



AGENDA

BOARD OF ADJUSTMENT

SPECIAL MEETING

MONDAY, NOVEMBER 2, 2020, 6:30 P.M.

In accordance with social distancing guidelines, the meeting will not be open to the public. Board members, the applicants, and City staff will attend by phone or internet. The meeting will be streamed live for attendance of the public. To access please do the following:

1. Go to www.youtube.com
2. Type in the words "City of Elgin, TX" into the top search feature
3. Then click on the dark blue icon that says "Elgin Texas Perfectly Situated"
4. Then look for the "City of Elgin, Texas Board of Adjustment Meeting 11/2/20"
5. Then click on it for a live broadcast.

There will be an opportunity for the public to submit written comments prior to the meeting on agenda items. These comments must be submitted by emailing the Development Services Director at dharrell@ci.elgin.tx.us or by calling 512-229-3254 by 5:00 P.M. on November 2, 2020 and leaving a message. These will be read in full at the meeting during the agenda item.

1. CALL TO ORDER

2. CONSENT AGENDA

All matters listed below are to be considered routine by the Board and will be enacted in one motion. There will not be separate discussion on the items. If discussion is desired, that items can be removed from the consent agenda and will be considered separately as a new business item.

1. Consider approval of the following Minutes

2.1. June 23, 2020 Minutes.

Documents:

[JUNE 23, 2020 SPECIAL MINUTES.PDF](#)

3. NEW BUSINESS

- 3.I. Project #202001033: A Fire Code Variance From Section 903.2.7 Of The 2006 International Fire Code As Adopted Under Section 18.23 To Not Provide Fire Sprinklers Within A Group R (Residential) Occupancy As A New Occupancy Use For A Building Located At 112 Depot St. (ELGIN CITY, BLOCK 17, LOT 7).
- A. Staff Presentation
 - B. Applicant Presentation
 - C. Open Public Hearing
 - D. Close Public Hearing
 - E. Discussion
 - F. Consideration

Documents:

[COMBINED PACKET.PDF](#)

4. ANNOUNCEMENTS

5. ADJOURNMENT

The Board may adjourn the public meeting at any time during the meeting and convene in Executive Session pursuant to Chapter 551 of the Texas Government Code to discuss any matter as specifically listed on the agenda and/or as permitted by Chapter 551 of the Texas Government Code. The board will return to an open session for possible discussion and action as a result of the Executive Session.

Notice of Assistance at Public Meetings, the City of Elgin is committed to compliance with the Americans with Disabilities Act. Elgin City Hall and Council Chambers are wheelchair accessible and special marked parking is available. Persons with disabilities who plan to attend this meeting and who may need assistance are requested to contact the City Secretary's Office at (512) 281-5724. Please provide a forty-eight (48) hour notice when feasible.

Para informacion en espanol favor de llamar (512) 281-0119. Servicios de traduccion disponible en la reunion.

**MINUTES
CITY OF ELGIN BOARD OF ADJUSTMENTS
SPECIAL TELECONFERENCE MEETING
TUESDAY, JUNE 23, 2020 – 6:30 PM**

CALL TO ORDER : The Chair called the meeting to order at 6:30 P.M. with the following members present via teleconference: Chair Regan Dumbeck, Brenda Piña, and Darren Mogonye. David Harrell then requested a recess to contact other Commission members since there was not a quorum. Ruby Simms responded that she was present, so the meeting continued without the recess. S.H. McShan connected to the meeting at 6:31 P.M.

ABSENT: Franklin Boettcher & Stephen Kylberg

STAFF: Development Services Director David Harrell & Planning Technician Melissa Lipiec.

CONSENT AGENDA

1. Consider approval of the following Minutes:
 - A. December 11, 2019 Special Meeting.

On a motion by Brenda Piña, seconded by Ruby Simms, the Board voted unanimously to approve the minutes.

NEW BUSINESS

1. Project #202000339: A zoning variance from Section 46-233 to further exceed the maximum forty-five percent (45%) impervious surface coverage on the lot for placement of a new building located at 902 W. 2nd St. (A18 BURLESON, JONATHAN, ACRES 17.8900, (HIGH SCHOOL)).
 - A. Staff Presentation - David Harrell read the report into the record.
 - B. Applicant Presentation – Rafael De La Paz, Chief Executive Officer of Community Health Centers of South Central Texas provided background information on the non-profit clinic which has been providing medical, dental and behavioral services to the under insured and uninsured citizens at 902 West 2nd Street since 2014. He stated that the need to place a modular building was due to the School District's need for space.
 - C. Open Public Hearing - Public hearing was opened at 6:40 P.M. David Harrell read an e-mail from Angela Bailey regarding traffic flow in the area. Mr. De La Paz stated that they have been operating at that location for several years and they do not foresee an increase in traffic. David Harrell informed the Board that a Specific Use Permit was requested in relation to this project to be able to operate a medical facility at this location. He further stated that the Planning and Zoning commission made a recommendation to the City Council to approve the Specific Use with some conditions pertaining to parking on site, signs in front of the development, hours of operation and set the parking for the school use. The item will go before Council on July 7th. Dr. Peter Perez, Deputy Superintendent of Elgin ISD stated that the School District is working with the clinic to minimize traffic in the area.
 - D. Close Public Hearing - Public hearing was closed at 6:48 P.M.
 - E. Discussion - There was a brief discussion by the Board.
 - F. Consideration - On a motion by Darren Mogonye, seconded by S.H. McShan, the Board unanimously voted to approve Project #202000339. The vote was 4-0 with Darren Mogonye not voting due to the fact the S.H. McShan was present.

ANNOUNCEMENTS: There was no discussion.

ADJOURNMENT: The Chair adjourned the meeting at 7:06 P.M.

Regan Dumbeck, Chair

Attested: _____
Melissa Lipiec, Secretary

On a motion by _____, seconded by _____ the
foregoing instrument was passed and approved this _____ day of _____, 2020.



Development Services Department

STAFF REPORT

Fire Code Variance

File Number: 202001033

Date: October 21, 2020

Applicant: Melissa Cole

Hearing Dates: Board of Adjustment – November 2, 2020.

Location: 112 Depot St. (ELGIN CITY, BLOCK 17, LOT 7)

APPLICATION SUMMARY

Consideration of a fire code variance from Section 903.2.7 of the 2006 International Fire Code (IFC) as adopted under Section 18.23 to not provide fire sprinklers within a Group R (Residential) Occupancy as a new occupancy use for a building.

DEPARTMENT COMMENTS

The building itself is one (1) story and has an occupancy of B – Business for the entire 1,682 sq. ft. floorplan. The applicant is proposing to modify the floorplan to put 802 sq. ft. of living space in the back half of the floorplan. This changes the occupancy from B – Business to R-2 Residential which 2006 IFC requires fire sprinklers be placed only this portion of the building, see applicable Code below:

Section 903.2.7 Group R. An automatic sprinkler system installed in accordance with Section 903.3 shall be provided throughout all buildings with a Group R fire area.

Initially the building plans indicated that fire sprinklers would be installed in this portion of the building. These building plans have been approved by the City. Typically fire plans are drawn separately by a State licensed engineer specializing in fire protection. This is the reason the attached building plans only reference compliance with the 2006 IFC and show no fire plans. The City has requested fire plans which will include fire stopping, fire alarms, and fire sprinklers to be submitted for approval. However, these will not be submitted until the request for a variance to the sprinkler system has been considered by the Board. The City will not approve a building final for the site until these fire code plans have been approved, constructed to the satisfaction of the City, and inspections are approved by the City, no matter the Board decision.

STAFF ANALYSIS

Further staff analysis to be provided by our third-party fire code official at hearing. The Board can choose to approve, approve with conditions, continue this item with the applicant's permission, or deny the project.

ATTACHMENTS

Additional information is provided through attached exhibits.

1. Narrative.
2. Building Plans.

Attachment 1

Narrative

September 11, 2020

Re: Variance from 2006 International Fire Code Section 903.2.7, sprinkler system

I am writing asking for a variance to the sprinkler system requirement for the planned single apartment at the rear of 112 Depot St. Within the apartment there are no interior room doors other than the bathroom. This will be an approximately 800 square foot apartment that will house one or two residents. There is no second floor or loft. The other comparable single apartments on the intersecting alley were not required to have sprinkler systems.

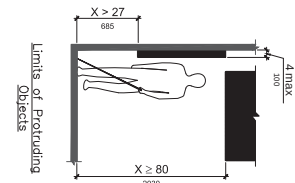
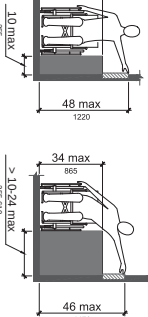
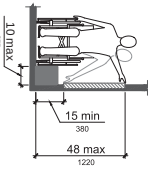
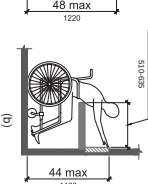
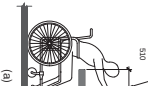
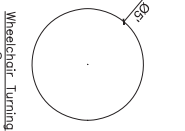
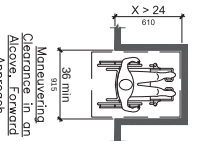
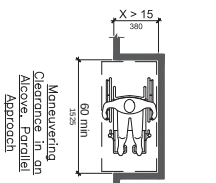
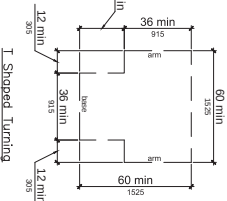
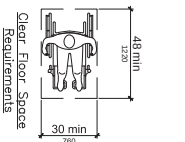
The bid for installing a sprinkler system is prohibitive for such a small space and the return on investment of one resident's lease.

I am asking that the sprinkler system requirement be waived for 112 Depot St.

