agg Type	Max Agg Size	Slump Inches	Max w/c	Notes
A	4000	NWT	3/4"	3-5	---	

   a. "NWT" refers to normal concrete having an dry unit weight of approximately 145 pcf (ASTM C33 AGGREGATE)
   b. Where the w/c ratio is not indicated in the Concrete Mix Schedule, it shall be as necessary to meet strength requirements.
   c. Strength" is required compressive cylinder strength at an age of 28 days.
   d. "Maximum aggregate size" is defined as first sieve with greater than 15 cumulative percent retained.

3. Mix Usage Schedule:

Description of Use	Concrete Class	Air Content
Sump Pit Walls, Footing, and Slab Pour-back	A	---

C. Horizontal construction joints in concrete placements shall be permitted only where indicated on the Structural Drawings. Contractor shall submit proposed locations for construction joints not shown on the Structural Drawings for review by the Architect and Engineer. Additional construction joints may require additional reinforcing as specified by the Engineer which shall be provided by the contractor at no additional cost to the owner.

D. Concrete sampling for quality assurance: Concrete that is pumped shall be sampled at the point of discharge from the truck.

E. Submittal: Submit proposed mix designs in accordance with ACI 301, chapter 4.2.3. Each proposed mix design shall be accompanied by a record of past performance or by three laboratory trial mixtures with confirmation tests

3200 CONCRETE REINFORCING

A. Concrete reinforcement for the project shall conform to the following:

1. All reinforcing steel shall be new billet steel in accordance ASTM A615, Grade 60, unless noted otherwise in the Structural Drawings or these notes.

B. Detailing of reinforcing steel shall conform to the American Concrete Institute 315 Detailing Manual and all hooks and bends in reinforcing bars shall conform to ACI detailing standards, unless noted otherwise on the Structural Drawings.

C. In unscheduled grade beams, walls, and slabs, detail reinforcing as follows:

1. Provide Class B lap at all locations.
2. Provide standard hooks in top bars at cantilever and discontinuous ends of beams, walls and slabs.
3. Provide corner bars for all horizontal bars at the inside and outside faces of intersecting beams or walls.
4. Provide 2-#4 diagonal bars at all slab re-entrant corners placed under the top mat of steel.

D. Reinforcing steel clear cover shall be as follows:

1. Sump Pit Walls	1" interior, 2" exterior exposure
2. Footings	3" bottom, 3" sides, 1" top

E. Submittal: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Details and Detailing of Concrete Reinforcement". Do not reproduce the Structural Drawings for use as shop drawings.

5050 POST-INSTALLED ANCHORS AND DOWELS

A. Adhesive Doweling

1. Adhesive doweling system shall be one of the following products:

   a. HIT RE 500-V3, Hilti Inc.
   b. Pure 220+, DeWalt (Powers)
   c. AC200+, DeWalt (Powers)
   d. SET 3G, Simpson Strong-Tie.

B. Install dowels in strict accordance with the adhesive manufacturer's instructions.

C. Clean out holes with compressed air after drilling per manufacturer's printed installation instructions or use manufacturer's alternate hole cleaning procedures.

D. Prior to drilling holes for dowels, locate existing reinforcing steel with a Pachometer (R-Meter) or by drilling 1/4 inch diameter pilot holes. Relocate bolt holes as required to avoid existing reinforcement.

E. The Contractor shall locate all existing reinforcing steel and other embedded items contained in the concrete using non-destructive methods and shall position anchor locations to avoid conflicts with existing embedded items. Anchor locations can be adjusted by a maximum of 1 1/2 inch from detailed locations to avoid conflicts, unless noted otherwise. Submit an as-built of anchor locations to engineer.

F. All abandoned holes shall be filled with non-shrink grout.

G. Installation of anchors and dowels shall be continuously inspected by the testing agency to ensure that holes are of specified size, and that bolts are properly installed including application of minimum installation torques.

100000 DESIGN BY CONTRACTOR

A. In accordance with the Specifications the items listed below are not included in the Contract Documents. Design of these elements shall be the responsibility of the Contractor, and shall be designed and sealed by a Professional Engineer licensed in the State of Texas.

1. Excavation Support and Protection

B. Design of the items listed above shall be in accordance with the General Building Code, and shall include all attachments to the structure.

INTELLIGENT ENGINEERING SERVICES
ENGINEERING COMMUNITIES FROM THE GROUND UP
1045 CENTRAL PARKWAY NORTH, SUITE 200 SAN ANTONIO, TEXAS 78232
210.349.9098 ie-services.com
IES JOB NO: 1253468 TBPE FIRM F-432

CL Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
VINCE GUERRA
140231
LICENSED PROFESSIONAL ENGINEER
05/02/25

PROJECT # 24006

Haven For Hope - Sump Pit
1231 W. Martin Street
San Antonio, TX 78207
Developed for
Owner

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	

Job Number	Project Number
Date Published	05/02/25
Checked By	VG
Scale	

STRUCTURAL NOTES

S0.1

SPECIAL INSPECTIONS TABLES FOR STRUCTURAL ELEMENTS - 2021

SPECIAL INSPECTIONS

1. Special Inspections shall be performed in accordance with Chapter 17 of the 2021 International Building Code (IBC) by a Special Inspector hired by the Owner to perform the Special Inspections listed below. The Special Inspector shall be qualified by an approved agency according to the City's building official to perform the special inspections for which they will be undertaking. The Contractor shall coordinate with and notify the Special Inspector of all required tests and inspections listed in the following tables. The Special Inspector shall be responsible to verify that the items detailed in the Construction Documents were built accordingly and shall prepare, sign, and furnish inspection reports to the building official and the Architect for all time spent at the site. The Inspector shall bring discrepancies to the immediate attention of the General Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the building official and to the Architect prior to the completion of that phase of the work. These special inspections are in addition to the other inspections listed in these Structural Notes or Project Specifications.

2. Where structural members and assemblies are shop fabricated, the Special Inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to the Construction Documents and Referenced Standards, unless the fabricator is registered and approved to perform such work without special inspection.

REQUIRED SPECIAL INSPECTIONS OF CONCRETE CONSTRUCTION (IBC Table 1705.3)

SPECIAL INSPECTION TYPE	INSPECTION FREQUENCY		REFERENCED STANDARD	IBC REFERENCE
	CONTINUOUS	PERIODIC		
1. Inspect reinforcement, including prestressing tendons, and verify placement	--	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	--
2. Reinforcing bar welding:			AWS D1.4 ACI 318: 26.6.4	--
a. Verify weldability of reinforcing bars other than ASTM A706	--	X		
b. Inspect single-pass fillet welds, maximum 5/16"	--	X		
c. Inspect all other welds	X	--		
3. Inspect anchors cast in concrete	--	X	ACI 318: 17.8.2	--
4. Inspect anchors post-installed in hardened concrete members				
a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	X	--	ACI 318: 17.8.2.4	--
b. Mechanical anchors and adhesive anchors not defined in 4.a	--	X	ACI 318: 17.8.2	--
5. Verifying use of required design mix	--	X	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete	X	--	ASTM C172 ASTM C31 ACI 318: 26.5, 26.12	--
7. Inspect concrete placement for proper application techniques	X	--	ACI 318: 26.5	--
8. Verify maintenance of specified curing temperature and techniques	--	X	ACI 318: 26.5.3-26.5.5	--
9. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs	--	X	ACI 318: 26.11.2	--
10. Inspect formwork for shape, location and dimensions of the concrete members being formed	--	X	ACI 318: 26.11.1.2(b)	--
11. Inspect shotcrete placement for proper application technique	X	--	ACI 318: 26.5	--
12. Inspect prestressed concrete for:			ACI 318: 26.10	--
a. Application of prestressing forces	X	--		
b. Grouting of bonded prestressing tendons	X	--		
13. Inspect erection of precast concrete members	--	X	ACI 318: Ch. 26.9	--
14. Inspect installation tolerances of precast concrete diaphragm connections for compliance with ACI 550.5	--	X	ACI 318: 26.13.1.3	

ABBREVIATIONS

A/C -	AIR CONDITIONER
AB -	ANCHOR BOLT
ABV -	ABOVE
ACI -	AMERICAN CONCRETE INSTITUTE
ADDL -	ADDITIONAL
ADH -	ADHESIVE
ADJ -	ADJACENT
AEC -	ARCHITECTURALLY EXPOSED CONCRETE
AESS -	ARCHITECTURALLY EXPOSED STRUCTURAL STEEL
AFF -	ABOVE FINISHED FLOOR
AGGR -	AGGREGATE
AHU -	AIR HANDLING UNIT
AISC -	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT -	ALTERNATE
APPROX -	APPROXIMATE
ARCH -	ARCHITECT (OR) ARCHITECTURAL
B TO B -	BACK TO BACK
BD -	BOARD
BO -	BOTTOM OF
BF -	BACK FACE
BFF -	BELOW FINISH FLOOR
BIL -	BOTTOM INSIDE LAYER
BL -	BUILDING LINE
BLDG -	BUILDING
BLKG -	BLOCKING
BM -	BEAM
BOL -	BOTTOM OUTSIDE LAYER
BOS -	BOTTOM OF STEEL
BOTT -	BOTTOM
BP -	BASE PLATE
BRDG -	BRIDGING
BRG -	BEARING
BRKT -	BRACKET
BRL -	BRICKLEDGE
BSMT -	BASEMENT
BTWN -	BETWEEN
C -	CAMBER (OR) COMPRESSION
CANT -	CANTILEVER
CFS -	COLD FORMED STEEL
CG -	CENTER OF GRAVITY
CGS -	CENTER OF GRAVITY OF STRAND
CIP -	CAST-IN-PLACE
CJ -	CONTROL JOINT
CJP -	COMPLETE JOINT PENETRATION
CL -	CENTER LINE
CLG -	CEILING
CLR -	CLEAR (OR) CLEARANCE
CMU -	CONCRETE MASONRY UNIT
COL -	COLUMN
C OR COMP -	COMPRESSION
CONC -	CONCRETE
CONN(S) -	CONNECTION(S)
CONST -	CONSTRUCTION
CONST JT -	CONSTRUCTION JOINT
CONT -	CONTINOUS
CONTR -	CONTRACTOR
COORD -	COORDINATE
CVR -	COVER
DBA -	DEFORMED BAR ANCHORS
DBL -	DOUBLE
DE -	DECK EDGE
DEV -	DEVELOPMENT
DFL -	DOUGLAS FIR LARCH
DIA -	DIAMETER
DIAG -	DIAGONAL
DIM(S) -	DIMENSION(S)
DKG -	DECKING
DL -	DEAD LOAD
DN -	DOWN
DS -	DOWNSPOUT
DTL -	DETAIL
DWG(S) -	DRAWING(S)
DWL(S) -	DOWELS
EA -	EACH
EF -	EACH FACE (OR) EXHAUST FAN
EJ -	EXPANSION JOINT
EL -	ELEVATION
ELEC -	ELECTRICAL
ELEV -	ELEVATOR
EMBED -	EMBEDMENT
ENGR -	ENGINEER
EOR -	ENGINEER OF RECORD
EQ -	EQUAL (OR) EQUIVALENT
EQUIP -	EQUIPMENT
EW -	EACH WAY
EXIST -	EXISTING
EXP -	EXPANSION
EXT -	EXTERIOR
EXTN -	EXTENSION
F TO F -	FACE TO FACE
FABR -	FABRICATOR
FD -	FLOOR DRAIN
FDN -	FOUNDATION
FFE -	FINISHED FLOOR ELEVATION
FIN -	FINSH (OR) FINISHED
FIN FL -	FINISHED FLOOR
FL -	FLOOR
FLG -	FLANGE
FP -	FIREPROOF(ING)
FRMG -	FRAMING
FS -	FAR SIDE
FT -	FOOT (OR) FEET
FTG -	FOOTING
FV -	FIELD VERIFY
GA -	GAGE (OR) GAUGE
GALV -	GALVANIZED
GC -	GENERAL CONTRATOR
GLULAM -	GLUE LAMINATED TIMBER
GR -	GRADE
GR BM -	GRADE BEAM
HB -	HORIZONTAL BRACE
HCA -	HEADED CONCRETE ANCHOR
HDG -	HOT DIPPED GALVANIZED
HDR -	HEADER
HI -	HIGH
HK -	HOOK
HL -	HOLE
HORIZ -	HORIZONTAL
HP -	HIGH POINT
HS -	HEADED STUD
HSS -	HOLLOW STRUCTURAL SECTION
HT -	HEIGHT
ID -	INSIDE DIAMETER
IF -	INSIDE FACE
IN -	INCH
INFO -	INFORMATION
INT -	INTERIOR
INTERM -	INTERMEDIATE
JG -	JOIST GIRDER
JST(S)	JOIST(S)
JT -	JOINT
K -	KIPS (1000 LBS)
KLF -	KIP PER LINEAR FOOT
KSF -	KIP PER SQUARE FOOT
KSI -	KIP PER SQUARE INCH
L -	LENGTH
LBS -	POUNDS
LL -	LIVE LOAD
LLH -	LONG LEG HORIZONTAL
LLV -	LONG LEG VERTICAL
LO -	LOW
LOC -	LOCATION
LONG -	LONGITUDINAL
LP -	LOW POINT
LSH -	LONG SIDE HORIZONTAL
LSL -	LONG SLOTTED HOLES
LSV -	LONG SIDE VERTICAL
LVL -	LAMINATED VENEER LUMBER
LW -	LIGHTWEIGHT
LWC -	LIGHTWEIGHT CONCRETE
M -	MOMENT
MAS -	MASONRY
MATL -	MATERIAL
MAX -	MAXIMUM
MC -	MOMENT CONNECTION(S)
MECH -	MECHANICAL
MEP -	MECHANICAL, ELECTRICAL, PLUMBING
MEZZ -	MEZZANINE
MFR -	MANUFACTURER
MID -	MIDDLE
MIN -	MINIMUM
MISC -	MISCELLANEOUS
MTL -	METAL
NF -	NEAR FACE
NIC -	NOT IN CONTRACT
NOM -	NOMINAL
NS -	NON-SHRINK
NTS -	NOT TO SCALE
OC -	ON CENTER
OCEW -	ON CENTER EACH WAY
OD -	OUTSIDE DIAMETER (OR) OVERFLOW DRAIN
OF -	OUTSIDE FACE
OH -	OPPOSITE HAND
OPNG(S) -	OPENING(S)
OPP -	OPPOSITE
P -	PAN
P/C -	PRECAST CONCRETE
P/E -	PRE-ENGINEERED
PAF -	POWDER ACTUATED FASTENER
PAR -	PARALLEL
PCF -	POUNDS PER CUBIC FOOT
PEMB -	PRE-ENGINEERED METAL BUILDING
PERP -	PERPENDICULAR
PI -	PLASTICITY INDEX
PJ -	PANEL JOINT
PJP -	PARTIAL JOINT PENETRATION
PL -	PLATE
PLF -	POUNDS PER LINEAR FOOT
PLYWD -	PLYWOOD
PREFAB -	PREFABRICATED
PRELIM -	PRELIMINARY
PROJ -	PROJECTION
PSF -	POUNDS PER SQUARE FOOT
PSI -	POUNDS PER SQUARE INCH
PSL -	PARALLEL STRAND LUMBER
PT -	POINT (OR) PRESSURE TREATED
P-T -	POST-TENSION(ED)
QTY -	QUANTITY
R -	RADIUS (OR) REACTION (OR) REMAINDER
RD -	ROOF DRAIN
REINF -	REINFORCE(ING)(ED)(MENT)
REQ -	REQUIRE(MENT)
REQD -	REQUIRED
RET -	RETAINING
RET SYS -	RETENTION SYSTEM
RF -	ROOF
RIS -	RISER
RM -	ROOM
RO -	ROUGH OPENING
RTU -	ROOF TOP UNIT
SCHED -	SCHEDULE(D)
SECT -	SECTION
SF -	SQUARE FOOT
SHT -	SHEET
SHTG -	SHEATHING
SIM -	SIMILAR
SJI -	STEEL JOIST INSTITUTE
SL -	SLOPE
SOG -	SLAB ON GRADE
SP -	SOUTHERN PINE
SPA -	SPACE
SPECD -	SPECIFIED
SPEC(S) -	SPECIFICATION(S)
SQ -	SQUARE
SS -	STAINLESS STEEL
SSL -	SHORT SLOTTED HOLE
STAGG -	STAGGERED
STD -	STANDARD
STIFF -	STIFFENER
STIRR -	STIRRUPS
STL -	STEEL
STRUCT -	STRUCTURE (OR) STRUCTURAL
SUBCONTR -	SUBCONTRACTOR
SW -	SHEARWALL (OR) SIDEWALK
T -	TENSION
T.O. -	TOP OF
TAB -	TOP AND BOTTOM
T&G -	TONGUE AND GROOVE
TEMP -	TEMPERATURE
THK -	THICK
THRD -	THREAD(ED)
TIL -	TOP INSIDE LAYER
TOB -	TOP OF BEAM
TOC -	TOP OF CONCRETE
TOF -	TOP OF FOOTING
TOJ -	TOP OF JOIST
TOL -	TOP OUTSIDE LAYER
TOP -	TOP OF PIER
TOPC -	TOP OF PIER (PILE) CAP
TOS -	TOP OF STEEL
TOW -	TOP OF WALL
TR -	TREAD
TRANSV -	TRANSVERSE
TYP -	TYPICAL
UNO -	UNLESS NOTED OTHERWISE
V -	SHEAR
VB -	VERTICAL BRACE
VERT -	VERTICAL
W -	WIDTH
W/ -	WITH
W/O -	WITHOUT
WD -	WOOD
WDW -	WINDOW
WL -	WIND LOAD
WP -	WORK POINT
WPFG -	WATERPROOFING
WS -	WATERSTOP
WT -	WEIGHT
WWM -	WELDED WIRE MESH
X-STR -	EXTRA STRONG
XX-STR -	DOUBLE EXTRA STRONG

INTELLIGENT ENGINEERING SERVICES
ENGINEERING COMMUNITIES FROM THE GROUND UP
1045 CENTRAL PARKWAY NORTH, SUITE 200 SAN ANTONIO, TEXAS 78232
210.349.9098 ie-services.com
IES JOB NO: 1253468 TBPE FIRM F-432

CL Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
VINCE GUERRA
140231
LICENSED PROFESSIONAL ENGINEER
05/02/25

PROJECT # 24006

Haven For Hope - Sump Pit

1231 W. Martin Street
San Antonio, TX 78207
Developed for
Owner

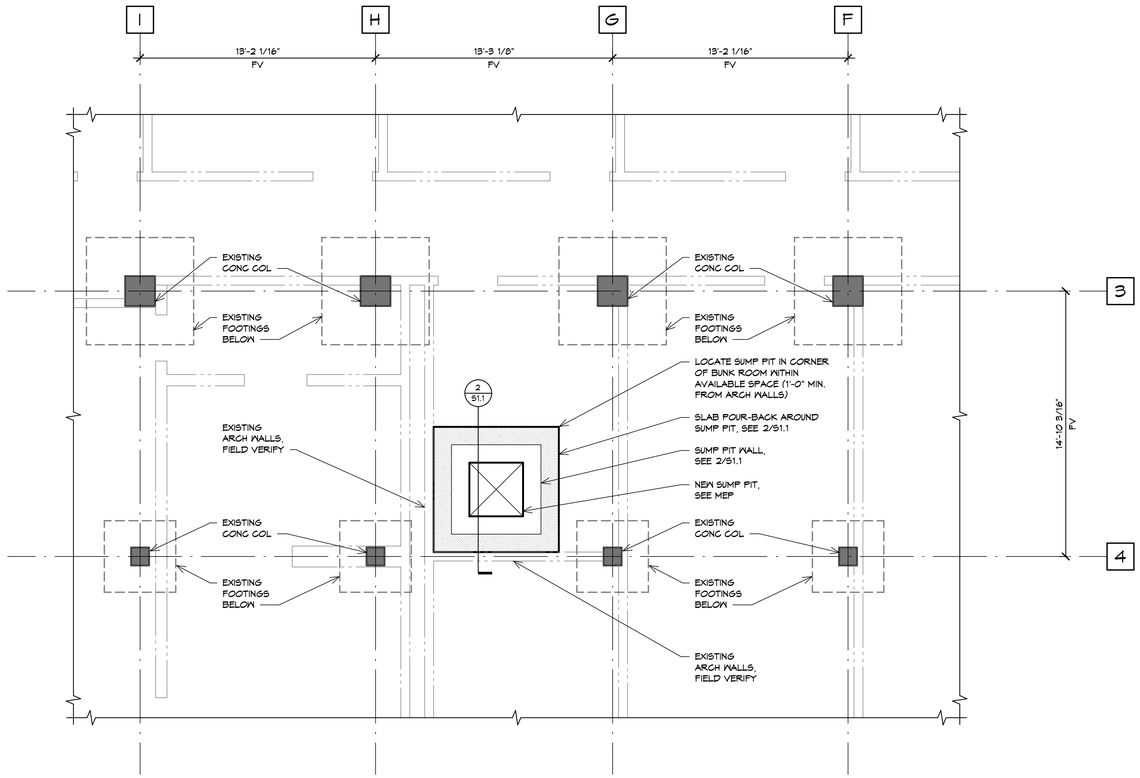
Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	

Job Number	Project Number
Date Published	05/02/25
Checked By	VG
Scale	

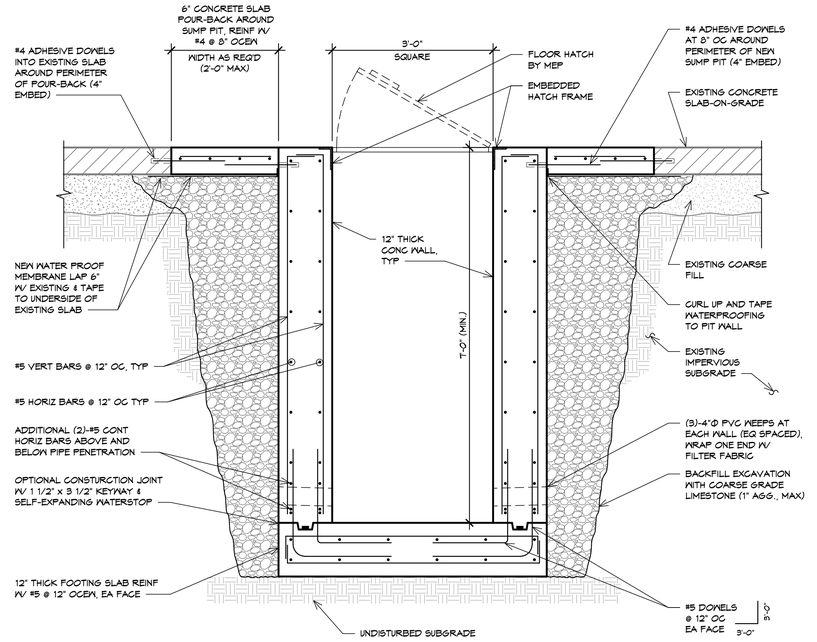
SPECIAL INSPECTIONS & LEGENDS

S0.2



1. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT UNDERMINING OF EXISTING BUILDING FOUNDATION FOOTINGS. NOTIFY IES IF FOOTING LOCATIONS DIFFER FROM THOSE SHOWN IN THIS PLAN.
2. EXISTING FRAMING INFORMATION IS PROVIDED FOR THE CONTRACTOR'S CONVENIENCE ONLY. IT IS BASED ON FIELD MEASUREMENTS, AND MAY NOT ACCURATELY REFLECT THE ACTUAL CONDITIONS IN THE FIELD. INTELLIGENT ENGINEERING SERVICES, LLP MAKES NO GUARANTEE CONCERNING THE ACCURACY OF THE INFORMATION CONTAINED HEREIN. FIELD VERIFY ALL CONDITIONS.

1 ENLARGED PARTIAL FOUNDATION PLAN - EXISTING BUNK ROOM 135
SCALE: 1/4" = 1'-0"



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

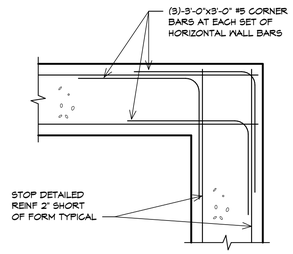
Ld TENSION DEVELOPMENT LENGTH (GRADE 60 BARS - NORMAL WEIGHT CONCRETE)						
BAR SIZE	f'c = 3000 psi		f'c = 4000 psi		f'c = 5000 psi	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	1'-10"	1'-5"	1'-7"	1'-3"	1'-5"	1'-1"
#4	2'-5"	1'-10"	2'-1"	1'-7"	1'-11"	1'-5"
#5	3'-0"	2'-4"	2'-7"	2'-0"	2'-4"	1'-10"
#6	3'-7"	2'-9"	3'-1"	2'-5"	2'-10"	2'-2"
#7	5'-3"	4'-0"	4'-6"	3'-6"	4'-1"	3'-2"
#8	6'-0"	4'-7"	5'-2"	4'-0"	4'-8"	3'-7"
#9	6'-9"	5'-2"	5'-10"	4'-6"	5'-3"	4'-0"
#10	7'-7"	5'-10"	6'-7"	5'-1"	5'-11"	4'-6"
#11	8'-5"	6'-6"	7'-3"	5'-7"	6'-6"	5'-0"

BASIC TENSION LAP SPLICES-CLASS B (GRADE 60 BARS - NORMAL WEIGHT CONCRETE)						
BAR SIZE	f'c = 3000 psi		f'c = 4000 psi		f'c = 5000 psi	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	2'-4"	1'-10"	2'-1"	1'-7"	1'-10"	1'-5"
#4	3'-2"	2'-5"	2'-9"	2'-1"	2'-5"	1'-11"
#5	3'-11"	3'-0"	3'-5"	2'-7"	3'-0"	2'-4"
#6	4'-8"	3'-7"	4'-1"	3'-1"	3'-8"	2'-10"
#7	6'-9"	5'-3"	5'-11"	4'-6"	5'-3"	4'-1"
#8	7'-9"	6'-0"	6'-9"	5'-2"	6'-0"	4'-8"
#9	8'-9"	6'-9"	7'-7"	5'-10"	6'-9"	5'-3"
#10	9'-10"	7'-7"	8'-6"	6'-7"	7'-8"	5'-11"
#11	10'-11"	8'-5"	9'-6"	7'-3"	8'-6"	6'-6"

Ldh HOOK DEVELOPMENT LENGTH (GRADE 60 BARS - NORMAL WEIGHT CONCRETE)			
BAR SIZE	f'c = 3000 psi	f'c = 4000 psi	f'c = 5000 psi
#3	0'-9"	0'-8"	0'-7"
#4	0'-11"	0'-10"	0'-9"
#5	1'-2"	1'-0"	0'-11"
#6	1'-5"	1'-3"	1'-1"
#7	1'-8"	1'-5"	1'-3"
#8	1'-10"	1'-7"	1'-5"
#9	2'-1"	1'-10"	1'-8"
#10	2'-4"	2'-1"	1'-10"
#11	2'-7"	2'-3"	2'-0"

NOTES:
1. BAR SPACING NOT LESS THAN 2 BAR DIAMETERS, CLEAR COVER NOT LESS THAN 1 BAR DIAMETER.
2. FOR CONCRETE STRENGTHS (f'c) NOT SPECIFICALLY LISTED IN SCHEDULES ABOVE, USE CLOSEST LOWER CONCRETE STRENGTH VALUE.
3. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR OR SPLICE.

4 TYPICAL REINFORCEMENT DEVELOPMENT LENGTHS & LAP SPLICES SCHEDULES (GRADE 60 REINFORCEMENT)
SCALE: 3/4" = 1'-0"



PLAN

3 TYPICAL CORNER BARS AT WALL INTERSECTION DETAIL
SCALE: 3/4" = 1'-0"

INTELLIGENT ENGINEERING SERVICES
ENGINEERING COMMUNITIES FROM THE GROUND UP
1045 CENTRAL PARKWAY NORTH, SUITE 200 SAN ANTONIO, TEXAS 78232
210.349.9098 ie-services.com
IES JOB NO: 1253468 TBPE FIRM F-432

CL Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898
STATE OF TEXAS VINCE GUERRA 140231 LICENSED PROFESSIONAL ENGINEER
05/02/25

PROJECT # 24006

Haven For Hope - Sump Pit

1231 W. Martin Street
San Antonio, TX 78207
Developed for
Owner

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	

Job Number	Project Number
Date Published	05/02/25
Checked By	VG
Scale	

FOUNDATION PLAN

S1.1

MEP SYMBOLS AND ABBREVIATIONS

NOTE: NOT ALL SYMBOLS MAY BE USED ON THIS PROJECT. REFER TO SPECIFICATIONS MANUAL FOR ADDITIONAL REQUIREMENTS.