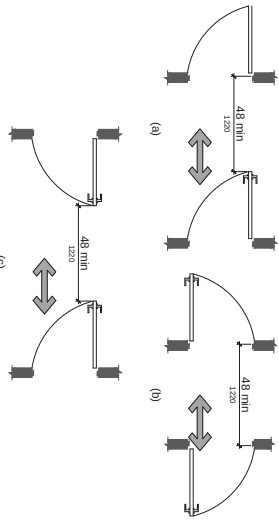
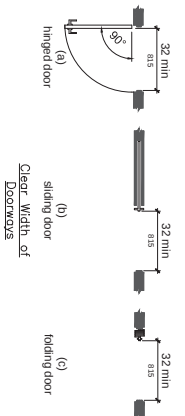
Sincerely,
Melissa Cole

Attachment 2

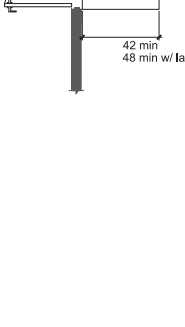
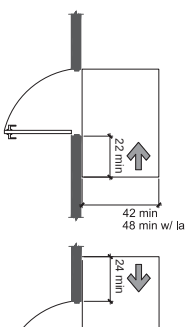
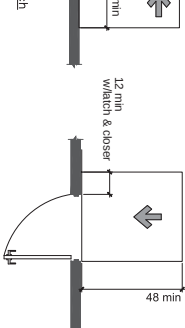
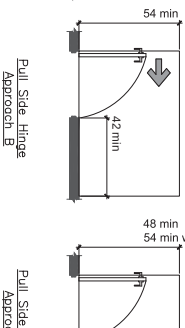
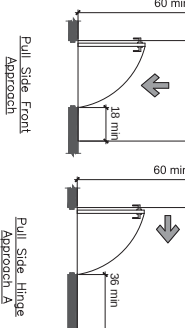
Plans



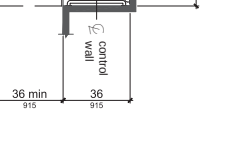
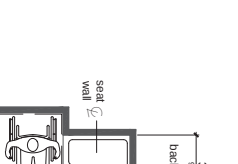
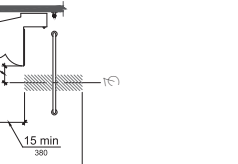
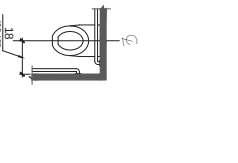
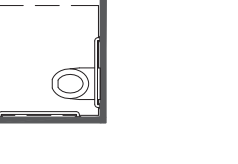
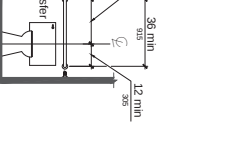
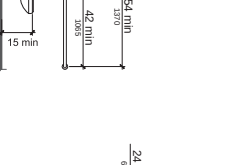
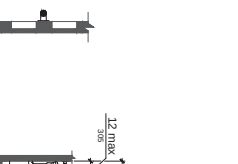
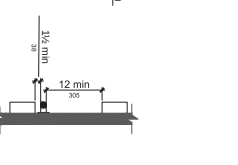
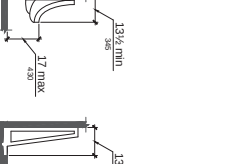
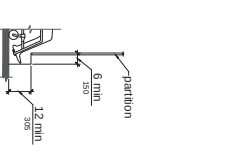
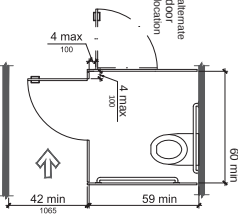
- Clear Floor Space
- Reach Range
- Knee Clearances



Doors in a Series



- Door & Gate Clearances



Wheelchair Accessible Toilet Compartment Doors

Wheelchair Accessible Toilet Compartment Door Clearance

Height and Depth of Urinals

Spacing of Grab Bars

Side Wall Grab Bar at Water Closets

Rear Wall Grab Bar at Water Closets

Size of Clearance at Water Closets

Wheelchair Accessible Water Closet Location

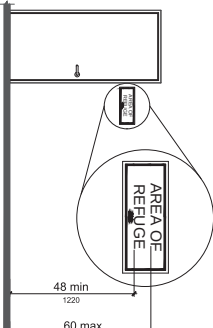
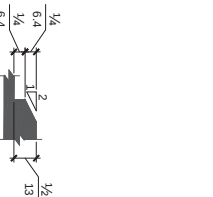
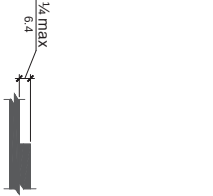
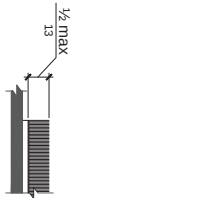
Dispenser Outlet Location

Transfer Type Shower Compartment Size and Clearance

Pictogram Field Dark on Light

Drinking Fountain Plan

- Restroom Conditions

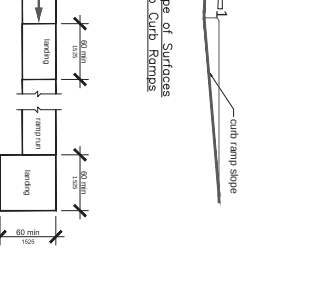
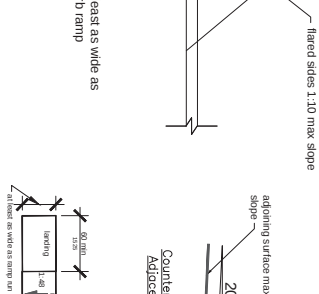
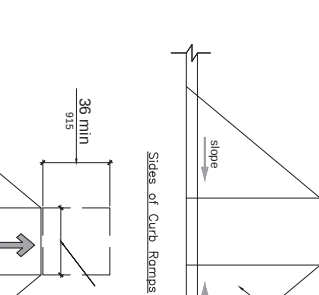
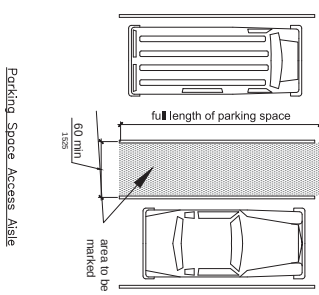
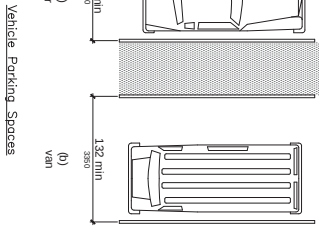


Horizontal Surfaces

Vertical Change in Level

Beveled Change in Level

Height of Tactile Characters Above Finish Floor or Ground



- Site Information

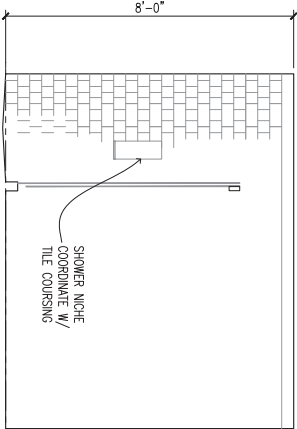


CHARLES J. NEILSON
ARCHITECT LLC
2008 E. DART STREET
DARTON, TEXAS 76024
512-223-2300
FAX: 512-223-2301
PROJECT: 11.07.19

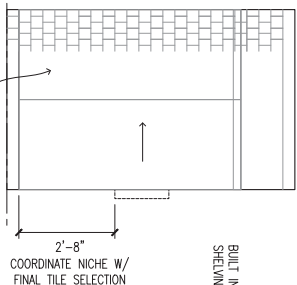
112 DEPOT STREET
REHABILITATION
ELGIN, TEXAS

1530 E
CITY OF ELGIN
11.07.19

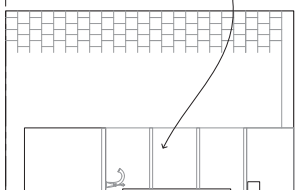
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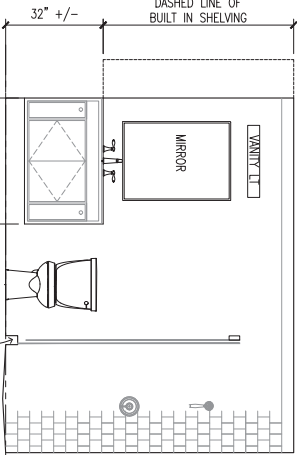
Interior Elevation 3A



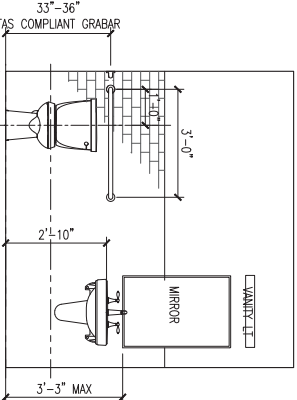
Interior Elevation 3B



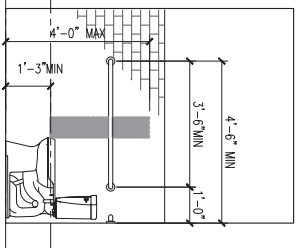
Interior Elevation 3C



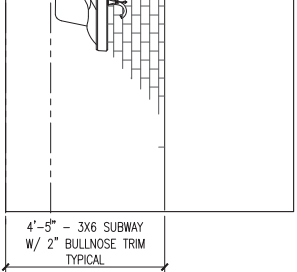
Interior Elevation 3D



Interior Elevation 4A



Interior Elevation 4B

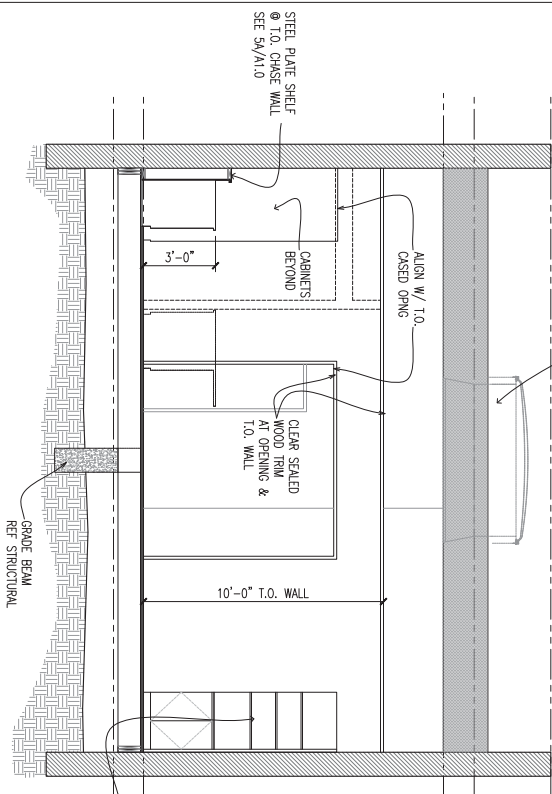


Interior Elevation 4C

EXISTING CEILING OPENING
BEHIND TO BE
REFORMED/RESTORED FOR NEW
CEILING. SCALED OPENING SKYLIGHT
VERTICAL DIMENSIONS
DIMENSIONS POST CEILING DEMO