POWER SYMBOLS

- MOTOR, HP AS INDICATED
- CONTROLLER TO BE FURNISHED UNDER DIVISION 15
- DISCONNECT SWITCH
- MAGNETIC MOTOR STARTER
- COMBINATION MOTOR STARTER
- CONTACTOR
- JUNCTION BOX, CEILING MOUNTED
- JUNCTION BOX, WALL MOUNTED
- RELAY
- SIMPLEX RECEPTACLE
- DUPLEX RECEPTACLE
- GFCI / WP — DUPLEX RECEPTACLE
  GFI=GROUND FAULT CIRCUIT INTERRUPTER
  WP=WEATHERPROOF
  IG=ISOLATED GROUND
  TR=TAMPER RESISTANT
- DOUBLE DUPLEX (QUADRUPLEX) RECEPTACLE
- FLOOR OUTLET DUPLEX RECEPTACLE
- FLOOR OUTLET SIMPLEX RECEPTACLE
- FLOOR OUTLET QUADRUPLEX RECEPTACLE
- DROP CORD RECEPTACLE
- SPECIAL PURPOSE OUTLET AS DESIGNATED
- EQUIPMENT CONNECTION
- CONNECT TO EXISTING

ELECTRICAL RACEWAYS

- CONDUIT CONCEALED IN WALL OR CEILING
- CONDUIT UNDER FLOOR OR UNDERGROUND
- SWITCH LEG
- — UGE — UNDERGROUND ELECTRICAL (APPROXIMATE LOCATION, CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD)
- — UGT — UNDERGROUND TELEPHONE (APPROXIMATE LOCATION, CONTRACTOR TO VERIFY EXACT LOCATION IN FIELD)
- BRANCH CIRCUIT HOMERUN
  TAG INDICATES PANEL (E.G. PIA) AND POSITION (E.G. 2,4,6)

PANELS AND RELATED EQUIPMENT

- PANELBOARD SURFACE MOUNTED
- PANELBOARD FLUSH MOUNTED
- TRANSFORMER, WITH CONCRETE HOUSEKEEPING PAD
- ATS — AUTOMATIC TRANSFER SWITCH

ABBREVIATIONS

A	AMPERE
AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CAPACITY
BLDG	BUILDING
C	CONDUIT
CAB	CABINET
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT
CONN	CONNECT OR CONNECTION
CONTR	CONTRACTOR
COSA	CITY OF SAN ANTONIO
CPSE	CPS ENERGY
CT	CURRENT TRANSFORMER
EA	EACH
EC	EMPTY CONDUIT
EF	EXHAUST FAN
ELEC	ELECTRIC
EMT	ELECTRIC METAL TUBING
EMER	EMERGENCY
EWC	ELECTRIC WATER COOLER
FACP	FIRE ALARM CONTROL PANEL
FLA	FULL LOAD AMPS
FLEX	FLEXIBLE CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
IMC	INTERMEDIATE METAL CONDUIT
J-BOX	JUNCTION BOX
kVA	KILOVOLT AMPERE
kVAR	KILOVOLT AMPERE REACTIVE
KCM(IL)	THOUSAND CIRCULAR MILS
kW	KILOWATT
LTG	LIGHT OR LIGHTING
MFG(R)	MANUFACTURER
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCP	MOTOR CIRCUIT PROTECTOR
MIN	MINIMUM
MH	METAL HALIDE
MLO	MAIN LUG ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
NEC	NATIONAL ELECTRICAL CODE
NTRL	NATIONAL RECOGNIZED TESTING LABORATORY
NTS	NOT TO SCALE
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OL	OVERLOAD
OVHD	OVERHEAD
PA	PUBLIC ADDRESS
PH , Ø	PHASE
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
REQ'D	REQUIRED
REQ'T	REQUIREMENT
RGS	RIGID GALVANIZED STEEL
SC	SPLIT CIRCUIT
SFD	SMOKE FIRE DAMPER
SPD	SURGE PROTECTIVE DEVICE
SW	SWITCH
T/D	TELEPHONE & DATA
TTB	TELEPHONE TERMINAL BOARD
TYP	TYPICAL
UC	UNDER COUNTER
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATTS
W/	WITH
WP	WEATHER PROOF
XFMR	TRANSFORMER

PLUMBING SYSTEM SYMBOLS

- (EXIST) EXISTING SYSTEMS
  *LINE TYPE MAY VARY BY SYSTEM
- (SS) SANITARY SEWER WASTE

PLUMBING FITTING SYMBOLS

- CAP ON END OF PIPE
- ELBOW UP
- ELBOW DOWN
- CHECK VALVE

GENERAL PLUMBING NOTES

1. PRIOR TO DEMOLITION/CONSTRUCTION; CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE SITE AND ALL AVAILABLE AS-BUILT DRAWINGS RELATING TO THE PREVIOUS CONSTRUCTION OF ANY AND ALL EXISTING PLUMBING SYSTEMS.
2. THE CONTRACTOR IS EXPECTED, AS A REQUIREMENT OF THEIR QUALIFICATIONS, TO UTILIZE THEIR KNOWLEDGE AND EXPERIENCE TO ANTICIPATE AND TO INCLUDE IN THE COST OF THE WORK ANY INCIDENTALS, WHICH MAY BE REQUIRED, BUT NOT SPECIFICALLY EXPRESSED HEREIN, IN ORDER TO PROVIDE COMPLETE AND FULLY FUNCTIONAL PLUMBING SYSTEMS FOR THE PROJECT AREAS.
3. PROVIDE ALUMINUM JACKETING OVER ALL INSULATED PIPING IN AREAS OF EXPOSED CEILING. ARCHITECT TO DETERMINE IF PIPING AND JACKETING TO BE PAINTED OR REMAIN UNFINISHED. REFER TO ARCHITECTURAL PLANS FOR COLORS AND DETAILS.
4. CONTRACTOR SHALL COORDINATE EQUIPMENT CONNECTIONS WITH SUPPLIER AND INSTALLATION DRAWINGS. INSTALL EQUIPMENT AND MAKE FINAL CONNECTIONS, FURNISHING CUTOFF VALVES, P-TRAPS, PRVS AND PIPING AS REQUIRED.
5. COORDINATE WATER, WASTE, VENT AND OTHER PIPING WITH ALL OTHER TRADES TO AVOID SPACING AND ROUTING PROBLEMS.
6. FIXTURES, EQUIPMENT, CONNECTIONS AND PIPING SHALL BE FURNISHED AND INSTALLED TO MEET OR EXCEED STATE AND LOCAL CODES AND REQUIREMENTS.
7. PLUMBING VENTS AND STACKS THROUGH ROOF SHALL BE INSTALLED A MINIMUM OF 20 FEET CLEAR OF HVAC OUTSIDE AIR INTAKES AND ANY OPERABLE WINDOW OR BUILDING OPENING.
8. VENT STACKS LESS THAN TWO INCHES IN DIAMETER SHALL NOT ROUTE THROUGH THE ROOF. PROVIDE INCREASERS ON PIPING BELOW ROOF.
9. PENETRATIONS THROUGH WALLS SHALL BE SLEEVED, SEALED AND FIRESAFED TO MAINTAIN THE INTEGRITY OF THE WALL UL FIRE RESISTANCE RATING.
10. DRAWINGS ARE SCHEMATIC IN NATURE AND SHALL NOT BE SCALED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING EXACT ROUTING OF ALL SERVICES WITH BUILDING CONDITIONS AND WITH ALL OTHER TRADES.
11. SUPPORTS, ANCHOR BOLTS AND HANGERS FOR ALL EQUIPMENT SPECIFIED SHALL CONFORM TO THE SPECIFICATIONS. MISCELLANEOUS STEEL BRACING SUPPORTS AND REINFORCING STEEL NEEDED TO SUPPORT EQUIPMENT AND PIPING SYSTEMS SPECIFIED SHALL BE FURNISHED AND INSTALLED AS PART OF THE WORK.
12. MAINTAIN ACCESSIBILITY OF ALL EQUIPMENT AND VALVES. PROVIDE ACCESS PANELS AS REQUIRED. COORDINATE PLACEMENT WITH THE ARCHITECT PRIOR TO INSTALLATION.
13. CONTRACTOR SHALL COORDINATE WITH THE ARCHITECT PRIOR TO CUTTING ANY OPENING IN THE STRUCTURE. COORDINATE SLEEVING OF BEAMS AND CORING OF STRUCTURE WITH STRUCTURAL DRAWINGS AND DETAILS PRIOR TO INSTALLATION.
14. REFER TO STRUCTURAL DOCUMENTS FOR SAW CUTTING AND PATCHING OF EXISTING STRUCTURAL CONCRETE SLAB. FIELD VERIFY LOCATION OF EXISITNG FLOOR BEAMS/JOIST TO AVOID CORING OR SAW CUTTING OF EXISTING FLOOR STRUCTURAL ELEMENTS.
15. CONTRACTOR TO COORDINATE THE INSTALLATION OF THE PLUMBING SYSTEMS WITH ALL OTHER TRADES.
16. CONTRACTOR SHALL PROVIDE PROTECTIVE COVERING OVER FLOORING, FURNITURE AND EQUIPMENT AS REQUIRED WHEN PERFORMING WORK IN AN EXISTING AREA/SPACE. CONTRACTOR IS RESPONSIBLE FOR DAMAGE CAUSED TO WALL FINISHES, FLOOR FINISHES, FURNITURE AND EQUIPMENT. REPAIR DAMAGES OR REPLACE TO OWNER'S SATISFACTION AT NO COST TO THE OWNER. CONTRACTOR SHALL PROVIDE DUST BARRIERS WHERE REQUIRED TO PROHIBIT THE MIGRATION OF AIRBORNE CONSTRUCTION DUST INTO OTHER OCCUPIED AREAS.
17. DOWNTIME TO EXISTING WASTE AND DOMESTIC COLD WATER PIPING SYSTEMS SHALL BE KEPT TO AN ABSOLUTE MINIMUM. SCHEDULE AND COORDINATE WITH THE OWNER.
18. MAINTAIN EGRESS PATHWAYS, DO NOT BLOCK OR PARTIALLY OBSTRUCT WITH CONSTRUCTION MATERIALS, TOOLS, MACHINERY, AND INSTALLATION ACTIVITIES.
19. CUT, REPAIR, AND FINISH WALLS TO MATCH EXISTING WHERE NEW PIPING IS INSTALLED, CONCEALED IN WALLS. .

GENERAL POWER NOTES

1. COMPLETE WORK IN ACCORDANCE WITH APPLICABLE CODES, ORDINANCES, AND INTERPRETATIONS OF AHJ.
2. COORDINATE WORK WITH OTHER TRADES AS REQUIRED TO PROVIDE COMPLETE SYSTEMS AND AVOID CONFLICTS.
3. MOUNT RECEPTACLES AND DATA OUTLETS AT 18" AFF, AS MEASURED FROM BOTTOM OF BOX, EXCEPT WHERE ALTERNATIVE HEIGHT IS INDICATED.
4. MOUNT RECEPTACLES AND DATA OUTLETS DESIGNATED "AC" (ABOVE COUNTER) 3" ABOVE BACK SPLASH, AS MEASURED FROM BOTTOM OF BOX.
5. COORDINATE INSTALLATION OF ELECTRICAL WORK ABOVE THE CEILING TO PROVIDE THE GREATEST POSSIBLE CLEARANCE FOR PLUMBING AND MECHANICAL EQUIPMENT BOTH CURRENT AND FUTURE. CONDUITS SHALL BE KEPT TIGHT TO STRUCTURE OR ROUTED THROUGH STRUCTURAL TRUSSES WHEREVER POSSIBLE.
6. COORDINATE LOCATIONS OF SWITCHES, RECEPTACLES, AND DATA OUTLETS WITH FURNITURE AND CASEWORK PRIOR TO COMMENCING DEVICE ROUGH-IN TO AVOID CONFLICTS.
7. COORDINATE LOCATION OF ALL DISCONNECT SWITCHES TO ENSURE THAT ALL NEC MINIMUM WORKING CLEARANCES ARE MAINTAINED.
8. SINGLE HOMERUNS ARE SHOWN FOR CIRCUIT IDENTIFICATION ONLY. CIRCUITS MAY BE GROUPED UP TO THREE (3) PHASE CONDUCTORS PER RACEWAY, UNLESS NOTED OTHERWISE.
9. MULTI-WIRED (SHARED NEUTRAL) BRANCH CIRCUITS SHALL NOT BE INSTALLED. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR ALL SINGLE-PHASE BRANCH CIRCUITS.
10. HOMERUNS AND RUNS BETWEEN JUNCTION BOXES SHALL BE MINIMUM OF 3/4" CONDUIT AND SHALL INCLUDE #10 (MINIMUM) CONDUCTORS AND INSULATED GROUNDING CONDUCTOR. CIRCUIT SHALL EXTEND FROM OCPD TO A JUNCTION BOX IN THE AREA OF THE RECEPTACLES OR UTILIZATION EQUIPMENT. DROPS TO INDIVIDUAL 20-AMP WIRING DEVICES SHALL INCLUDE #12 (MINIMUM) CONDUCTORS.
11. HOMERUNS TO ISOLATED GROUND RECEPTACLES SHALL INCLUDE INSULATED, ISOLATED GROUND CONDUCTOR, IN ADDITION TO THE INSULATED GROUNDING CONDUCTOR.
12. VOLTAGE DROP TO LAST DEVICE ON BRANCH CIRCUIT SHALL NOT EXCEED 3 PERCENT FROM PANEL. INCREASE BRANCH CIRCUIT CONDUCTOR SIZES AS REQUIRED TO ALLOW FOR CIRCUIT LENGTH.
13. FMC SHALL BE USED FOR FINAL CONNECTIONS TO LIGHT FIXTURES, IN RUNS UP TO 6 FEET LONG.
14. FMC OR LFMC SHALL BE USED FOR CONNECTIONS TO VIBRATION PRODUCING EQUIPMENT, SUCH AS MOTORS, TRANSFORMERS, AND HVAC EQUIPMENT. LFMC SHALL BE USED IN DAMP AND WET LOCATIONS.
15. ALL DATA CONDUITS, SLEEVES AND STUBS SHALL BE TERMINATED WITH PLASTIC BUSHINGS.
16. PROVIDE UL LISTED FIRE STOP SYSTEMS AT ALL PENETRATIONS THROUGH RATED PARTITIONS.
17. WIRING DEVICES SHALL BE [SPECIFICATION-GRADE] DEVICES, LISTED AND LABELED BY A NRTL.
18. ALL FEEDER AND BRANCH CIRCUIT WIRING SHALL BE COPPER.
19. MARK JUNCTION BOX COVERS USING PERMANENT MARKER INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE JUNCTION BOX.
20. MARK SWITCH AND RECEPTACLE COVERPLATES USING APPROVED LABEL MAKER, INDICATING THE PANEL AND CIRCUIT NUMBERS SERVING THE DEVICE(S).
21. PROVIDE CEILING ACCESS DOORS TO GAIN ACCESS TO EQUIPMENT ABOVE HARD CEILINGS.

PROJECT # 24006

CL Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS — TODD J. SPARROW — 106325 — LICENSED PROFESSIONAL ENGINEER — 05/02/2025

STATE OF TEXAS — ZACHARY W. HUMPHRIES — 155196 — LICENSED PROFESSIONAL ENGINEER — 05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP
600 LEAL ST, SAN ANTONIO, TX 78207
Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	

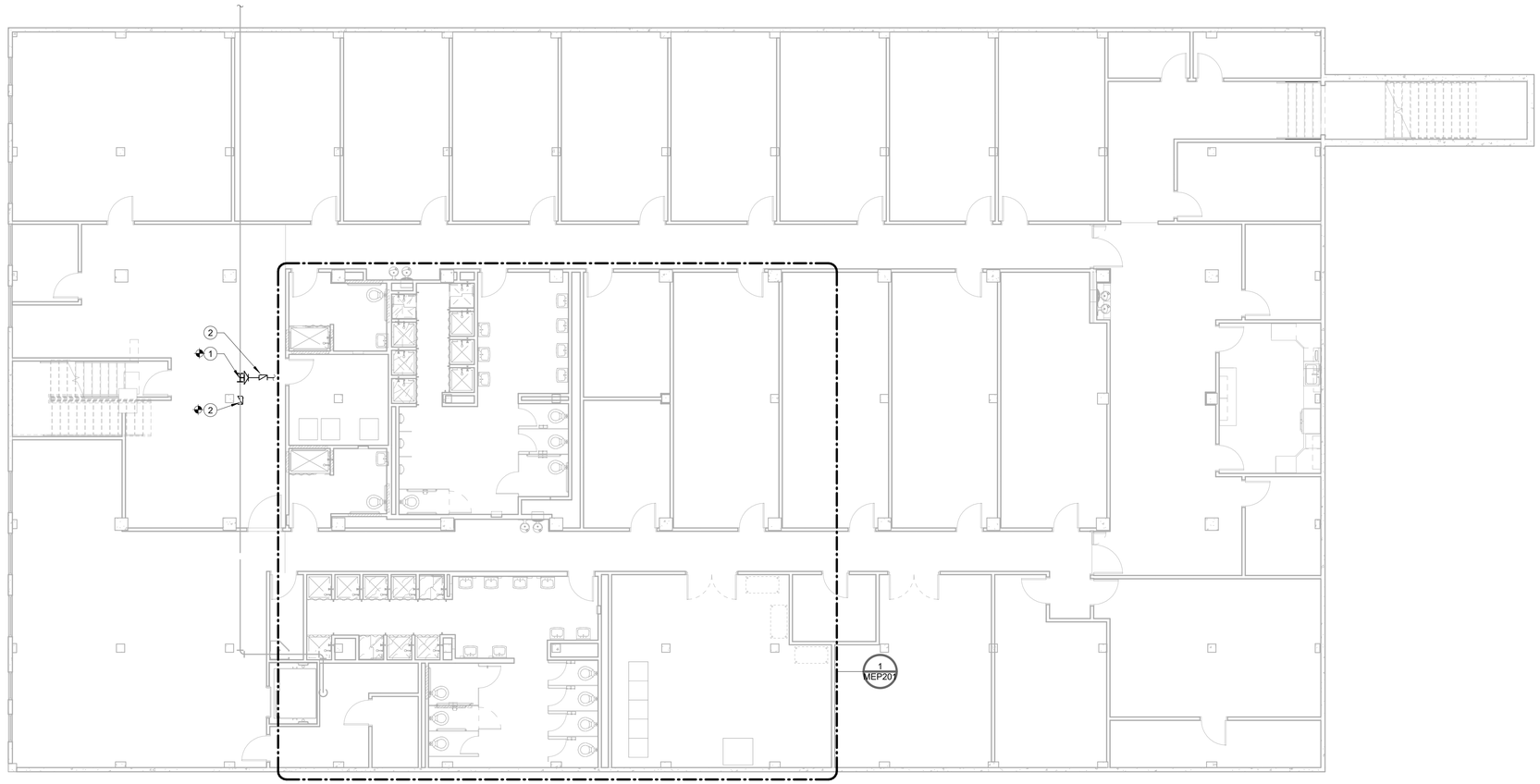
MEP SYMBOLS & ABBREVIATIONS

MEP000

KEYED NOTES (THIS SHEET ONLY)

1 CONNECT TO EXISTING DRAIN LINE SYSTEM. PROVIDE BACKWATER VALVES AS INDICATED.

2 PROVIDE BACKWATER VALVE IN PIPE.



1 LOWER LEVEL - OVERALL FLOOR PLAN

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

PROJECT # 24006

Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
TODD J. SPARROW
106325
LICENSED
PROFESSIONAL ENGINEER
05/02/2025

STATE OF TEXAS
ZACHARY W. HUMPHRIES
155198
LICENSED
PROFESSIONAL ENGINEER
05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP

600 LEAL ST, SAN ANTONIO, TX 78207

Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	1/8" = 1'-0"

MEP OVERALL FLOOR PLAN

MEP101

Electrical Equipment Connection Schedule

HVAC Unit Designation	HP	FLA	MCA	MOCP	Total kW	Voltage	Ph	Disconnect	Feeder	Panel Name	Circuit #	Remarks
SP-1		9.6 A	12.0 A	15 A	3.5 kW	208 V	3	NA	(1) 3/4"C. EA. W/ (3)-#10, (1)-#10GND	LPO	32,34,36	CONTROL PANEL PROVIDED WITH INTEGRAL DISCONNECTING MEANS AND OVERCURRENT PROTECTIVE DEVICES.

SUMP PUMP SCHEDULE

MARK	SERVICE	GPM	HEAD	HP	WELL SIZE	CORD LENGTH	DISCHARGE SIZE	ELECTRICAL			REMARKS
								VOLTS	Hz	PHASE	
SP-1	BASEMENT SUMP PUMP	50	14.5	3/4	3'x3' SQUARE 7' DEPTH	20'	2'	208	60	3	WEIL: DUPLEX SYSTEM MODEL: 2613K7021

REVISED PANEL 'LP0'

PROJECT : HAVEN FOR HOPE RESOURCE CENTER SUMP PUMP
PROJECT # : 25019
LOCATION : LEVEL 0 ELEC RM
NOTES : (2) SECTION PANELBOARD
DATE : 21-Apr-2025
FED FROM: - - - -

MAIN LUGS ONLY : 400-AMPS
BUSSING : 400-AMPS
VOLTAGE : 208/120V, 3PH, 4W
BRACING : 22 kAIC RMS SYM

ENCLOSURE : NEMA 1
MOUNTING : SURFACE
CB TYPE : BOLT-ON
PROVIDE : NEUTRAL BUS
GROUND BUS

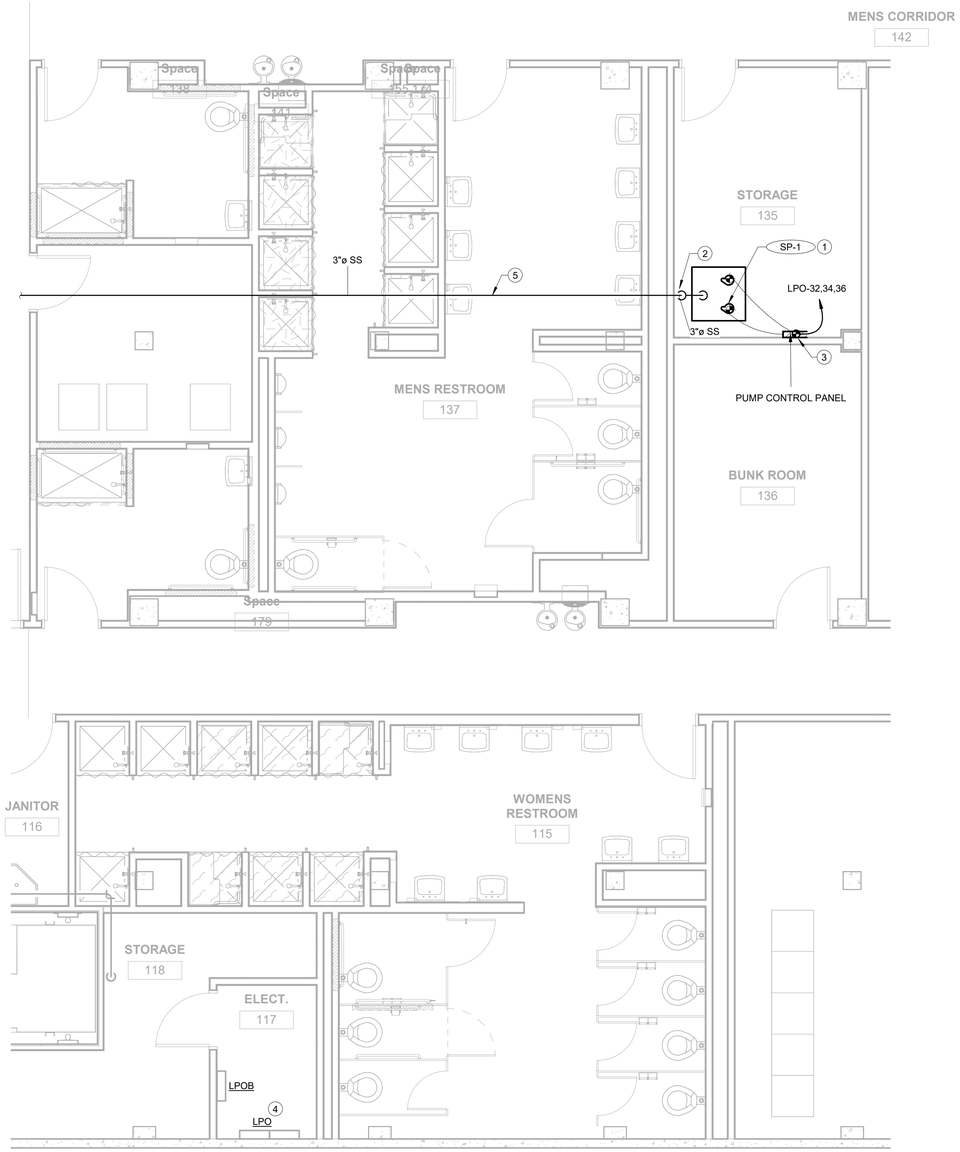
0	RCPT	6	A/C	1	LTG	7	FANS	2	EQPT	8	ELEV	3	WH	9	KITCHEN
4	COMP	10	LG MTR	5	HEAT	11	EXT LTG								

CKT	AMPS	POLE	CIRCUIT DESCRIPTION	LOAD	TYPE	PH	TYPE	LOAD	CIRCUIT DESCRIPTION	AMPS	POLE	CKT
1	20	1	REC - ENTRY 100, CONFERENCE	540	0	A	0	360	REC - RM 1, STORAGE	20	1	2
3	20	1	REC - RM 1 & 2	1,440	0	B	0	900	REC - OPEN SPACE, OFFICE	20	1	4
5	20	1	REC - RM 3 & 4	1,440	0	C	0	1,440	REC - RM 4 & 5	20	1	6
7	20	1	REC - RM 6 & 7	1,440	0	A	0	1,440	REC - RM 7 & 8	20	1	8
9	20	1	REC - RM 9	1,260	0	B	0	1,260	REC - MENS COMMONS	20	1	10
11	20	1	REC - RM 9	1,440	0	C	0	1,080	REC - RM 10-13	20	1	12
13	20	1	REC - RM 14 & 15	1,260	0	A	2	30	RP-1	20	1	14
15	20	1	REC - WATER FOUNTAIN	180	0	B	0	180	REC	20	1	16
17	20	1	REC - LAUNDRY	720	0	C	0	1,440	REC - MENS CORRIDOR	20	1	18
19	20	1	REC - MEDICAL	180	0	A	0	1,000	REC - REFRIG	20	1	20
21	20	1	REC - OFFICE	1,080	0	B	0	720	REC - OPEN SPACE OFFICE	20	1	22
23	20	1	REC - RM 10	1,260	0	C	0	540	REC - RM 11	20	1	24
25	20	1	REC - WATER FOUNTAIN	360	0	A	0	360	REC - MENS RR	20	1	26
27	20	1	REC - RESTROOMS	360	0	B	0	720	REC - WOM COMMONS, JAN, ELEC	20	1	28
29	20	1	LIGHTING - RR, LAUNDRY, RMS 10-15	900	1	C	0	1,080	REC - WOMENS COMMONS	20	1	30
31	20	1	REC - RESTROOMS	360	0	A	0	360	REC - WOMENS RR	20	1	32
33	20	1	SPARE			B	0	1,080	REC - RM 15	20	1	34
35	20	1	REC - RM 13	720	0	C	0	90	REC - SUMP	20	1	36
37	20	1	REC - RM 13	1,260	0	A	1	210	LIGHTING - CORRIDOR	20	1	38
39	20	1	RECEPTACLES - RM 17	1,080	0	B	0	360	REC - SUMP PIT	20	1	40
41	20	1	LIGHTING - RMS 1-9	900	1	C	1	604	LGT - OFFICE,ENTRY,STORAGE, MED CONF	20	1	42
43	20	1	SUMP PUMP			A	1	240	LTG - CORRIDOR	20	1	44
45	20	1	ENTRY GATE	200	2	B	1	598	LTG - COMMONS	20	1	46
47	20	1	ENTRY GATE	200	2	C	0	360	REC - IDF	20	1	48
49	20	1	LTG - ELEC ,RR, LAUND, RM 16 & 17	1,050	1	A	0	360	REC - IDF	20	1	50
51	--	1	SPACE			B	2	2,500	DRYER	30	2	52
53	30	2	DRYER	2,500	2	C	2	2,500	--	--	--	54
55	--	--	--	2,500	2	A	2	2,500	DRYER	30	2	56
57	30	2	DRYER	2,500	2	B	2	2,500	--	--	--	58
59	--	--	--	2,500	2	C	2	2,500	DRYER	30	2	60
61	20	1	WASHER	670	2	A	2	2,500	--	--	--	62
63	20	1	WASHER	670	2	B	2	670	WASHER	20	1	64
65	20	1	WASHER	670	2	C	2	670	WASHER	20	1	66
67	100	3	PANEL 'LP0B'	10,297	2	A	0	360	REC - IDF 113	20	1	68
69	--	--	--	11,203	2	B	0	360	REC - IDF 113	20	1	70
71	--	--	--	10,802	2	C			SPACE	--	1	72
73	30	2	DWP-2	2,500	2	A	**2**	**1,153**	**SP-1 (NOTE 2)**	**15**	**3**	74
75	--	--	--	2,500	2	B	**2**	**1,153**	--	--	--	76
77	--	1	SPACE			C	**2**	**1,153**	---	--	--	78
79	125	3	SPARE			A			DRYER	125	3	80
81	--	--	--			B			--	--	--	82
83	--	--	--			C			--	--	--	84

	PANEL VA	SUB FEED	FEED THRU	TOTAL CONN	TOTAL DEMAND VA	TOTAL DEMAND AMPS
PHASE A	22,993	10,297	0	33,289	31,125	259
PHASE B	24,271	11,203	0	35,473	33,167	276
PHASE C	26,707	10,802	0	37,508	35,070	292
TOTAL	73,970	32,301	0	106,271	99,361	276

NOTES :
1. BOLD NOTED AS NEW WORK. EXISTING LOADS ARE ESTIMATES.
2. PROVIDE NEW CIRCUIT BREAKER, AS INDICATED. NEW CIRCUIT BREAKER TO MATCH EXISTING BREAKER'S MANUFACTURER AND CHARACTERISTICS.
3

REVISIONS:



1 ENLARGED PARTIAL POWER PLAN - NEW WORK
SCALE: 1/4" = 1'-0"

KEYED NOTES (THIS SHEET ONLY)

1. LOCATE DUPLEX SUMP PUMP SYSTEM IN 3'X3' SQUARE, 7' DEEP WET WELL.
2. 3" DRAIN LINE FOR SUMP PUMP SYSTEM RISING TO LOWER LEVEL CEILING SPACE.
3. PROVIDE POWER CONNECTION TO SUMP PUMP. FIELD COORDINATE EXACT LOCATION WITH EXISTING CONDITIONS.
4. REFER TO PANEL SCHEDULE FOR WORK REQUIRED WITHIN PANELBOARD.
5. COORDINATE ROUTING OF PIPE WITH STRUCTURE AND EXISTING SYSTEMS.