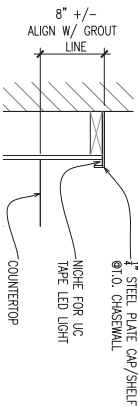
03 Interior Elevations @ Apt Bath

SCALE: 3/8"-1'-0"



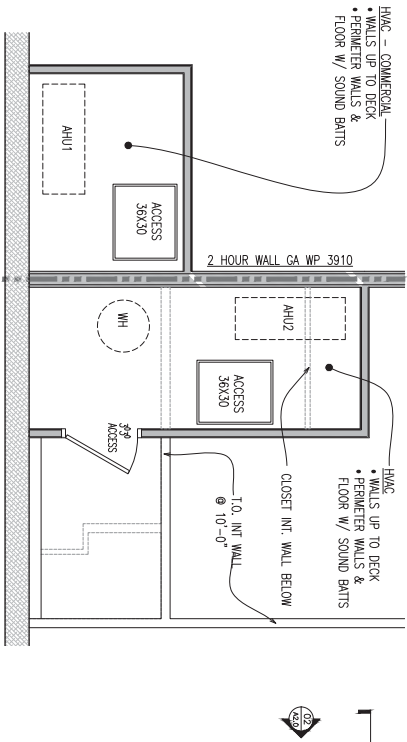
05 Building Section

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



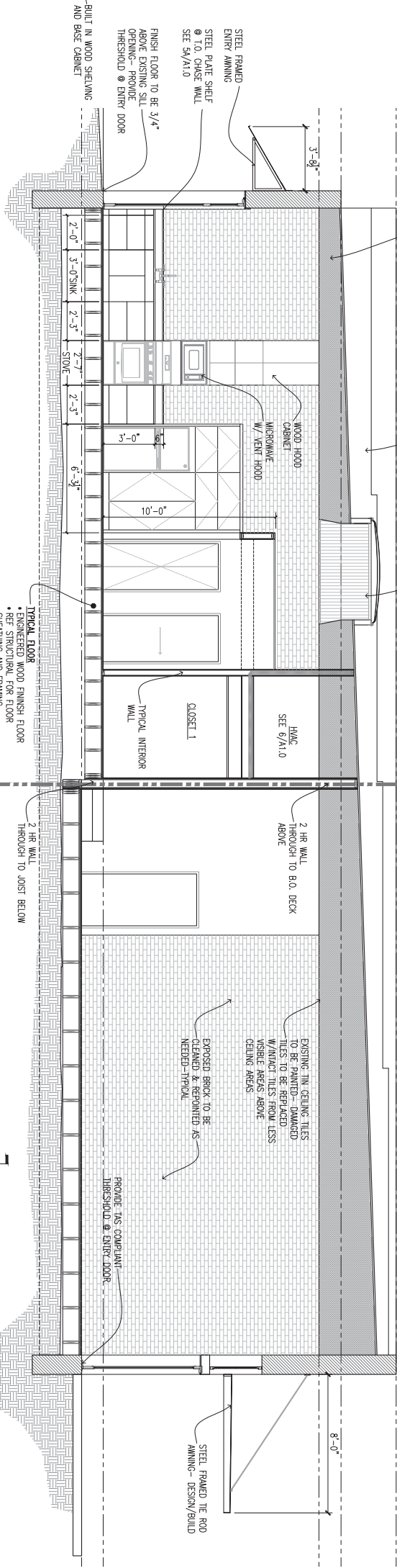
07 Detail @ T.O. Chose Wall

SCALE: 1'-1'-0"



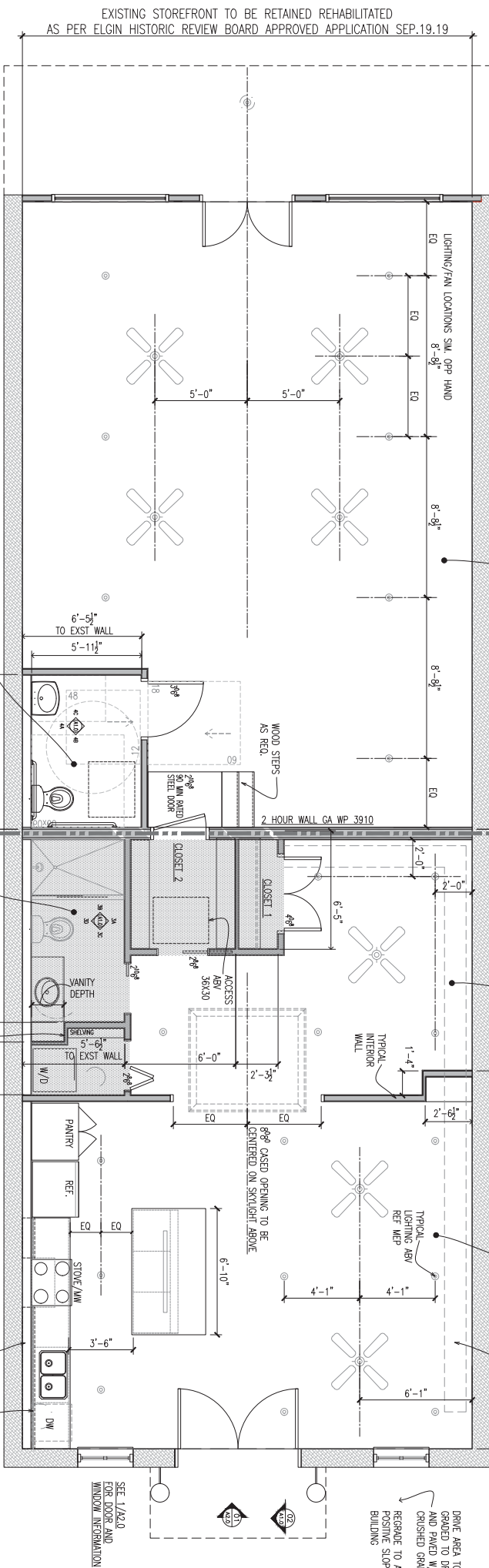
06 Mechanical Room Floorplan

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



02 Building Section

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



01 Floor Plan

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



01 Floor Plan

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



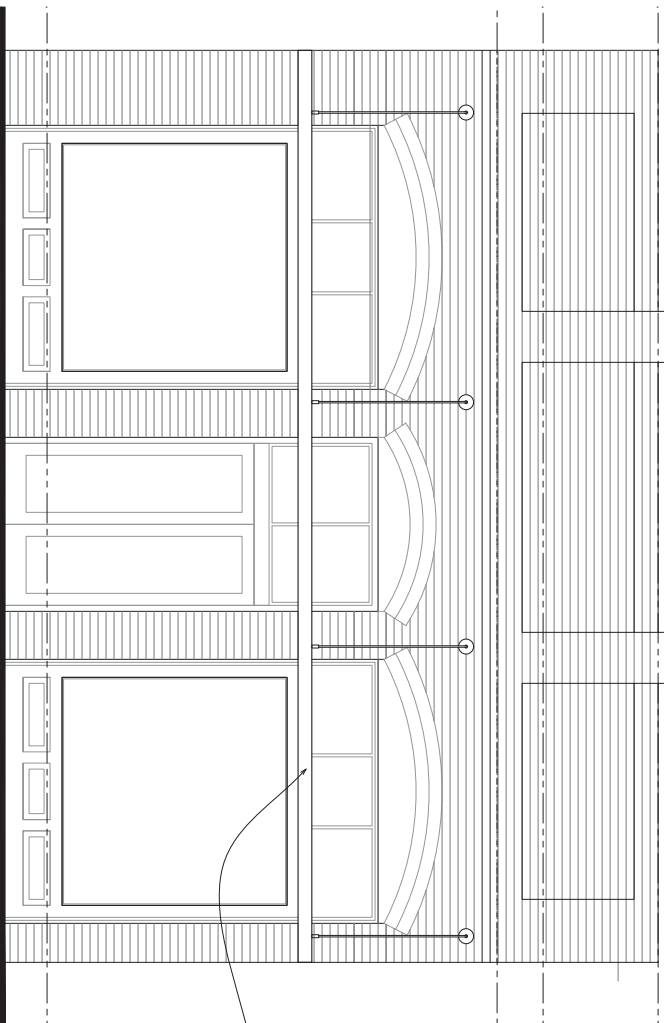
CHARLES J. HELMS
ARCHITECT LLC
200 E. 20TH STREET
AUSTIN, TEXAS 78702
512.423.2888
CHJ@CHARLESJHELMS.COM

PROJECT:
112 DEPOT
STREET
REHABILITATION
ELGIN, TEXAS

ISSUE
CITY OF ELGIN
DATE
11.07.19

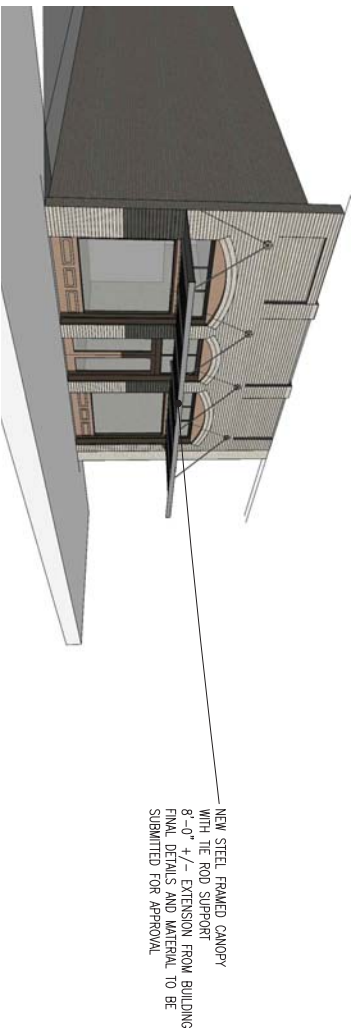
01 Floor Plan

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

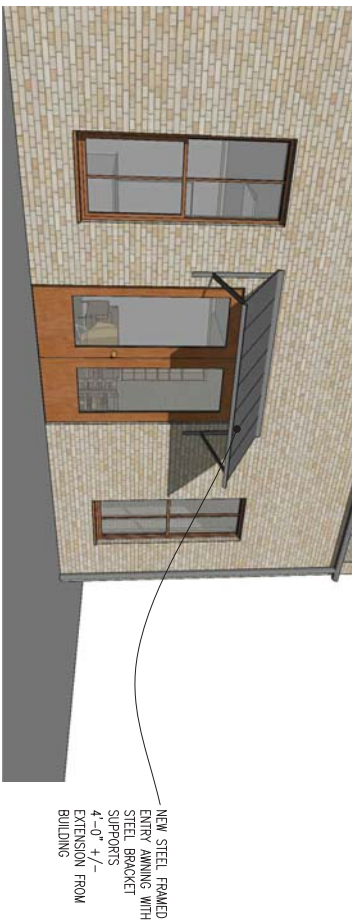


02 | Elevation at Depot St
SCALE: 3/8"=1'-0"

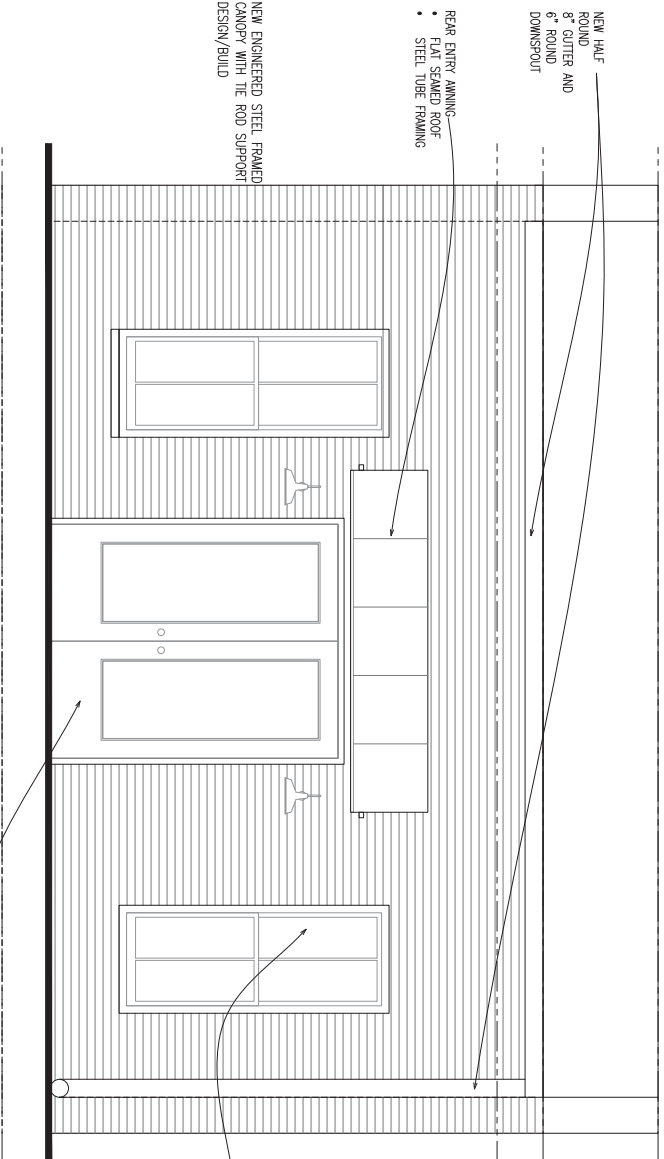
- DEPOT STREET ELEVATION**
- EXISTING STOREFRONT TO BE RETAINED REHABILITATIONS PER ELGIN HISTORIC REVIEW BOARD APPROVED APPLICATION SEP.19.19
 - CANOPY- EXISTING CANOPY AND COLUMNS TO BE REMOVED AND REPLACED
 - STOREFRONT DOORS - ORIGINAL STOREFRONT DOORS AND CONFIGURATION TO REMAIN ANY DETERIORATED WOOD TO BE REPAIRED /REPLACED IN KIND
 - STOREFRONT WINDOWS-ORIGINAL STOREFRONT WINDOWS AND CONFIGURATION TO REMAIN.
 - TRANSOMS- TRANSOM WINDOWS TO BE CLEANED AND REPAIRED, INTERIOR BLOCKING/PANELING TO BE REMOVED
 - BRICK-BRICK TO BE CLEANED AND REPOINTED AS NEEDED, ALL DECORATIVE BRICK PANELS TO REMAIN, SPOT MASONRY REHABILITATION AS REQUIRED



04 | Exterior Perspectives @ Depot Street
SCALE: NIS



03 | Exterior Perspectives @ Alley
SCALE: NIS



01 | Elevation at Alley
SCALE: 3/8"=1'-0"

- ALLEY SIDE ELEVATION**
- BRICK-BRICK TO BE CLEANED AND REPOINTED, AS NEEDED, ALL DECORATIVE BRICK PANELS TO REMAIN, SPOT MASONRY REHABILITATION AS REQUIRED
 - GUTTER AND DOWNSPOUTS TO BE REPAIRED AND REPLACED
 - 60. EXISTING DETERIORATED DOORS TO BE REPLACED WITH WOOD FULL LIGHT DOORS
 - WINDOWS TO BE REPAIRED/REPLACED A WITH 2 OVER 2 CONFIGURATION AND CLEAR GLAZING - FINAL WINDOW SELECTIONS TO BE SUBMITTED FOR APPROVAL
 - ELECTRICAL METER TO BE RELOCATED OF BUILDING TO YARD AREA
 - EXISTING VENT PIPES TO BE RELOCATED
 - NEW EXTERIOR LIGHTING



EXISTING DEPOT STREET ELEVATION



EXISTING ALLEY ELEVATION

- TYPICAL INSULATED WINDOW UNIT**
- CUSTOM FIT TO EXISTING ROUGH OPENING
 - U FACTOR - .35
 - SHGC .29
 - 2 LAYERED CONFIGURATION
 - FULL UNVED LIGHT DOUBLE HING
 - ALL WINDOW AND DOOR PERIMETERS TO BE FULLY FLASHED AND SEALED WITH SELF ADHESIVE FLASHING-TYVEK FLEXWRAP OR EQUAL
 - VOIDS TO BE FILLED WITH FOAM AIR SEAL
 - FINAL WINDOW SELECTION TO SUBMITTED FOR APPROVAL TO ARCHITECT/OWNER/ELGIN HISTORICAL REVIEW BOARD
 - ANDERSEN A OR E SERIES OR EQUAL

- TYPICAL INSULATED FULL LIGHT DOOR**
- CUSTOM FIT TO EXISTING ROUGH OPENING
 - U FACTOR - .35
 - SHGC .29
 - 2 LAYERED WINDOW AND DOOR PERIMETERS TO BE FULLY FLASHED AND SEALED WITH SELF ADHESIVE FLASHING-TYVEK FLEXWRAP OR EQUAL
 - VOIDS TO BE FILLED WITH FOAM AIR SEAL
 - FINAL DOOR SELECTION TO SUBMITTED FOR APPROVAL TO ARCHITECT/OWNER/ELGIN HISTORICAL REVIEW BOARD
 - ANDERSEN OR EQUAL



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PROJECT:	
112 DEPOT STREET REHABILITATION ELGIN, TEXAS	
ISSUE	DATE
CITY OF ELGIN	11.07.19

A2.0

DESIGN LOADS

1. BUILDING CODE: 2004 International Building Code (IBC), CH. 16 Structural Design provisions
2. FLOOR LIVE LOAD: 50 psf (offices), 40 psf (residential), 20 psf (ceiling joists-uninhabitable offices with limited storage)
3. ROOF LIVE LOAD: n/a
4. DEAD LOAD: 10 psf
5. ROOF SNOW LOAD DATA: ground snow load, $P_g = 5$ psf
6. WIND DESIGN DATA: basic wind speed = 90 mph 3-sec gust per 2004 IBC, Exposure B
7. EARTHQUAKE DESIGN DATA: site class D "stiff soil," seismic design category A
8. GEOTECHNICAL INFORMATION: a site-specific geotechnical report was not available, an allowable soil bearing capacity of 2000 psf was assumed [per IBC Table 1804.2] when founded in bearing material as noted on foundation details.
9. FLOOD DESIGN DATA: n/a
10. SPECIAL LOADS: n/a

CODES and STANDARDS

1. BUILDING CODE: 2006 International Building Code (IBC), CH. 16 Structural Design Provisions
2. MINIMUM DESIGN LOADS: ASCE 7 Minimum Design Loads for Buildings and other Structures
3. CONCRETE: ACI 318 building Code Requirements for Structural Concrete
4. WOOD: NDS for Wood Construction