PROJECT # 24006

CL Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS — TODD J. SPARROW — 106325 — LICENSED PROFESSIONAL ENGINEER — 05/02/2025

STATE OF TEXAS — ZACHARY W. HUMPHRIES — 155198 — LICENSED PROFESSIONAL ENGINEER — 05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP
600 LEAL ST, SAN ANTONIO, TX 78207
Developed for

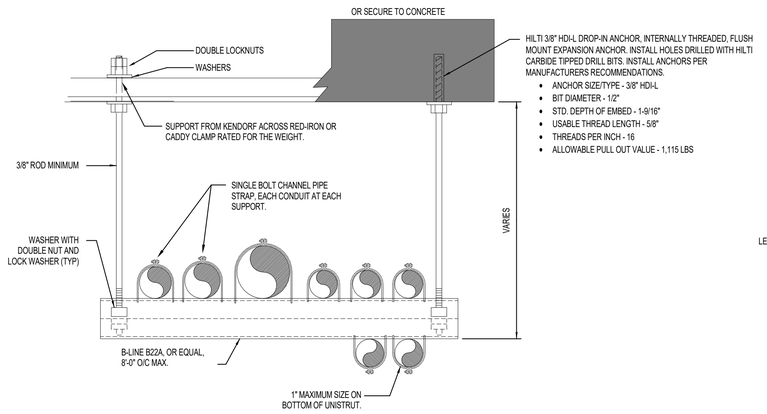
Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	1/4" = 1'-0"

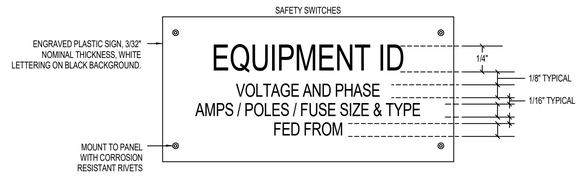
MEP LOWER LEVEL PLAN - NEW WORK

MEP201



2 TRAPEZE FOR MULTIPLE CONDUIT DETAIL

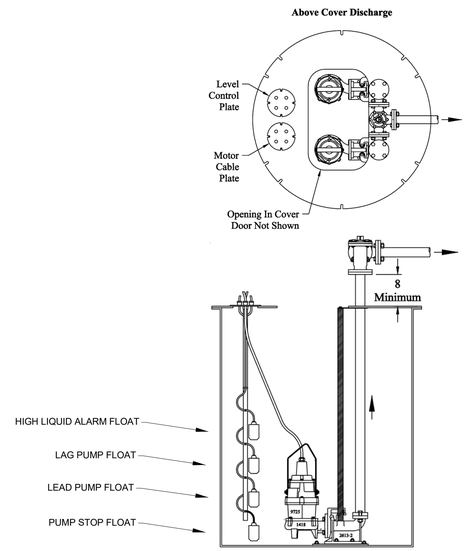
SCALE: NOT TO SCALE



NOTE:
PROVIDE LABELS FOR ALL ELECTRICAL EQUIPMENT BEING INSTALLED, INCLUDING SWITCHBOARDS, PANELBOARDS, SAFETY SWITCHES, TRANSFORMERS, ETC.

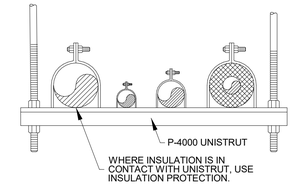
1 EQUIPMENT LABELING DETAIL

SCALE: NOT TO SCALE

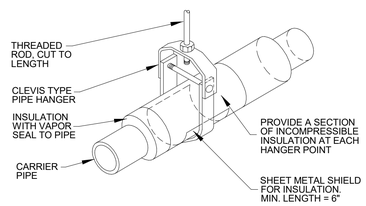


4 DUPLEX SUMP PUMP SYSTEM

SCALE: NOT TO SCALE



NOTE: ALL PIPE INSULATION SHALL BE CONTINUOUS. INSULATED PIPES SHALL BE SUPPORTED AROUND INSULATION. "NOTCHING" OF INSULATION AROUND PIPE SUPPORTS IS NOT ACCEPTABLE.



3 PIPE HANGER DETAIL

SCALE: NOT TO SCALE

CL
Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
TODD J. SPARROW
106325
LICENSED
PROFESSIONAL ENGINEER
05/02/2025

STATE OF TEXAS
ZACHARY W. HUMPHRIES
155198
LICENSED
PROFESSIONAL ENGINEER
05/02/25

PROJECT # 24006

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP

600 LEAL ST, SAN ANTONIO, TX 78207

Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	

MEP DETAILS

MEP301

DIVISION 22 - PLUMBING SPECIFICATIONS

PART 1 GENERAL

1.1 CONDITIONS

A. The instruction to Bidders, General Conditions, Supplemental General Conditions, and Division 1 of the Specifications apply to this section.

1.2 SECTION INCLUDES

A. Scope of work, definitions, Contractor's responsibility, additional compensation, supervision, workmanship, general requirements, submittal data, warranty, codes and standards, product handling, and quality control pertinent to the plumbing scope of work.
B. Plumbing Equipment, Fixtures, and Piping Systems
C. Plumbing Installation Requirements.

1.3 SCOPE OF WORK

A. It is the intent of these specifications to provide complete and workable plumbing systems as shown on the accompanying plans and as specified herein. Provide all necessary supervision, coordination, labor, materials, equipment, fixtures, drayage, hoisting, tools, machinery and connections to utilities for the installation of complete and operable plumbing system. If details or special conditions are required in addition to those shown on drawings, provide all material and equipment usually furnished with such systems or required to complete their installation, whether noted in plans and specifications or not.
B. The instruction to bidders, notice to bidders, general conditions, special conditions, all other preface sections, all technical divisions and all appendixes of the specifications, and any other pertinent documents issued by Architect or Engineer shall be considered as part of this division insofar as they may be applicable,
C. The Architectural, HVAC and electrical plans and any other pertinent documents issued by Architect or Engineer shall be considered as part of this division insofar as they may be applicable.
D. Changes in price for the plumbing work can only be made for changes in the design intentions and after written consent of the Architect.

1.4 DEFINITIONS

A. Where the term "Contract Documents" is used it shall refer to the complete package of plans, specification, addenda and special conditions used as a basis for the general construction contract for this project including but not limited to all general and special conditions, all Architectural and Engineering divisions of specifications and all Architectural and Engineering plans.
B. Where term "Contractor" is used, it shall mean the prime contractor or subcontractors who have been contracted to perform the work under this division of the specifications.
C. Where the word "Provide" is used, it shall mean "Furnish and Install, complete and ready for intended use".
D. Where the word "Directed" is used, it shall mean "Directed by Architect or Engineer or his authorized representative". This shall not imply that Architect's or Engineer's responsibility extends into the General Contractor's or Plumbing Contractor's areas of construction supervision.
E. Where the words "Similar" or "Typical" are used, they shall be used in their general sense and shall not be interpreted as meaning identical. Details shall be worked out in relation to their location and connection to other parts of work.

1.5 CONTRACTOR RESPONSIBILITY

A. It shall be the responsibility of the Contractor to carefully examine all of the contract documents and to comply with them in every respect. Should there be omissions or discrepancies in the documents notify the Architect or Engineer prior to the bid date so a written clarification can be issued.
B. It shall be responsibility of the Contractor to review all divisions of the contract documents with respect to plumbing work that will be required by the other divisions. Contractor shall thoroughly review all aspects of plumbing bid proposal prior to bidding for the purpose of clearly defining the scope of plumbing bid proposals with that of all other trades. Contractor shall pay special attention to the integration with other divisions such as but not limited to the following.

1. Coordination between plumbing division and electrical divisions. Equipment delivered to site that is not compatible with the electrical system shall be replaced or modified as necessary at no additional cost to the Owner.
2. Coordination between plumbing division and Architectural divisions.

1.6 ADDITIONAL COMPENSATION

A. Failure to examine or to comply with contract documents shall not relieve Contractor of responsibility for the work or be used as basis for additional compensation.
B. No additional compensation will be awarded for conflict with Architectural, structural, electrical, mechanical, plumbing components in installation of prefabricated materials or equipment. Piping shall be fabricated from field measurements. Advise Engineer of any discrepancies prior to fabrication.

C. No compensation will be awarded to the Contractor for minor relocations or deviations from plans. Changes in contract price will be allowed only for additions to or changes to original design intent and then only with written approval of the Architect or Owner.
D. Omission of Architectural, Electrical, or Mechanical or other pertinent details from plumbing contract documents shall not be used as basis for additional compensation.

1.7 SUPERVISION, LABOR AND WORKMANSHIP

A. Provide proper supervision of mechanics and subcontractors performing work under this division. Labor shall be performed by skilled mechanics experienced in their particular trade. Piping and equipment shall be installed square and plumb, with accessibility for proper operation and service. Any item that does not present a neat and workmanlike appearance shall be replaced or corrected at the direction of the Architect or Engineer and without additional cost to the Owner. Submit welder's certificates and resume of experience for all mechanics on this project when directed to do so by Architect or Engineer.

1.8 GENERAL REQUIREMENTS

A. Protection of Rough Work: All openings of every description shall be securely capped or otherwise protected against debris or other foreign material entering the system until such time as the equipment or fixture is permanently attached.
B. Cleaning and Adjusting: At the completion of the work all parts of the installation shall be thoroughly cleaned. All valves and controls shall be adjusted for proper operation. Upon completion of the work, the Contractor shall leave the building and project site in a neat condition.
C. Defective Work: If inspection or testing show defects, such defective work or materials shall be replaced, and inspection and test repeated. All repairs to piping shall be made with new material. No caulking of screwed joints will be acceptable.
D. Dielectric Connection: Where dissimilar metals are connected, provide approved dielectric connector to protect against dielectric corrosion.
E. Surveys and Measurements: Carefully survey project site prior to bidding and installation. Dimensions, both horizontal and vertical, shall be derived from Architectural, plans. Do not "Scale" plans; that is do not measure plans with Architect's or Engineer's scale and base installation dimensions on such measurements.

1. Horizontal and vertical measurements shall be based on established benchmarks. Work shall agree with established lines and levels. Field verify all measurements at project site. Check correctness of same as related to work prior to fabrication of shop made items and ordering of factory built items.
2. Notify Architect or Engineer of discrepancies between plans and actual field conditions that will prevent the following of good practice or affect the intent of plans and specifications. Do not proceed with installation until instructions are received from Architect or Engineer.

F. Substitution of Materials, Fixtures or Equipment: It is the intent of the contract documents to establish a standard of quality for materials, fixtures and equipment installed on this project. Substitution shall be equal in quality and design to the specified item in every respect.

1. Other Manufacturers must meet the quality standard for this project and will be acceptable, providing they meet the criteria set forth below:

a. Contractor is responsible for all coordination and additional costs which may be required for the work to be completed on time with no additional cost to the Owner.
b. Contractor to verify during submittal that the product works dimensionally within the intent of the Architect's or Engineer's design.
c. The ability to service components shall not be compromised.
d. Any additional coordination due to interference with other elements of the project will be the responsibility of the Contractor with no additional cost to the Owner.
e. Wherever manufacturers are listed, provide equipment and materials from that list only or submit alternate manufacturers to Engineer for review seven calendar days prior to bid. On occasion, proprietary products will be specified due to either preference of Owner, Architect or Engineer or to the lack of a second qualified manufacturer. On these occasions Contractor shall provide that product only.
f. Wherever a single manufacturer and product model number is scheduled on plans and alternate manufacturers are listed as acceptable by the specifications without their respective model numbers, Contractor may provide products by the alternate manufacturer's only if they are similar in design and equal in quality to the scheduled product and meet the capacity and performance characteristics specified.
g. Wherever two or more manufacturers are listed on plans or in specifications, provide materials, fixtures, or equipment from that list only, except when alternate manufacturer is approved prior to bid.
h. After bidding is completed, Engineer will only consider alternates that show benefit to the Owner. Engineer will not consider alternates that benefit only the Contractor.
i. Engineer reserves the right to accept or reject proposed substitutions and it is understood that his judgment shall be final.

G. Equipment Deviation: Design of this Project is based on products of manufacture as scheduled or detailed on the plans. Where specified alternates or approved substitutions require rearrangement of piping, conduit or work by any other trades, it shall be the Contractor's responsibility to submit drawings and obtain Engineer's and Architect's approval, and to assume any additional costs due to such change.
H. Piers, Supports, Attachments: Provide necessary supports, pads, and bases as required and shown on drawings for equipment furnished or as required by manufacturer. Materials, fixtures and equipment shall be securely attached to the building structure. Attachments shall be strong, durable and suitable for their intended application.

3. Piping systems shall be installed so as to be freely floating. They shall be securely supported from structure but shall be able to expand and contract independently of structure without causing undue stress or damage to the piping system. Piping shall not support itself. Piping systems shall be rigidly attached to structure only were shown on plans, as required by specifications and codes, or as required for proper installation of equipment or fixtures. Provide sleeves, rollers, expansion fittings, or special fittings as required to prevent transmission or vibration to the structure or for the proper operation of systems whether specifically shown on plans or not.

I. Site Observations and Punch List: Engineer will visit project site on occasion for the purpose of reviewing the work for general compliance with plans and specifications. These reviews shall not extend Engineer's responsibility into the area of General Contractor's or Plumbing Contractor's supervision or responsibility, nor shall they relieve Contractors' responsibility to comply with the contract documents. After such a visit, Engineer will provide a listing of items that he has observed that require modification or correction. Such a listing shall be called a "Punch List". Take appropriate action to correct all Punch List items. Inform Architect and Engineer in writing the type of corrective action taken.
J. Inspections and Certificate of Occupancy: Contractor shall arrange for all inspections required by local building officials and state agencies. Correct deficiencies required to comply with codes and standards and to receive certificate of occupancy. Upon completion of this project, submit written evidence of compliance with the above to Architect. Final acceptance will not be issued and the warranty date will not be established until such compliance is demonstrated.
K. Systems Start-Up: Upon completion of the installation of the work, start-up all systems and test and adjust systems until they are fully operational and functioning as intended by Engineer.
L. Record Drawings: During the course of construction, Contractor shall keep as-built drawings, called "Record Drawings", continually updated on the project site. Record Drawings shall indicate exact locations and depths of below floor piping and changes in pipe routing or fixture and equipment locations. Upon completion of project, turn record drawings over to Owner. Submit written evidence of compliance to Engineer. Final acceptance will not be issued and the warranty date will not be established until such compliance is demonstrated.