GENERAL

1. Scales indicated on the following drawings are for general reference only.
2. Dimensional information should not be obtained by direct scaling from drawings.
3. Scope: Contractor including sub-contractors shall determine the scope of the structural work from the complete contract documents. The following drawings shall not be considered separately for bidding purposes for the structural work. Full consideration shall be given to other structural work or work related to the structure, including but not limited to necessary coordination described or implied by other consultants, including but not limited to architectural and MEP drawings.
4. Means and methods: Means, methods, and sequences of construction are the contractor's responsibility. Contractor shall be in compliance with the 2006 International Building Code. Contractor shall take the necessary and required precautions to maintain and insure the integrity of the structure at all stages of construction.
5. Mechanical Equipment: structural members have been located and designed to accommodate mechanical equipment as required. Any change or additions in mechanical equipment shall be submitted to CRAFT structural for review and approval.
6. Principal Openings: openings in structural members are indicated as known in these drawings. Refer to call consultant (architectural, and MEP) drawings for sleeves, curbs, inserts and more not indicated in the following drawings. The location of sleeves or openings in structural members not indicated in these drawings shall be submitted to CRAFT structural for review and approval prior to alteration.
7. Site: The following drawings do not and are not intended to be used to locate property lines, building set backs, nor height limitations. Contractor is responsible for properly locating the building. Contractor is responsible for proper construction within code restrictions. Contractor is responsible to address site drainage as determined appropriate to the site and in full consideration to adjoining properties.

TYPE OF STANDARD HOOK	BAR SIZE	MIN. INSIDE BEND DIAMETER	A or G	hook length	TENSION DEVELOPMENT LENGTH, L _{dh}
90-degree HOOK	#3	2.25"	6"	6"	
	#4	3"	8"	8"	
	#5	3.75"	10"	10"	
	#6	4.5"	12"	12"	
180-degree HOOK	#3	2.25"	5"	4"	6"
	#4	3"	6"	4.5"	8"
	#5	3.75"	7"	5"	10"
	#6	4.5"	8"	6"	12"

CONCRETE REINFORCING DETAIL TABLES

1. WHEN EITHER SIDE OR END COVER IS SMALLER THAN $2\frac{1}{2}"$, MULTIPLY "Ldh" BY 1.4.
2. END CONCRETE COVER (90° HOOKS) $\geq 2"$.
3. * FOR 180° HOOKS AT RIGHT ANGLES TO EXPOSED SURFACES, 2" MINIMUM COVER TO TAIL SHALL BE PROVIDED.
4. BEND DIAMETER IS INDICATED ON DIAGRAM AS: ○. DIAMETERS INCLUDE SPRINGBACK.

CONCRETE (cast-in-place)

1. All cast-in-place concrete mixtures shall be as follows:
Class A normal-weight concrete
stone aggregate: ASTM C 33, 3/4" max aggregate size
minimum concrete compressive strength: 3000 psi at 28 days
slump range: 3" to 5"
air-entraining admixture: ASTM C 260, limited to 4.5 %
2. No conduit or piping larger than 1" I.D. shall be run in structural concrete members unless shown on structural drawings.
3. All pipe sleeves in concrete members shall be schedule 40 pipe unless shown otherwise on the structural drawings. Location of the sleeves shall be as approved by the CRAFT structural. Provide (2) additional stirrups each side of each sleeve in beams and splices as directed by CRAFT structural.
4. Reinforced steel shall be deformed new labeled steel bars in accordance with ASTM Specification A615 Grade 60.
5. All stirrups shall be Grade 40 with standard 90 degree hooks.
6. Detailing of reinforcing steel shall conform to the American Concrete Institute Detailing Manual.
7. All hooks and bends in reinforcing bars shall conform to ACI Standards unless shown otherwise.
8. Lap continuous unchorded reinforcing bars 3d bar diameters.
9. Tack welding of reinforcing steel shall not be permitted.
10. Reinforcing steel coverage shall be as follows:
Grade beams: 1 1/2" top
 3" bottom
 3" side formed
 3" side against earth

STATEMENT OF SPECIAL INSPECTIONS

1. Based on Section 1704 and Table 1704.4 of the 2004 International Building Code, the following are the required special inspections applicable for this project:
 - Concrete
 - Verification of use of required design mix (periodic)
 - Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete
 - Verification of in-situ concrete strength, prior to removal of forms (periodic)
 - Inspection of bolts installed in concrete - all specified bolts are post-installed (into hardened concrete). However, it is recommended that the inspection of anchors post-installed in hardened concrete receive periodic inspection.
2.
 - Inspection of reinforcing steel including placement (periodic)
3. Other sections and/or subsections not listed are determined not applicable to this project. Interim and final inspections, including testing reports shall be submitted to this office for review. If all submitted documentation is found in compliance and all discrepancies corrected, a final letter of compliance will be released.

TENSION DEVELOPMENT and LAP SPICE LENGTHS TABLE (GRADE 60 UNCOATED BARS, NORMAL WEIGHT CONCRETE)		
F _c = 3000 PSI		
BAR SIZE	TOP BARS	OTHER BARS
#3	22"	17"
#4	29"	22"
#5	36"	28"
#6	43"	33"

TABLE 1. TENSION DEVELOPMENT OF LAP SPICE LENGTHS TABLE 2. LDC COMPRESSION DEVELOPMENT LENGTH AND COMPRESSION LAP SPICE LENGTH TABLE

BAR SIZE	COMP. DEV. LENGTH Ldc	COMP. LAP SPlice LENGTH
#3	9"	12"
#4	11"	15"
#5	14"	19"
#6	17"	23"
#7	20"	27"
#8	22"	30"

1. THE TABULATED VALUES REPRESENT MIN. TENSION DEVELOPMENT AND/OR LAP SPlice LENGTHS, PROVIDING A LENGTH LONGER THAN THE MIN. IS ACCEPTABLE.
2. LAP SPlice LENGTHS (MIN. OF 12") ARE MULTIPLES OF TENSION DEVELOPMENT LENGTHS.
3. TOP BARS ARE HORIZONTAL REBAR WITH MORE THAN 12" OF FRESH CONCRETE CAST BELOW THE BARS AT THE END DEVELOPMENT LENGTH.

WOOD FRAMING

1. Unless otherwise noted, **all structural framing lumber shall be clearly marked No. 2 southern pine by the SPS.**
2. **All wood studs shall be full height without intermediate plate line unless detailed otherwise.**
3. **Solid 2x blocking shall be provided at end and point of support of all wood joists and shall be placed between supports in rows not exceeding 8'-0" apart. All walls shall have 2x6 solid blocking at 4'-0" o.c. maximum vertical for plate heights exceeding 8'-0". End nail with 2-16d nails or side toe nail with 1-16d nails.**
4. **All framing members framing into the side of a header shall be attached using metal joist hangers.**
5. **Place a single plate at the bottom and a double plate at the top of all stud walls. If nailing is not noted or shown otherwise on plans or details, nailing schedule shall be as follows (refer to table 2304.9.1 Fastening Schedule in the 2006 IBC for complete list):**
- 6.

Blocking to rafter - toe nail	Fastening schedule
Rim board to rafter - toe nail	(2) - 8d ea end
Joist to sill or girdler - toe nail	(2) - 16d ea end
Bracing/blocking to joist/rafter - toe nail	(4) - 8d ea joist
Blocking to sill/top plate - toe nail	(2) - 8d ea end
Ledger strip to beam - toe nail	(3) - 16d ea block
Joist on ledger to beam - toe nail	(3) - 16d ea joist
Sole plate to joist or blocking - toe nail	(3) - 16d ea end
Top or bottom plate to stud - end nail	16d at 16" o.c.
	(2) - 16d per stud
Stud to stud - face nail	or (3) - 16d toe nail per stud
Top plate to top plate - face nail	(2) 16d at 24" o.c.
Top plates (laps and intersections) - face nail	(2) 16d at 12" o.c.
Header to header.....	(4) 16d at joints
	16d at 16" o.c.
	staggered along each edge
Ceiling joist to plate - toe nail	(3) - 8d ea joist
Continuous header to stud - toe nail	(4) - 8d
Ceiling joist laps over partitions - face nail	(3) - 16d ea lap
Ceiling joists parallel rafters - face nail	(3) - 16d ea joist
Rafters to plate - toe nail	(9) - 10d (2) one side (1) top side
1" brace to each stud and plate - face nail	(2) - 8d
1" sill-up corner studs.....	(2) 16d at 24" o.c. face nail

Floor plywood: Nails spaced at 6" o.c. at edges and at 12" o.c. at intermediate supports.

7. Common wire nails shall be used for all framing unless noted otherwise.

COORDINATION

1. Only one of the required sleeve openings in structural framing components members, and only one of the required framed openings in and/or through structural assembly are indicated on the structural series drawings. However, all sleeves, inserts and openings, including frames and/or sleeves, therefore, shall be provided for passage, provision and/or incorporation of the work of the contractor, including but not limited to Mechanical, Electrical and Plumbing work.
2. The providing for sleeves or framed openings shall include the verification of sizes, alignment, dimension, position, locations, elevations, and grades as required to serve the intended purpose. Openings not indicated on the structural series drawings, but required as above, shall have been approved by CRAFT structural.
3. Refer to Architectural, Mechanical, Electrical and Plumbing series drawings for floor elevations, slopes, drains, and location of depressed and elevated floor areas.
4. Structural series drawings shall be compared with drawings of other series; differences shall be referred to the Architect for instruction.
5. The structural system of this building, designed to perform as a completed unit, prior to completion of the structure, structural components may be unstable and it is the responsibility of the Contractor, or the Owner in the absence of a general contractor, to provide temporary shoring and/or bracing as required for the stability of the incomplete structure and for the safety of all on-site personnel. The Contractor shall be responsible for coordination of all resulting revisions to the structural system or other trades as a result of acceptance of Contractor proposed alternatives or substitutions.
6. Contractor is to notify the City of Elgin and CRAFT structural of damage to any structural member(s) while in the course of demolition and/or construction.