M. Owner Instruction and Operation and Maintenance (O&M) Manuals: Upon completion of this project, thoroughly instruct Owner's representative in the operation and care of all systems, fixtures, and equipment.
7. Furnish the O&M manual in the form of a three-ring binder containing operating instructions, copy of approved submittals, spare parts lists, warranties, and other pertinent data for each piece of equipment or fixture. Cover shall identify the Project, Architect, Engineer and Contractors.
8. Submit written evidence of compliance with above to Engineer. Final acceptance will not be issued and the warranty date will not be established until such compliance is demonstrated.

1.9 SUBMITTAL DATA

A. Submit in timely manner for Engineer's review, brochures describing all materials, equipment, fixtures and specially fabricated structures proposed for use in the performance of the work on this project.

1. Items to be submitted shall include but shall not be limited to pipe, valves, fittings, materials, hangers, special supports, insulation, fixtures, equipment and controls.
2. Descriptive materials shall be accompanied by shop drawings or catalog data sheets, clearly showing ratings, capacities and dimensions of materials, fixtures and equipment. Specific items proposed shall be clearly defined and described with pertinent data. Information shall be presented so that line-by-line comparison may be made with contract documents. Deviation from contract documents shall be enumerated on separate sheet and so entitled. Data of general nature will not be acceptable.
3. Each brochure shall be neatly organized into a single binder. In each brochure provide cover sheet identifying project name and location, Architect, Engineer, General Contractor, and Plumbing Contractor. Include Contractor's addresses and Phone Numbers. Provide adequate space for Architect's and Engineer's stamp. Plumbing Contractor shall include and sign the following statement on the cover sheet:

"I hereby certify that this shop drawing and/or brochure has been checked prior to submittal and that it complies in all respects with the requirements of the contract documents for this project."

Company Name
Signed
Date

Submittals forwarded without this statement and signature in each brochure will not be reviewed.

4. Engineer does not check and will not responsible for quantity takeoffs of items submitted.
5. Submit brochures in sufficient time and of proper format so as to avoid delays or changes in construction. Failure to comply shall render Contractor liable for expenses of delays occasioned by failure to provide necessary information or drawings. Architect and Engineer reserve the right to contact manufacturer directly to secure proper data and detail when deemed necessary. Contractor shall be liable for costs incurred by such action.
6. The act of submitting is implication that products submitted meet with the intent of Engineer's design and contract documents. Engineer's review of shop drawings or product submittal does not relieve Contractor of his responsibility to comply with the contract documents except when he has clearly informed the Architect and Engineer of deviations in writing and has had such deviations acknowledged in writing by Architect and Engineer. Engineer's review shall not relieve the Contractor of his responsibility to comply with the contract documents due to errors and omissions in shop drawings, submittals, quantities, measurements or building conditions.
7. No material, fixture or equipment shall be installed until submittal has been approved.
8. Provide 4 copies of a complete brochure of material, equipment, appurtenances, and accessories proposed for use accompanied by complete descriptive literature, drawings, rating tables or curves necessary to give full and complete details. No consideration will be given to partial or piece meal submittals. Any item which is rejected because of unsuitability or inferior quality must be replaced by acceptable items within two weeks. After that time the Architect reserves the right to notify the Contractor as to type of materials he will be required to furnish. Approval of materials or equipment shall not be construed as releasing this Contractor from further responsibility for full compliance with all provisions of these contract documents, but rather as a means to coordinate the equipment installation.

1.10 WARRANTY

A. Warrant in writing all work performed under the plumbing division on this project for a period of one year from the date of final acceptance of the work. Provide additional warranty where required by specific sections covering those products. Architect will establish the date of final acceptance, which commences the warranty period unless otherwise agreed by the Architect, Engineer and Owner.
B. Contractor shall repair or replace any material, fixture, equipment or workmanship found to be defective during the warranty period without cost to the Owner.
C. During the last month of the one-year warranty period, return to project site and inspect warranted work. Perform any final test as required by the contract documents. Submit written evidence of inspection to Engineer.

1.11 CODES AND STANDARDS

A. Comply with all local codes including the 2021 International Building Code, 2021 International Plumbing Code, 2021 International Fuel Gas Code, 2021 International Energy Conservation Code, National Electrical Code, NFPA 13, NFPA 54, applicable, federal, state, county, city and municipal codes, amendments, ordinances and regulations.

1.12 PRODUCT HANDLING

A. Materials shall be stored in such a manner as to protect them from damage or deterioration.
B. All materials and equipment injured or damaged (in transit, storage, installation or testing before completion of the contract) shall be repaired or replaced at no additional expense to the Owner prior to final acceptance.

1.13 QUALITY CONTROL

A. Permits: The Contractor shall obtain any permits required for the plumbing work.
B. License: The Contractor shall have a current state license suitable to the scope of work under the contract.
C. Specification and Drawings: The plumbing work shall be done according to these specifications, the plumbing drawings, the general specifications, and the general drawings. In case of a conflict, the specifications shall govern.
D. Job site: Any job site conditions affecting the plumbing work shall be the responsibility of the Plumbing Contractor unless indicated otherwise.

PART 2 PRODUCTS

2.1 MATERIALS

A. Materials for the plumbing work must be new unless indicated otherwise. The materials named in the specification or on the drawing for the plumbing work indicate quality and design. Any feature included as a standard of the materials listed shall be included in any substitution. Substitutes of equal quality and design may be permitted and must be submitted in accordance with these specifications.
B. All other materials not specifically described but required for a complete and proper installation of the work of this section, shall be new, first quality of their respective kinds, and as selected by the Contractor subject to the approval of the Architect.
C. All pipe and pipe fittings shall be manufactured in the United States.
D. Welders shall be fully qualified and licensed by state authorities. Welding materials and labor shall conform to the same code and all applicable local codes.

2.2 PLUMBING PIPING

A. Sanitary Waste and Vent
1. PVC Pipe, ASTM D1785, Schedule 40 with ASTM D2466 Schedule 40. PVC fittings, solvent welded with ASTM D2564 solvent cement.

2.3 PLUMBING VALVES

A. Provide valves of the same manufacturer throughout where possible.
B. All valves shall be manufactured in the United States.
C. Provide threaded valves for pipe sizes 2 inches and smaller.
D. Domestic water isolation valves shall be MSS SP 110 ball valves, 400 psi WOG, two piece bronze body, stainless steel ball and stem, full port, Teflon seats, blow-out proof stem, threaded ends, extended lever handle.
E. Where valves are installed concealed in pipe chase or above inaccessible ceilings, provide painted access doors with concealed hinge and key operated locks.

2.5 GENERAL

A. Escutcheons: Chrome plated brass escutcheons shall be provided wherever any pipe or rod passed through finished floors, walls or ceilings.
B. Install dielectric union where copper piping connects to ferrous piping or equipment.
C. Water hammer arrestors shall be sized in accordance with PDI-WH-201.
D. Floor cleanouts shall be galvanized cast iron, two piece body with double drainage flange, weep holes, reversible clamping collar, and round scoriated cover.
E. Pressure relief valves : ANSI Z21.22 Certified, bronze body, teflon seat, stainless steel stem and springs, direct pressure actuated, 210 degrees F maximum temeperature relief, ASME certified and labeled capacity.
F. Thermostatic Mixing Valve: chrome plated, cast-brass body, stainless steel bellows, integral temperature adjustment ASSE 110 degree F, check valves on inlets, stem thermometer outlet strainer stop checks on inlets.

PART 3 EXECUTION

3.1 REQUIREMENTS

A. Provide temporary services and connections required for construction.
B. Workmanship not in accordance with standard approved practices for installing the plumbing work shall be made to comply with these practices.
C. Architect shall determine exact locations of fixtures and equipment for the plumbing work. Coordinate mounting heights and accessibility clearances with Architect - see architectural elevations and enlarged plans. Flush valve operator shall be toward the wide side of the stall.
D. Cutting and patching required for the plumbing work shall be done by the Contractor. Do not cut, alter or reduce any load-bearing member without the specific written approval of the Architect and/or Structural Engineer.

3.2 CONDITIONS

A. Any job site conditions affecting the plumbing work shall be the responsibility of the Contractor unless indicated otherwise. All existing items removed or damaged in installing the plumbing work shall be replaced or repaired at no cost to Owner. The site shall be left in the same condition as it was before the work started.

3.3 INSTALLATION

A. General:

3. The piping system of the plumbing work shall be concealed in the building structure, unless indicated otherwise and shall run neatly with building lines where exposed. Route all piping where shown unless obstructions prevent this, obtain approval of the Engineer for all modifications.
4. Sleeving shall be provided unless indicated otherwise and must be approved by the Architect. Where copper pipe passes through masonry walls or partitions, copper sleeves shall be provided. All piping passing through exterior walls shall have the sleeves packed with oakum and caulked watertight and rodent proof.
5. During the installation of the system the Contractor shall protect all pipe from debris and trench water. All open pipe shall be mechanically sealed - tape is not acceptable.
6. Grade piping for proper drainage.
7. Check millwork shop drawings. Confirm location, size of fixtures and openings before rough-in and installation.
8. Mounting heights of all fixtures shall be verified with architectural drawings prior to roughing-in.
9. Anchor piping securely in wall or wall space to prevent damage when supply risers are installed or removed and to prevent vibration.
10. Secure floor outlet fixtures to floor with cast iron or brass floor flange caulked to soil or waste pipe. Seal joint with beeswax gasket. Do not use putty.
11. Secure floor mounted fixtures to floor with brass bolts and expansion anchors.
12. Caulk fixtures to wall and floor.

B. Sanitary Waste & Vent
1. Cleanouts shall be provided so that each and every waste line throughout the job may be rodded. Cleanouts shall be spaced on 50' centers on straight runs where intermediate branches do not provide cleanout access.
2. The waste and drain lines shall be graded at minimum of 1/8" per foot to drain properly.
3. All vents above the roof shall be flashed. Flashing shall be flanged out on roof minimum 8" around stack and be soldered to lead caulking or copper vent.

C. Valves:
1. The Contractor shall provide valves where shown on the drawings and where necessary for the proper functioning of the system. Provide isolation valves for all major restroom groups and branch taps serving each area of the building.
2. Where valves are concealed, provide painted access doors with concealed hinge and key operated locks.
3. Provide clearance for access to valves.

D. Pipe Supports
1. Pipe hangers and supports shall conform to MSS SP58, SP69, and SP89, and shall be galvanized type for steel piping and copper type for copper tubing.
2. All pipe shall be rigidly supported with hangers and supports secured to the structural framing. Hangers shall be split ring for up to 2" and clevis type with adjustable swivel couplings for larger. Hanger rods shall be of the sized recommended by the manufacturer. Perforated straps hangers will not be permitted in any part of the work.
3. Pipe hangers and supports shall be located at each valve and near changes of direction.

E. Provide pipe markers with color and lettering conforming to ASME A13.1, for identifying drain piping.

3.4 GUARANTEE

A. The Owner shall be guaranteed by the Contractor that any defects arising in the plumbing work within one year of the date of acceptance shall be corrected free of charge.

3.5 TESTS

A. The Contractor shall test all piping and furnish all apparatus necessary for the tests. Any leaks shall be repaired and the test repeated to completion. All piping shall be tested to the satisfaction of the Architect and the Inspector. The Architect shall be notified 24 hours prior to the time the test is conducted.
B. Pressure test water piping at 100 psig for a continuous 24-hour period.
C. Hydrostatically pressure test sanitary drainage piping at 10 feet of water for a continuous 8-hour period.

3.6 CLEAN UP

A. The debris from installing the plumbing work shall be removed from the job site by the Contractor.

3.7 DEMOLITION

A. Contractor will be required to provide demolition as required for this contract in conformance with this section and section "demolition". Remove and dispose of all materials not to be reused or returned to the Owner.

PROJECT # 24006

CL
Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS — TODD J. SPARROW — 106325 — LICENSED PROFESSIONAL ENGINEER — 05/02/2025

STATE OF TEXAS — ZACHARY W. HUMPHRIES — 155196 — LICENSED PROFESSIONAL ENGINEER — 05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP

600 LEAL ST, SAN ANTONIO, TX 78207

Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	

PLUMBING SPECIFICATIONS

MEP401

Electrical Specifications
Table of Contents

Division 26 - Electrical

Section 26 0500 - General Electrical Requirements

Part 1 - General

1. Furnish labor, materials, transportation, tools, and appliances required to perform the work of this project and provide complete, working systems as described by Drawings and specifications.
2. Locations
   A. Electrical drawings are diagrammatic, showing approximate locations of electrical devices and equipment. Except where dimensions are given, the Drawings are not intended to provide exact locations.
   B. Coordinate with other trades and take field measurements to determine exact locations.
   C. Reasonable changes to locations may be made by the Architect without additional cost.
3. Permits and Fees: Pay for trade permits and associated inspection fees from local jurisdiction.
4. Codes and Standards
   A. Work shall complete in accordance with the applicable Codes, ordinances, and interpretations of the AHJ.
   B. Applicable Codes: NFPA 70 (NEC), IBC, IFC, IECC, NESC, NFPA Standards, and other locally adopted Codes, amendments, and interpretations of local jurisdiction.
   C. Provisions of the Drawings and specification shall not be construed as waiving these requirements.
5. Submittals
   A. Where a submittal is required by the specifications, submit all required data for the section, complete, and include such information as required for identifying Contractor, sub-contractor(s) involved, project, Section(s) submitted, and submittal number.
   B. Contractor shall review submittals and certify that the products submitted meet the requirements of the Contract, prior to delivering to the Architect.
6. As-Built Drawings
   A. Prepare 'as built' drawings in AutoCAD format, detailing routing of feeders and major branch circuits and updating the Drawings to reflect the final installed location of electrical devices and equipment.
   B. Submit the 'as built' drawings with close out document for review. Upon approval present to the Owner with the required closeout documentation.
7. Definitions
   A. “Acceptable”, “Equal”, and “Equivalent”: Judgement inferred by these terms shall be the judgement of the Architect.
   B. “Approved”, “Directed”, “Requested”, “Authorized”, “Selected”, “Required”, and “Permitted”: Instruction inferred from these terms shall be the instruction of the Architect.
   C. “Furnish”: To supply and deliver, ready for installation.
   D. “Install”: To unpack, assembly, erect, set in place, connect, clean, and the like, as required to make operational and complete.
   E. “Provide”: To furnish and install.

Part 2 - Products

1. Materials shall conform to NEC requirements and shall be listed, inspected, and approved by a NRTL where labeling service is available.
2. Equipment and materials shall be installed in accordance with manufacturer's written instructions and recommendations.
3. Provide dedicated neutral conductors for branch circuits, except where multiwire branch circuits are specifically indicated to serve equipment or furniture, or where multipole branch circuits are utilized to serve equipment that does not require a neutral.
4. Where multiwire branch circuits are specifically indicated to serve equipment or furniture, install in accordance with NEC 210.4.