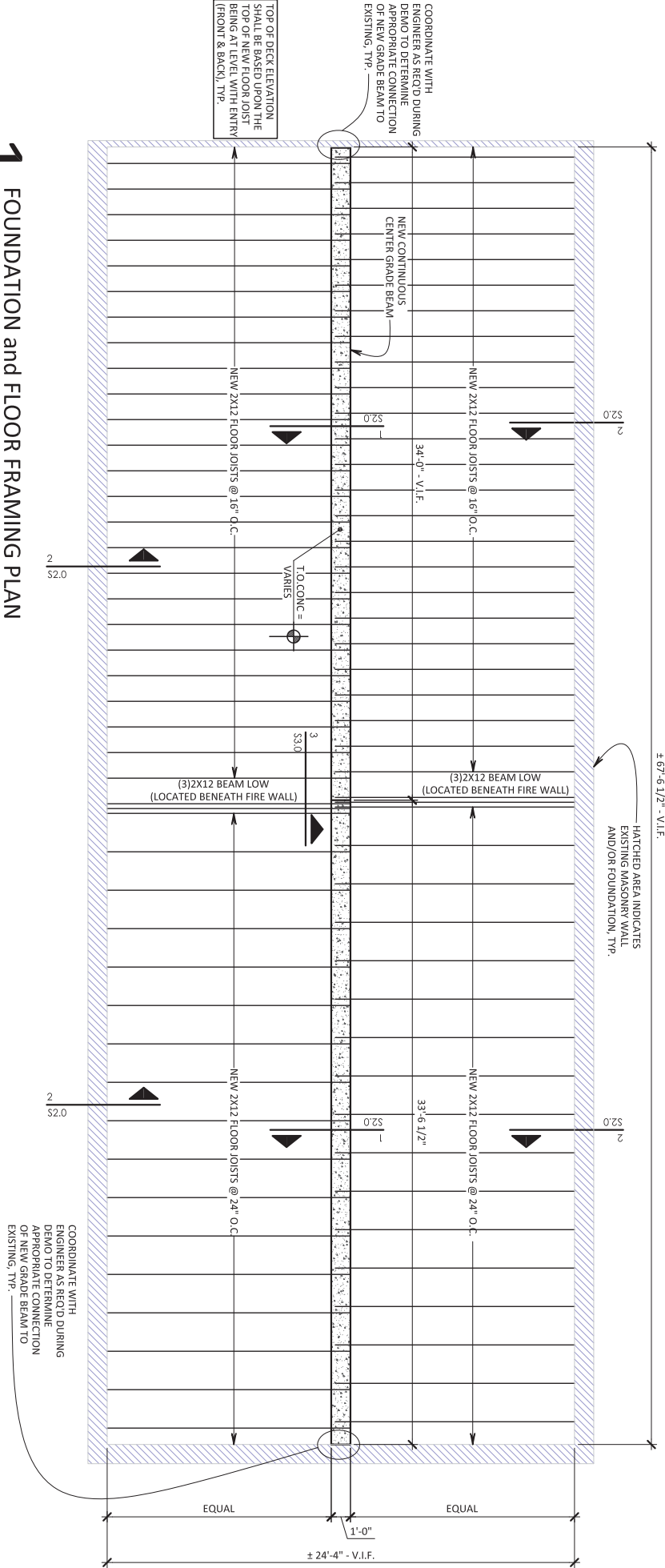




Elgin, Texas 12/8/19

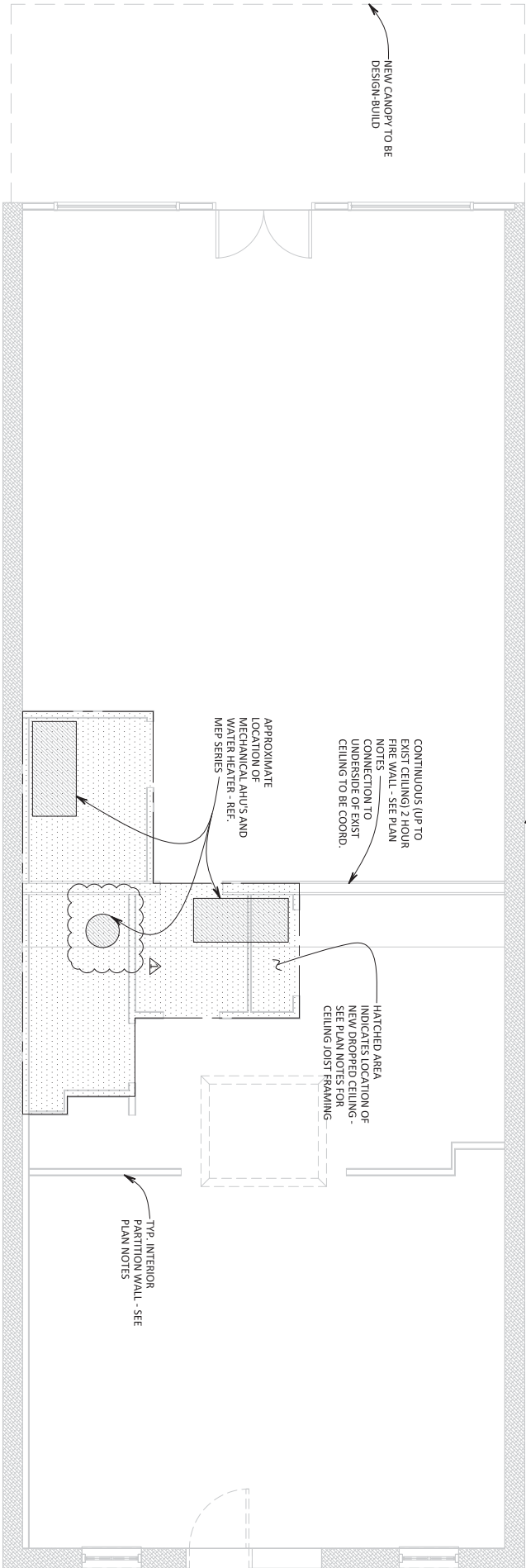
FOUNDATION and FLOOR FRAMING PLAN NOTES

- COORDINATE AND VERIFY ALL DIMENSIONS, INCLUDING SLOPES AND DROPS WITH ARCHITECTURAL DRAWINGS AND EXISTING CONDITIONS.
 - ALL STRUCTURAL FRAMING LUMBER SHALL BE SOUTHERN PINE #2 MATERIAL AND CLEARLY MARKED, U.N.O. ON PLAN.
 - WHERE NEW PARTITION WALLS LAND, DOUBLE JOIST FRAMING SHALL BE PROVIDED.
 - PROVIDE SOLID BLOCKING MID-SPAN OF JOISTS AND EACH BEARING END.
 - DECKING SHALL BE APA RATED 23/32" STURD-FLOOR PLYWOOD DECKING EXPOSURE 1.
 - SEE SHEET S2.0 FOR FOUNDATION AND FRAMING DETAILS.
 - SEE SHEET S0.0 FOR ADDITIONAL NOTES.
 - WATERPROOFING ARE THE RESPONSIBILITY OF THE ARCHITECT AND CONTRACTOR.
 - DUE TO THE ABSENCE OF A SITE SPECIFIC GEOTECHNICAL REPORT, THE FOUNDATION DESIGN IS BASED ON IBC PREScriptive CODE REQUIREMENTS.
 - THE FOUNDATION DESIGN DOES ALLOW FOR A LIMITED AMOUNT OF POTENTIAL VERTICAL RISE (PVR) THAT WILL NOT AFFECT STRUCTURAL STABILITY. THIS LIMIT DOES NOT COVER ARCHITECTURAL, MECHANICAL, ELECTRICAL OR PLUMBING FEATURES.
- THE NATURE OF REMODELING AN EXISTING AND HISTORIC STRUCTURE REQUIRES ASSUMPTIONS TO BE MADE REGARDING EXISTING CONDITIONS AND METHODS OF CONSTRUCTION. THESE ASSUMPTIONS MAY NOT BE FEASIBLE TO VERIFY WITHOUT HARMING OTHERWISE ADEQUATE OR STILL SERVICEABLE PORTIONS OF THE STRUCTURE. THE CLIENT AGREES TO INDEMNIFY AND HOLD CRAFT STRUCTURAL LLC HARMLESS FROM ANY CLAIM, LIABILITY OR COST FOR INJURY OR ECONOMIC LOSS ARISING OR ALLEGEDLY ARISING FROM CRAFT STRUCTURAL LLC'S DESIGN AND/OR CONSTRUCTION OF THIS PROJECT, INCLUDING THOSE DAMAGES OR LIABILITIES FOR COSTS THAT ARE ATTRIBUTABLE TO THE NEGLIGENCE OR WILLFUL MISCONDUCT OF CRAFT STRUCTURAL LLC.



1 FOUNDATION and FLOOR FRAMING PLAN

1/4" = 1'-0"



WALL and CEILING FRAMING PLAN NOTES

- ALL WALLS SHOWN ARE FROM THE FLOOR BELOW.
- ALL STRUCTURAL FRAMING LUMBER SHALL BE SOUTHERN PINE #2 MATERIAL AND CLEARLY MARKED, U.N.O. ON PLAN.
- WHERE NEW PARTITION WALLS LAND, DOUBLE JOIST FRAMING SHALL BE PROVIDED.
- DECKING SHALL BE APA RATED 23/32" STURD-FLOOR PLYWOOD DECKING, EXPOSURE 1.
- CEILING JOISTS SHALL BE AS FOLLOWS: 20 PSF LIVE LOAD, 10 PSF DEAD LOAD
SPANS UP TO:
11'-0".....2x6 @ 24" O.C.
12'-0".....2x6 @ 19.2" O.C.
12'-6".....2x8 @ 24" O.C.
13'-11".....2x8 @ 19.2" O.C.
*DOUBLE JOISTS UNDER LOCATION OF WATER HEATER
- NEW DROPPED CEILINGS ARE INDICATED ON PLAN AS FOLLOWS:
RECOMMENDED: 2x4.....LUS34
2x6.....LUS36
2x12.....LUS28
- NEW FRAME WALLS SHALL BE AS FOLLOWS:
PARTITION WALLS: 2x4 STUDS @ 24" O.C. (FOR HTS UP TO 14'-0")
INTERIOR WALLS: 2x4 STUDS @ 24" O.C. (FOR HTS UP TO 14'-0")
2 HOUR FIRE WALL: 2x6 STUDS @ 16" O.C., STAGGERED (8" O.C.) ON INTERIUR. REF ARCH FOR ADDITIONAL REQUIREMENTS
- SEE SHEET S2.0 FOR DETAILS.
- SEE SHEET S0.0 FOR ADDITIONAL NOTES.

DEPOT STREET -
COMMERCIAL/RESIDENTIAL HISTORIC
REHABILITATION
112 DEPOT STREET
ELGIN TEXAS

PERMIT SET 12.18.19 City of Elgin comments
PERMIT SET 11.06.19

© CRAFT structural, LLC

FOUNDATION and
FRAMING PLANS

DRAWN BY: ES
CHECK BY: ES
PROJ #: 19.009

S1.0

OF 3 SHEETS

2 WALL and CEILING FRAMING PLAN

1/4" = 1'-0"

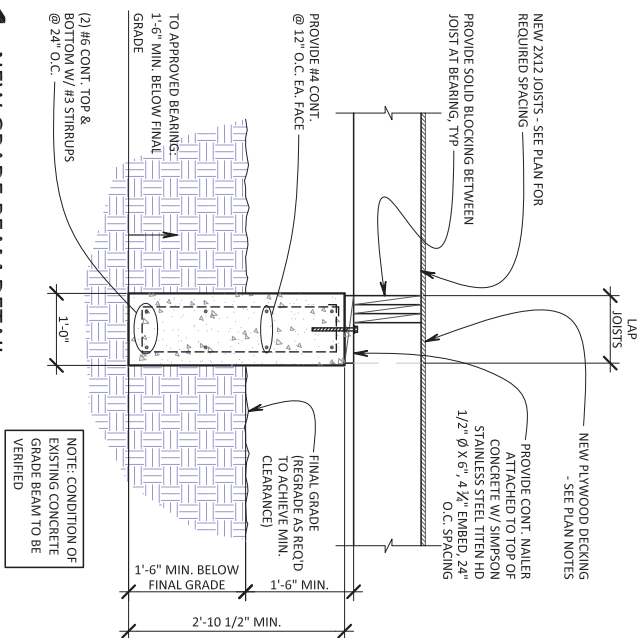


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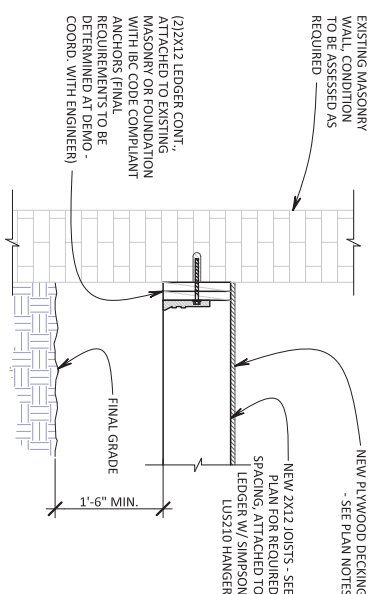
1

NEW GRADE BEAM DETAIL

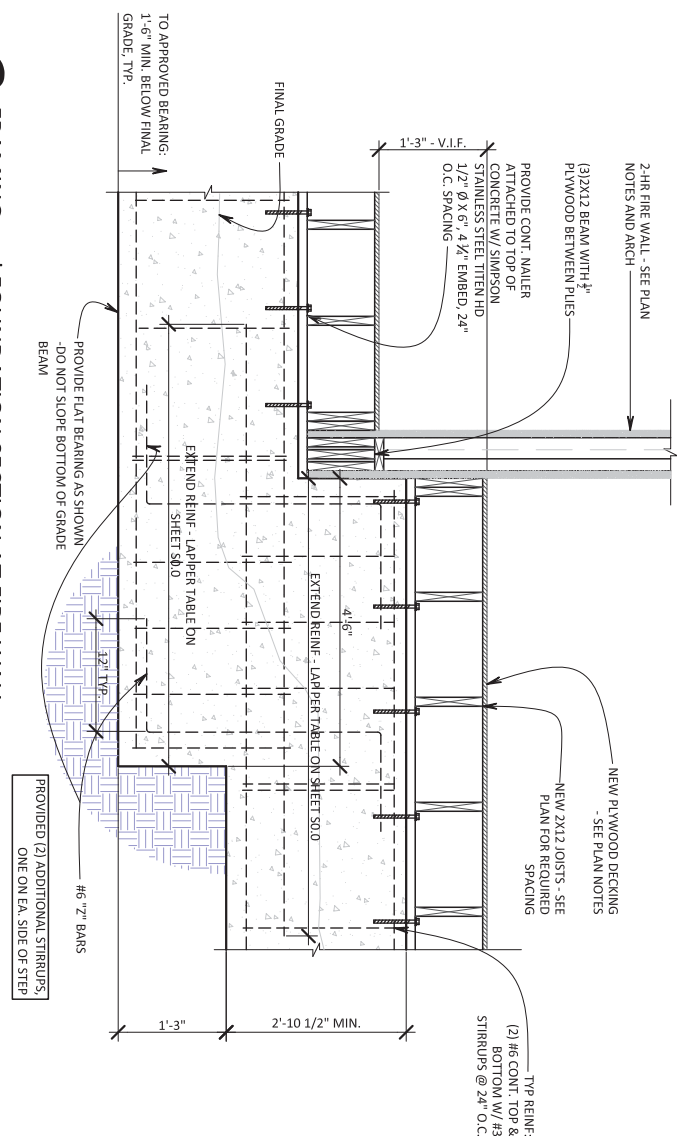
3 / 4" = 1' - 0"



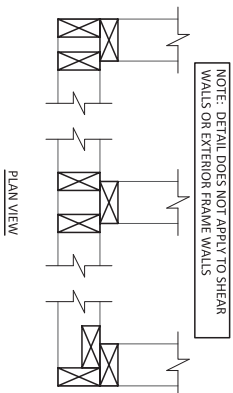
2 FLOOR JOIST CONNECTION AT EXISTING



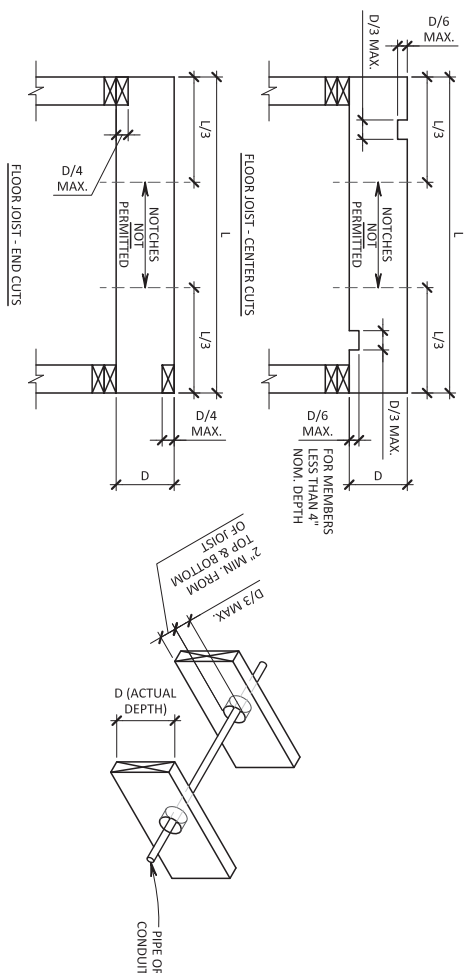
3 FRAMING and FOUNDATION SECTION AT FIRE WALL



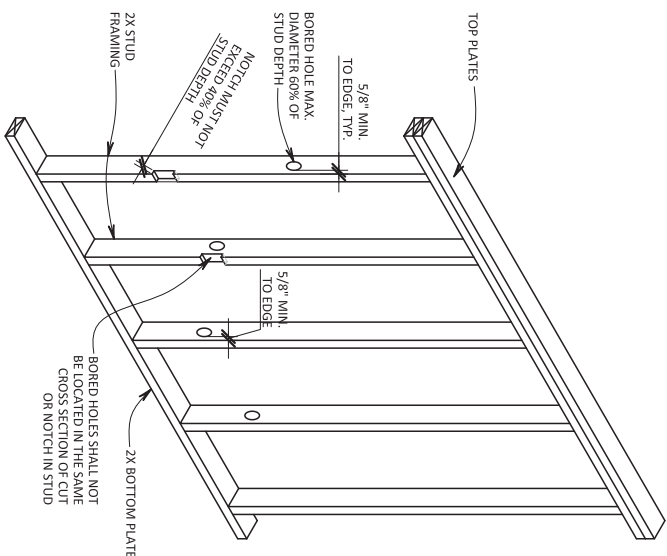
4 **FRAMING OF CORNER AND PARTITION POST**
 $1 \frac{1}{2} \times 2 = 1' - 0''$ TYPICAL