Part 3 - Execution

1. Provide such items as trim, electrical work, accessories, and cabling as required to ensure each installed system is complete and functional.
2. Coordinate with the requirements of these specifications and those of other disciplines. Deviation from specifications shall not be permitted without the written approval from the Architect.
3. Provide temporary electrical service for construction illumination and power during the entire course of the project. Connection of temporary electrical service shall be made at such point as determined by the Architect.

*** End of Section ***

Section 26 0519 - Low-Voltage Electrical Power Conductors and Cables

Part 1 - General

1. Scope: This section covers insulated conductors and cables.
2. Reference Standards
   A. ANSI/UL 83 - Thermoplastic-Insulated Wires.
   B. ICEA S-61-402 (NEMA WC 5) - Thermoplastic-Insulated Wire and Cable.
   C. ICEA S-68-516 (NEMA WC 8) - Ethylene-Propylene-Rubber-Insulated Wire.

Part 2 - Products

1. Identification: Provide new insulated conductors marked according to NEC Article 310.
2. Insulated Conductors (600 Volts and Below)
   A. Conductor Material: Soft-drawn, annealed copper; solid or stranded conductor for #8 AWG and smaller; stranded conductors for #6 AWG and larger.
   B. Insulation: THHN/THWN, unless noted otherwise.
   C. Size: For power wiring, #12 AWG minimum, or as identified in the Drawings. For control wiring, #14 AWG minimum, stranded conductors, unless noted otherwise.
   D. Color Code: Use factory-colored insulated conductors for #8 AWG and smaller; use factory-colored insulated conductors or field-applied tape for #6 AWG and larger.
   E. Listing: Single conductor. UL 83.

Part 3 - Execution

1. Installation shall be single conductor building wire installed into raceway systems, except that MC Cable may be installed in the following locations:
   A. For final connections to light fixtures, in lengths not to exceed 6 feet.
   B. For final connections to vibration producing equipment in dry locations, in lengths not to exceed 5 feet.
2. Installation
   A. Protection: Protect conductors by installing in raceway systems. Install conductors after raceway system installation is complete and cleaned. Do not bend conductors during installation to radii less than four times outer diameter of insulation. Use approved wire-pulling compound when necessary to reduce pulling tension. Do not exceed manufacturer's recommended maximum pulling tension.
   B. Splices and Terminations: Use pressure-type lugs, connectors, terminations, and splices for stranded conductors.
   C. Appearance: Neatly and securely bundle conductors in an enclosure using nylon straps with a locking hub.
3. 600-volt insulated conductors
4. Wire Color
   A. Use factory-colored insulated conductors or approved field-applied color tape, as required by Paragraph 2.2 above. Use color codes as required by AHJ for power conductors; and use different colors for control wiring.
   B. Phase, Neutral, and Ground Conductors: Color code shall be as indicated in the Wire Color Code Table below.

WIRE COLOR CODE TABLE (CoSA)

Phase	480Y/277	208Y/120,	120/240V,	240/120V,
Conductor	3 Phase	3 Phase	1 Phase	Delta, 3 Phase
A or L1	Purple	Black	Black	Black
B or L2	Brown	Red	Red	Orange (High Leg)
C or L3	Yellow	Blue	NA	Blue
Neutral	Gray	White	White	White
Ground	Green	Green	Green	Green
Isolated Ground	---	Green with Yellow Tracer	Green with Yellow Tracer	Green with Yellow Tracer
Switch Leg	Same Color as Branch Circuit Conductor.			

*** End of Section ***

Section 26 0526 - Grounding and Bonding for Electrical Systems

Part 1 - General

1. Scope: This section covers grounding and bonding equipment for electrical systems.
2. Reference Standards
   A. ANSI/IEEE Std 142 - Grounding of Industrial and Commercial Power Systems.
   B. ANSI/UL 467 - Safety Standard for Grounding and Bonding Equipment.

Part 2 - Products

1. Wiring
   A. Conductors and insulation shall be as specified in Section 26 0519, except as noted in this section.
   B. Color Code: Use green insulation for grounding electrode and equipment grounding conductors.
   C. Bonding Jumpers: Bare conductors.
   D. Branch Circuits: Ground conductor shall be stranded copper.
2. Ground Busbars
   A. Round-edge copper bar with 98 percent International Annealed Copper Standard (IACS) conductivity.
   B. Cross Sectional Area: Size the bus for not less than 25 percent of the cross-sectional area of the related feeder.
   C. Minimum Size: 1/4 inch by 2 inches.
3. Rod Electrodes
   A. Where a field-provided rod electrode is required, use 3/4" x 10' copper clad steel. Provide exothermic welded connections to ground rod.
4. Ground Connections
   A. Mechanical: Bronze connectors, suitable for grounding and bonding applications, in configurations required for installation.
   B. Exothermic: Exothermic materials, accessories, and tools for preparing and making permanent field connections between grounding system components.

Part 3 - Execution

1. Examination
   A. Examine surfaces, substrates, and other conditions to ensure they are acceptable for mounting. Select mounting hardware based on these surfaces and conditions. Repair conditions affecting performance or preventing mounting hardware from being installed.
2. Equipment Ground
   A. Provide a grounding busbar as indicated on the Drawings. Secure to wall at 12 inches AFF, unless otherwise indicated on the Drawings. Bond to grounding electrode system, with grounding electrode conductor sized as indicated on the Drawings.
   B. Raceway systems and equipment enclosures.
      (1) Ground cabinets, junction boxes, outlet boxes, motors, controllers, raceways, fittings, switchgear, transformer enclosures, other equipment and metallic enclosures. Ground equipment and enclosures to the continuous-grounded, metallic raceway system in addition to any other specific grounding shown.
      (2) Provide bonding jumpers and ground wire throughout to ensure electrical continuity of the grounding system.
      (3) Provide grounding-type insulated bushings for metal conduits terminating in equipment enclosures containing a ground bus and connect the bushing to the ground bus.
      (4) Provide a green insulated equipment grounding conductor for each lighting branch circuit supplying fixtures installed less than 8-feet above floor or grade, each receptacle branch circuit, each power branch circuit and each feeder.
      (5) Provide bonding jumper and bonding bushing on each metallic conduit entering or leaving the enclosure of the service equipment.
   C. Size: When grounding and bonding conductors are not sized on drawings, size wire and cable in accordance with NEC Table 250.122; and size bonding jumpers to provide cross-sectional area greater than or equal to equivalent grounding conductor size determined from NEC Table 250.122.

*** End of Section ***

Section 26 0529 - Hangers and Supports for Electrical Systems

Part 1 - General

1. Scope: This section covers conduit supports, sleeves, fire stopping, equipment supports for electrical systems.
2. Reference Standards
   A. ASTM 84 - Surface Burning Characteristics of Building Materials.
   B. ASTM E119 - Fire Tests of Building Construction and Materials.
   C. ASTM E814 - Fire Tests of Through-Penetration Fire Stops.
   D. ASTM E1966 - Fire-Resistive Joint Systems.
   E. FM - Approval Guide.
   F. NFPA 70 - National Electrical Code.
   G. UL 263 - Fire Tests of Building Construction and Materials.
   H. UL 723 - Tests for Surface Burning Characteristics of Building Materials.
   I. UL 1479 - Fire Tests of Through-Penetration Firestops.
   J. UL - Fire Resistance Directory.

Part 2 - Products

1. Manufacturers
   A. Allied Tube & Conduit Corp.
   B. Electroline Manufacturing Company
   C. O-Z Gedney
   D. B-Line Systems
   E. Unistrut
   F. Kindorf
   G. Thunderline Link-Seal
   H. NMP Corp.
   I. Dow Corning
   J. Hilti
   K. 3M
2. Conduit Supports
   A. Hanger Rods: Threaded high tensile strength galvanized carbon steel with free running threads.
   B. Beam Clamps: Malleable iron, with tapered hole in base and back to accept either bolt or hanger rod. Set Screw: hardened steel.
   C. Conduit clamps for Trapeze Hangers: Galvanized steel, notched to fit trapeze with single bolt to tighten.
   D. Conduit Clamps - General Purpose: One-hole malleable iron for surface mounted conduits.
   E. Cable Ties: High strength nylon temperature rated to 185 degrees F (85 degrees C). Self-locking.
3. Formed Steel Channel
   A. Product Description: Galvanized 12 gage thick steel. With holes 1-1/2 inches on center.
4. Sleeves
   A. Sleeves through non-fire rated floors: 18 gage thick galvanized steel.
   B. Sleeves through non-fire rated beams, walls, footings, and potentially wet floors: Steel pipe or 18 gage thick galvanized steel.
   C. Sleeves through fire rated and fire resistive floors and walls, and fire proofing: Prefabricated, fire-rated sleeves with seals, UL listed for installation in surface penetrated.
   D. Fire-stopping insulation: Glass fiber type, non-combustible.
5. Mechanical Sleeves
   A. Product Description: Modular mechanical type, consisting of interlocking synthetic rubber links shaped to continuously fill annular space between object and sleeve, connected with bolts and pressure plates causing rubber sealing elements to expand when tightened, providing watertight seal and electrical insulation.
6. Firestopping
   A. Product Description: Different types of products by multiple manufacturers are acceptable as required to meet specified system description and performance requirements; provide only one type for each similar application.
      (1) Silicone Firestopping Elastomeric Firestopping: Silicone elastomeric compound and compatible silicone sealant.
      (2) Foam Firestopping Compounds: Single.
      (3) Formulated Firestopping Compound of Incombustible Fibers: Formulated compound mixed with incombustible non-asbestos fibers.
      (4) Fiber Stuffing and Sealant Firestopping: Composite of mineral fiber stuffing insulation with silicone elastomer for smoke stopping.
      (5) Mechanical Firestopping Device with Fillers: Mechanical device with incombustible fillers and silicone elastomer, covered with sheet stainless steel jacket, joined with collars, penetration sealed with flanged stops.
      (6) Intumescent Firestopping: Intumescent putty compound which expands on exposure to surface heat gain.
      (7) Firestop Pillows: Formed mineral fiber pillows.
7. Firestopping Accessories
   A. Primer: Type recommended by firestopping manufacturer for specific substrate surfaces and suitable for required fire ratings.
   B. Installation Accessories: Provide clips, collars, fasteners, temporary stops or dams, and other devices required to position and retain materials in place.
   C. General:
      (1) Furnish UL listed products.
      (2) Select products with rating not less than rating of wall or floor being penetrated.
   D. Non-Rated Surfaces:
      (1) Stamped steel, chrome plated, hinged, split ring escutcheons or floor plates or ceiling plates for covering openings in occupied areas where conduit is exposed.
      (2) For exterior wall openings below grade, furnish modular mechanical type seal consisting of interlocking synthetic rubber links shaped to continuously fill annular space between conduit and cored opening or water-stop type wall sleeve.

Part 3 - Execution

1. Examination
   A. Examine surfaces, substrates, and other conditions to ensure they are acceptable for mounting. Select mounting hardware based on these surfaces and conditions. Repair conditions affecting performance or preventing mounting hardware from being installed.
2. Preparation
   A. Clean substrate surfaces of dirt, dust, grease, oil, loose material, or other matter affecting bond of firestopping material.
   B. Remove incompatible materials affecting bond.
   C. Install backing materials to arrest liquid material leakage.
   D. Do not drill or cut structural members.
3. Installation - Hangers and Supports
   A. Anchors and fasteners:
      (1) Concrete structural elements: provide precast inserts, expansion anchors, powder actuated anchors and preset inserts.
      (2) Steel structural elements: provide beam clamps, spring steel clips, steel ramset fasteners, and welded fasteners.
      (3) Concrete surfaces: provide self-drilling anchors and expansion anchors.
      (4) Hollow masonry, plaster, and gypsum board partitions: provide toggle bolts and hollow wall fasteners.
      (5) Solid masonry walls: provide expansion anchors and preset inserts.
      (6) Sheet metal: provide sheet metal screws.
      (7) Wood elements: provide wood screws.
   B. Inserts:
      (1) Install inserts for placement in concrete forms.
      (2) Install inserts for suspending hangers from reinforced concrete slabs and sides of reinforced concrete beams.
      (3) Provide hooked rod to concrete reinforcement section for inserts carrying pipe over 4 inches.
      (4) Where concrete slabs form finished ceiling, locate inserts flush with slab surface.
      (5) Where inserts are omitted, drill through concrete slab from below and provide through-bolt with recessed square steel plate and nut recessed into and grouted flush with slab.
   C. Provide conduit and raceway supports at spacing required by NEC.
   D. Install multiple conduit runs on common hangers.
   E. Supports:
      (1) Fabricate supports from structural steel or formed steel channel. Install hexagon head bolts to present neat appearance with adequate strength and rigidity. Install spring lock washers under nuts.
      (2) Install surface mounted cabinets and panelboards with minimum of four anchors.
      (3) In wet and damp locations install steel channel supports to stand cabinets and panelboards 1 inch off wall.
      (4) Support vertical conduit at every other floor.
4. Installation - Firestopping
   A. Install material at fire rated construction perimeters and openings containing penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.
   B. Apply primer where recommended by manufacturer for type of firestopping material and substrate involved, and as required for compliance with required fire ratings.
   C. Apply firestopping material in sufficient thickness to achieve required fire and smoke rating, to uniform density and texture.
   D. Compress fibered material to maximum 40 percent of its uncompressed size.
   E. Place foamed material in layers to ensure homogenous density, filling cavities and spaces. Place sealant to completely seal junctions with adjacent dissimilar materials.
   F. Place intumescent coating in sufficient coats to achieve rating required.
   G. Remove dam material after firestopping material has cured.
   H. Fire rated surface:
      (1) Seal opening as follows:
         (a) Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
         (b) Size sleeve allowing minimum of 1-inch void between sleeve and building element.
         (c) Pack void with backing material.
         (d) Seal ends of sleeve with UL listed fire resistive silicone compound to meet fire rating of structure penetrated.
      (2) Where cable tray, bus, cable bus, conduit, wireway, and trough, penetrates fire rated surface, install firestopping product in accordance with manufacturer's instructions.
   I. Non-rated surfaces:
      (1) Seal opening through non-fire rated surface as follows:
         (a) Install sleeve through opening and extending beyond minimum of 1 inch on both sides of building element.
         (b) Size sleeve allowing minimum of 1-inch void between sleeve and building element.
         (c) Install type of firestopping material recommended by manufacturer.
      (2) Install escutcheons or ceiling plates where conduit, penetrates non-fire rated surfaces in occupied spaces. Occupied spaces include rooms with finished ceilings and where penetration occurs below finished ceiling.
      (3) Exterior wall openings below grade: assemble rubber links of mechanical seal to size of conduit and tighten in place, in accordance with manufacturer's instructions.
      (4) Interior partitions: seal pipe penetrations at clean rooms, laboratories, hospital spaces, computer rooms, telecommunication rooms. Apply sealant to both sides of penetration to completely fill annular space between sleeve and conduit.
5. Installation - Equipment Bases and Supports
   A. Provide housekeeping pads of concrete, minimum 3-1/2 inches thick and extending 6 inches beyond supported equipment.
   B. Using templates furnished with equipment, install anchor bolts, and accessories for mounting and anchoring equipment.
   C. Construct supports of steel members. Brace and fasten with flanges bolted to structure.
6. Installation - Sleeves
   A. Exterior watertight entries: seal with adjustable interlocking rubber links.
   B. Conduit penetrations not required to be watertight: sleeve and fill with silicon foam.
   C. Set sleeves in position in forms. Provide reinforcing around sleeves.
   D. Size sleeves large enough to allow for movement due to expansion and contraction. Provide for continuous insulation wrapping.
   E. Extend sleeves through floors 1 inch above finished floor level. Caulk sleeves.
   F. Where conduit or raceway penetrates floor, ceiling, or wall, close off space between conduit or raceway and adjacent work with fire stopping insulation and caulk. Provide close fitting metal collar or escutcheon covers at both sides of penetration.
   G. Install chrome plated steel escutcheons at finished surfaces

*** End of Section ***

Section 26 0533 - Raceway and Boxes for Electrical Systems

Part 1 - General

1. Scope: This section covers conduit, outlet boxes, floor boxes, junction boxes, and pull boxes.
2. Reference Standards
   A. ANSI C80.1 - Rigid Steel Conduit, Zinc Coated.
   B. ANSI C80.3 - Electrical Metallic Conduit, Zinc Coated.
   C. ANSI/NEMA Publication No. OS 2 - Non-Metallic Supports.
   D. ANSI/UL 514 - Electrical Outlet Boxes and Fittings.
   E. ANSI/NEMA FB1 - Fittings, Cast Metal Boxes, and Conduit Bodies.
   F. NECA - Standard of Installation.
   G. NEMA TC3 - PVC Fittings for Use with Rigid PVC Conduit and Tubing.
3. Submittals
   A. Product Data: Provide for metallic conduit, flexible metal conduit, liquid-tight flexible metal conduit, metallic tubing, nonmetallic conduit, flexible nonmetallic conduit, nonmetallic tubing, fittings, conduit bodies. Submit sealants.

Part 2 - Products

1. Acceptable Manufacturers
   A. RMC, IMC, and EMT: Allied Tube and Conduit Corp., LTV Conduit, Republic Steel Corp., Triangle, Wheatland Tube Co.
   B. FMC and LFMC: Anaconda, Electri-Flex, Kellems.
   C. PVC: Carlon, Ethyl Corp., Can-Tex Industries, Condux.
   D. Boxes and Enclosures: Hoffman, Keystone, OZ Gedney, Stahlin.

PROJECT # 24006

Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
TODD L. SPARROW
106325
LICENSED
PROFESSIONAL ENGINEER
05/02/2025

STATE OF TEXAS
ZACHARY W. HUMPHRIES
155196
LICENSED
PROFESSIONAL ENGINEER
05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP
600 LEAL ST, SAN ANTONIO, TX 78207
Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	

ELECTRICAL SPECIFICATIONS

MEP402

2. Conduit requirements
   A. Minimum size: 3/4 inch unless otherwise specified, except that 1/2 inch may be used for conduits between plugs or between light fixtures.
   B. Underground Installation
      (1) More than five feet from foundation wall: Use RMC, IMC, or Schedule 80 PVC.
      (2) Within five feet from foundation wall: Use RMC or IMC.
      (3) Under slab on grade: Use PVC, except that for elbows and where turning up, use RMC or IMC.
      (4) Minimum size: 1 inch.
   C. Outdoor locations, above grade: Use RMC or IMC.
   D. Dry locations - Interior: Concealed use EMT. Exposed use EMT, except that below 10 feet AFF, use RMC or IMC.
   E. Equipment Connections: Use FMC or LFMC, in lengths up to 5 feet.
3. Rigid Metal Conduit (RMC) and Intermediate Metal Conduit (IMC)
   A. RMC: ANSI C80.1, steel conduit, hot dipped, galvanized after fabrication.
   B. IMC: Galvanized steel.
   C. Fittings and conduit bodies: ANSI/NEMA FB1; material to match conduit.
   D. RMC and IMC installed below grade or exposed to weather shall be coated with pipe primer and then wrapped with all-weather corrosion protection tape.
      (1) of 20 mils thickness, installed with 80% overlap. Surfaces of conduit shall be coated with pipe primer prior to wrapping.
      (2) Utilize 3M "Scotchwrap" pipe primer and 3M "Scotchwrap" 51 tape, or approved equal.
4. Flexible Metal Conduit (FMC) and Liquid-Tight Flexible Metal Conduit (LFMC)
   A. FMC: Flexible galvanized steel.
   B. LFMC: Anaconda "Sealtite" Type VA, or approved equal, flexible galvanized steel core with extruded thermoplastic covering with special watertight connectors, UL listed with ground integral in sizes 1/2" to 1-1/4".
   C. LFMC for underfloor locations: Anaconda "Sealtite" Type OR.
   D. LFMC for extreme temperatures locations (above 40 degrees C): Type HC.
   E. Fittings: ANSI/NEMA FB1.
5. Electrical Metallic Tubing (EMT)
   A. Description: ANSI C80.3; galvanized tubing.
   B. Fittings and conduit bodies: ANSI/NEMA fb1, galvanized steel compression type outdoors. Steel set-screw may be used indoors. Steel connectors shall have insulated throat.
6. Rigid PVC Conduit (PVC)
   A. High impact polyvinyl chloride, meeting minimum requirements of NEC.
   B. Direct burial type: Carlon electric products, Type 40.
   C. Concrete encased burial type: Carlon electric products, Type 40. Mark each length clearly and durably with nominal trade size, type of material, and UL label.
   D. Fittings: PVC, solvent weld type, with connectors and threaded adapters as required.
7. Junction, Pull, and Splice Boxes
   A. Construction. Provide boxes conforming to NEC Article 314.
   B. Interior spaces. Provide NEMA 1 type boxes at least 4 inches deep.
   C. Exterior spaces. Provide NEMA 3R type boxes at least 4 inches deep.
   D. Embedded. Provide NEMA 4 cast iron type with external recessed flanged cover when cast in concrete.
   E. Size. Provide boxes sized in accordance with NEC requirements.
   F. Listing. UL 514.

Part 3 - Execution
1. Installation
   A. Install conduit in accordance with NECA Standard of Installation. Arrange supports to prevent misalignment during wiring installation.
   B. Support conduit using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
   C. Group related conduits and support using conduit rack. Construct conduit rack using steel channel; provide space on each 25 percent additional conduits.
   D. Fasten conduit supports to building structure and surfaces.
   E. Do not support conduit with wire or perforated pipe straps. Remove wire used for temporary supports.
   F. Arrange conduit to maintain headroom and present neat appearance. Route exposed conduit parallel and perpendicular to structure. Route conduit under slab from point-to-point. In floor slabs, sleeves shall extend 1-1/2 inch above floor slab cemented in a water tight manner. Maintain adequate clearance between conduit and piping.
   G. Cut conduit square using saw pipe cutter; de-burr cut ends. Bring conduit to shoulder of fittings; fasten securely. Join nonmetallic conduit using cement as recommended by manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for 20 minutes, minimum.
   H. Use conduit hubs or sealing locknuts to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
   I. Install no more than equivalent of three 90-degree bends between boxes. Use conduit bodies to make sharp changes in direction, as around beams. Use factory elbows for bends in metal conduit larger than 2-inch size.
   J. Avoid moisture traps; provide junction box with drain fitting at low points in conduit system. Provide suitable fittings to accommodate expansion and deflection where conduit crosses control and expansion joints.
   K. Provide suitable pull string in empty conduits, except sleeves and nipples.
   L. Use suitable caps to protect installed conduit against entrance of dirt and moisture.
   M. Ground and bond conduit bodies, boxes, and enclosures as required by Section 26 0526.
   N. Install boxes as required to facilitate cable installation in raceway systems. Generally, provide boxes in conduit runs of more than 100 feet or as required in Section 26 0533. Locate boxes strategically and make them of such shape to permit easy pulling of wire or cables.
   O. Install boxes so that covers are readily accessible and easily removable after completion of the installation. Include suitable access doors for boxes above suspended ceilings. Select a practical size for each box and cover.

*** End of Section ***

Section 26 0553 - Identification for Electrical Systems

Part 1 - General
1. Scope: This section covers nameplates, labels, wire markers, conduit markers, stencils, underground warning tape, and lockout devices.

Part 2 - Products
1. Nameplates
   A. Product description: laminated three-layer plastic with engraved black letters on white contrasting background color.
   B. Letter Size (Switchboards):
      (1) 1/2-inch-high letters for identifying individual equipment.
      (2) 1/4-inch-high letters for identifying miscellaneous information.
      (3) Refer to details for additional information.
   C. Letter Size (Panelboards, Transformers, Disconnects, etc.):
      (1) 1/4-inch-high letters for identifying individual equipment.
      (2) 1/8-inch-high letters for identifying miscellaneous information.
      (3) Refer to details for additional information.
   D. Minimum nameplate thickness: 1/8 inch.
   E. Mounting Method: Corrosion Resistant Rivets
2. Wire Markers
   A. Description: split sleeve or tubing type wire markers.
   B. Legend:
      (1) Power and lighting circuits: branch circuit or feeder number.
      (2) Control circuits: control wire number as indicated on schematic and interconnection diagrams.
3. Conduit and Raceway Markers
   A. Description: Nameplate fastened with adhesive labels fastened with adhesive.
   B. Color:
      (1) Medium voltage system: Black lettering on white background.
      (2) 480-volt system: Black lettering on white background.
      (3) 208-volt system: Black lettering on white background.
   C. Legend:
      (1) Medium voltage system: High Voltage.
      (2) 480-volt system: 480 volts.
      (3) 208-volt system: 208 volts.
4. Stencils
   A. Stencils: With clean cut symbols and letters of following size:
      (1) Up to 2 inches outside diameter of raceway: 1/2-inch-high letters.
      (2) 2-1/2 to 6 inches outside diameter of raceway: 1-inch-high letters.
   B. Stencil paint: Semi-gloss enamel, with colors conforming to the following:
      (1) Black lettering on white background.
      (2) White lettering on gray background.
      (3) Red lettering on white background.
      (4) Blue lettering on white background.
5. Underground Warning Tape: 4-inch-wide plastic tape, detectable type, colored red with suitable warning legend describing buried electrical lines.
6. Lockout Devices: Anodized aluminum hasp with erasable label surface; size minimum 7-1/4 inches by 3 inches.

Part 3 - Execution
1. Preparation
   A. Degrease and clean surfaces to receive adhesive for identification materials.
2. Existing Work
   A. Install identification on existing equipment to remain in accordance with this section.
   B. Install identification on unmarked existing equipment.
   C. Replace lost nameplates.
   D. Re-stencil existing equipment.
3. Install identifying devices after completion of painting.
4. Nameplate installation:
   A. Install nameplate parallel to equipment lines.
   B. Install nameplate for each electrical distribution and control equipment enclosure with corrosive-resistant mechanical fasteners, or adhesive.
   C. Install nameplates for each control panel and major control components located outside panel with corrosive-resistant mechanical fasteners, or adhesive.
   D. Secure nameplate to equipment front using screws.
   E. Secure nameplate to inside surface of door on recessed panelboard in finished locations.
   F. Install nameplates for switchboards, panelboards, transformers, and disconnect switches.
5. Label Installation:
   A. Install label parallel to equipment lines.
   B. Install label for identification of individual control device stations,
   C. Install labels for permanent adhesion and seal with clear lacquer.
6. Wire Marker Installation:
   A. Install wire marker for each conductor at panelboard gutters, pull boxes, outlet and each load connection.
   B. Mark data cabling at each end. Install additional marking at accessible locations along the cable run.
   C. Install labels at data outlets identifying patch panel and port designation as indicated on drawings.
7. Conduit Marker Installation:
   A. Install conduit marker for each conduit longer than 6 feet.
   B. Conduit Marker Spacing: 20 feet on center.
   C. Identify conduit using field painting. On 480-volt systems, use blue paint; on 208-volt systems, use yellow paint.
8. Underground Warning Tape Installation: Install underground warning tape along length of each underground conduit, raceway, or cable 6 to 8 inches below finished grade, directly above buried conduit, raceway, or cable.

*** End of Section ***

Section 26 2813 - Overcurrent Protective Devices

Part 1 - General
1. Summary: This section covers fuses and molded case circuit breakers rated 600 volts or less in panelboards, switchboards, individual enclosures, motor control centers, combination motor starters, and busway plug in units.
2. Submittals
   A. Product Data: Submit device ratings, trip characteristics, and compatibility information.

Part 2 - Products
1. Acceptable Manufacturers
   A. Fuses:
      (1) Bussman Mfg. Div.
      (2) Gould-Shawmut
      (3) Little Fuse.
   B. Breakers:
      (1) GE Electrical.
      (2) Eaton Corporation.
      (3) Schneider Electrical.
      (4) Siemens.
2. Fuses
   A. Products of a single manufacturer.
   B. Fuses rated 1/10 to 600 amperes shall be current limiting UL Class RK1.
3. Circuit Breakers
   A. Inverse time trip unit with fixed thermal trip action.
   B. Device with permanent trip unit containing individual thermal and magnetic trip elements in each pole.
   C. Calibrated for operation in a minimum ambient temperature of 40°C.
   D. Marked to indicate their current and voltage rating.
   E. Device with interrupting capacity compatible with the equipment in which it is installed, which shall not be less than 10 kAIC on systems 150 volts to ground and below, and 14 kAIC on systems above 150 volts to ground.
   F. One, two, or three pole molded case circuit breakers as indicated on the Drawings.
   G. Common trip type.
4. Breakers must clear panel doors and be mounted on frame allowing outward and inward adjustment. The depth of the panel shall also permit adjustment.
5. The use of tandem, "Multi", "Push-O-Matic", or "Quicklag" breakers shall not be permitted.

Part 3 - Execution
1. Provide overcurrent protection for all wiring and equipment in accordance with the NEC.
2. Label inside of each fused switch door, with the following information: fuse class, type, ampere rating, and interrupting rating. Label should indicate that fuses should be replaced only with fuses of the same class, ampacity, and interrupting rating.

*** End of Section ***

PROJECT # 24006

Consulting Engineers
MEP ENGINEERING | COMMISSIONING
7700 Torino St, Suite 120
San Antonio, TX 78229
Telephone: 210.614.1110

F-24898

STATE OF TEXAS
TODD J. SPARROW
106325
LICENSED
PROFESSIONAL ENGINEER
05/02/2025

STATE OF TEXAS
ZACHARY W. HUMPHRIES
155196
LICENSED
PROFESSIONAL ENGINEER
05/02/25

HAVEN FOR HOPE
RESOURCE CENTER
SUMP PUMP
600 LEAL ST, SAN ANTONIO, TX 78207
Developed for

Revision	Date

Submittal	Date
100% DESIGN SUBMITTAL	05/02/2025

Job Number	25019
Date Published	05/02/25
Checked By	CLCE
Scale	

ELECTRICAL SPECIFICATIONS

MEP403