5 SAWN LUMBER CUTTING, NOTCHING AND DRILLING



6 **FOR INTERIOR NON-BEARING WALLS**
 $3/4" = 1' - 0"$ TYPICAL





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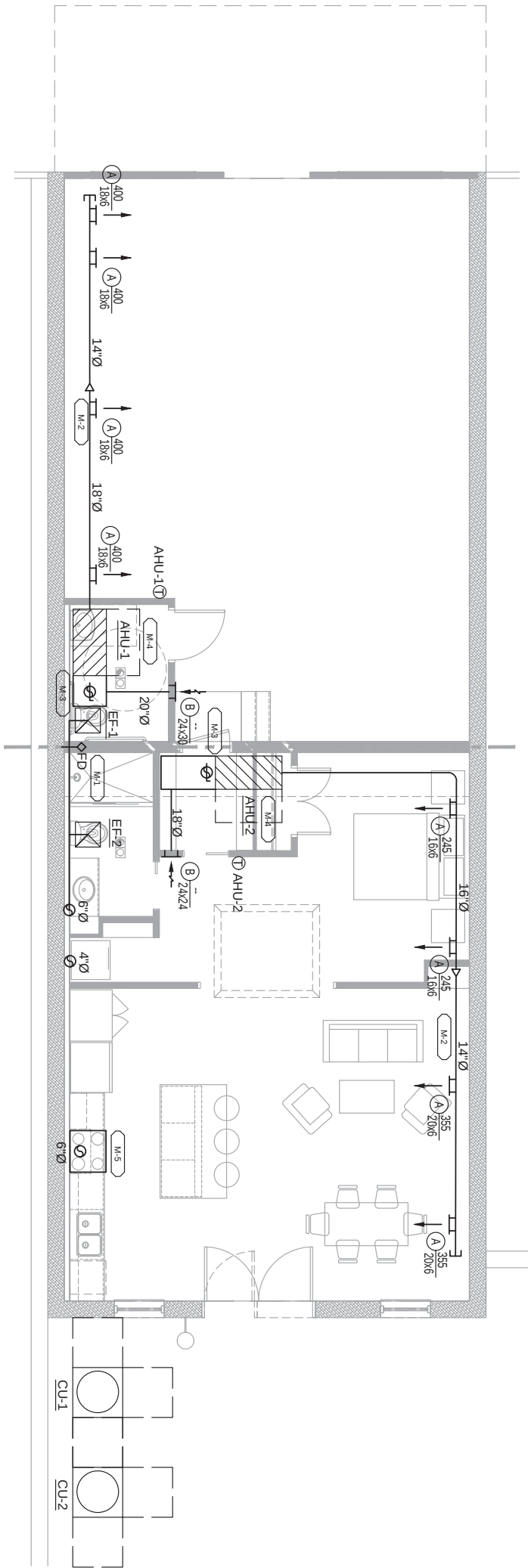
GENERAL NOTES

1. APPLICABLE CODES: IRC 2012, IFC 2012, IECC 2012, AND ASHRAE 62.1.
2. ALL HVAC EQUIPMENT TO BE APPROVED BY OWNER, ARCHITECT, AND ENGINEER PRIOR TO PURCHASING. ALL HVAC EQUIPMENT TO MEET ALL APPLICABLE CODES AND MINIMUM EFFICIENCIES.
3. PROVIDE DUCTWORK TRANSITIONS AT ALL EQUIPMENT AS REQUIRED. SEAMLESSLY JOIN DUCTWORK TO MINIMIZE AIR LEAKS TO STRUCTURE LEAK TIGHT. PROVIDE DUCTWORK SLEEVES AT ALL WALL PENETRATIONS.
5. PROVIDE MANUAL VOLUME DAMPERS IN DUCTWORK AT ALL BRANCH DUCTS TO AIR DIVIDES INCLUDING EXHAUST AIR GRILLES.
6. PROVIDE EXHAUST AIR GRILLES AT ALL EXHAUST EQUIPMENT AS REQUIRED.
7. INSULATE EXTERIOR OF ALL SUPPLY AIR DUCTS.
8. MAINTAIN ALL NEC REQUIRED AND NECESSARY MAINTENANCE CLEARANCES.

MECHANICAL PLAN NOTES

M-1

1. PROVIDE 6" FIRE DAMPER RATED FOR 1.5 HOURS, RUSNIN FD25SS OR EQUAL.
2. ALL EXPOSED DUCT TO BE GALVANIZED SPIRAL DUCT WITH 11" MINIMUM INSULATION. INSULATION TO BE 1/2" MINIMUM THICKNESS. INSULATE INSIDE CLEAR. ADD PAINT GRIP PRIMER COATING AND DUCT TO PAINTED AFTER INSTALLATION. REFER TO ARCHITECT FOR COLOR.
3. ROUTE 6" OA DUCT UP THRU ROOF.
4. COORDINATE ACCESS DOOR TO AHU WITH GC.
5. TYPE 2 RESIDENTIAL STYLE HOOD. COORDINATE SELECTION WITH OWNER. ROUTE 6" DUCT UP THRU ROOF.



MECHANICAL FLOOR PLAN

1
1/4" = 1'-0"

Issue Log
ISSUE FOR CONSTRUCTION 11/07/19

drawn by checked

project number
20190122



112 DEPOT STEET
112 DEPOT ST.
ELGIN, TX 78621

Sheet

M1.0
MECHANICAL
FLOOR PLAN

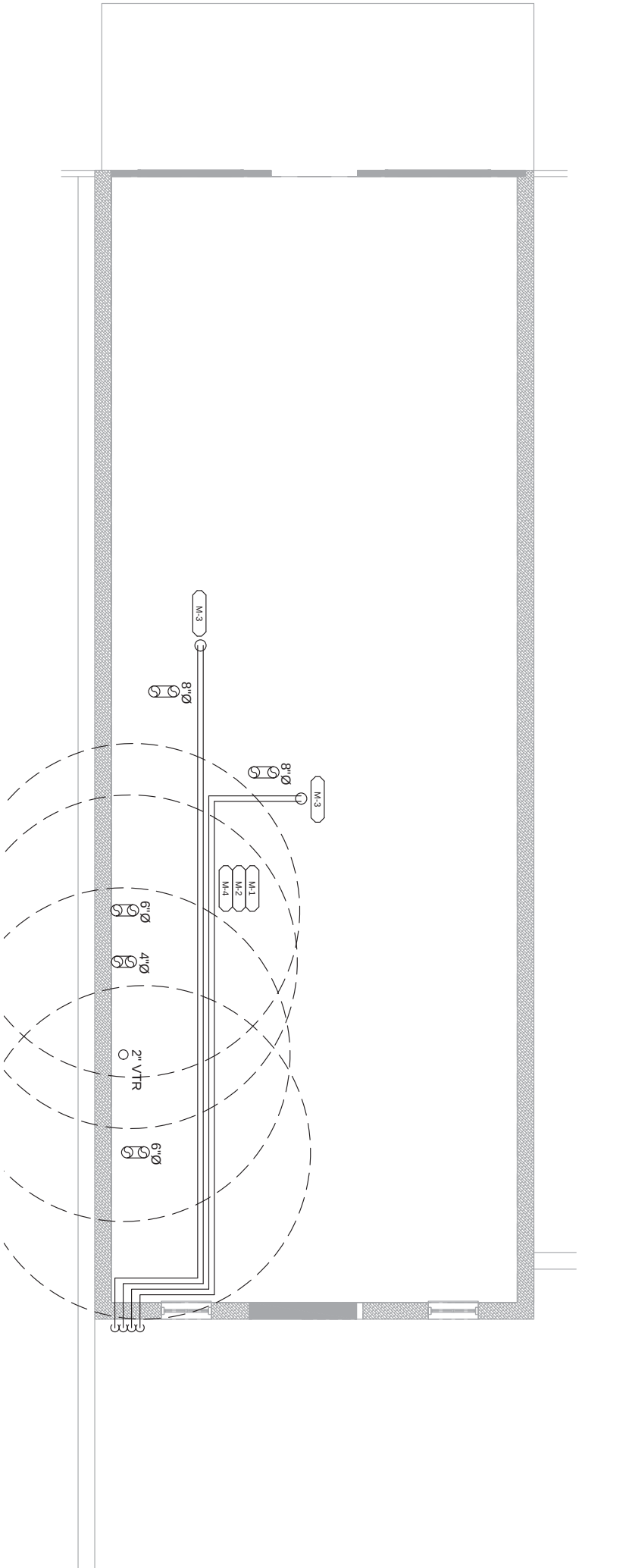
David Bacorn, P.E., is a duly licensed Professional Engineer in the State of Texas, License No. 109891. He is the owner and operator of Bacorn Bros., a mechanical engineering and construction firm. He has been in the profession for over 20 years and has completed over 100 projects. He is a member of the Texas Society of Professional Engineers and the American Society of Mechanical Engineers. He is also a past president of the Texas Society of Professional Engineers. He is a highly respected and experienced professional in the field of mechanical engineering and construction.



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Registered Firm F-19803

- GENERAL NOTES
1. APPLICABLE CODES: IMC 2012, IRC 2012, IMC 2012, IECC 2012, AND ASHRAE 62.1.
 2. ALL HVAC EQUIPMENT TO BE APPROVED BY OWNER, ARCHITECT, AND ENGINEER PRIOR TO PURCHASING. ALL HVAC EQUIPMENT TO MEET ALL APPLICABLE CODES AND MINIMUM EFFICIENCIES.
 3. REMOVE DUCTWORK, TRANSFORMING AT ALL EQUIPMENT LOCATIONS AS REQUIRED.
 4. SEAL ALL JOINTS AND PENETRATIONS WITH ROOF LEAK TIGHT.
 5. COORDINATE ROOF CURBS WITH ROOFING CONTRACTOR.
 6. MAINTAIN ALL NEC REQUIRED AND NECESSARY MAINTENANCE CLEARANCES.

- MECHANICAL PLAN NOTES M-1
1. MAINTAIN 10' FROM OA INTAKE TO EXHAUST FAN AND PLUMBING VENTS.
 2. TERMINATE OA AND EXHAUST DUCTS WITH GOOSENECK.
 3. ROUTE INSULATED REFRIGERANT LINES ALONG ROOF. PROVIDE T-TOPS FOR PENETRATIONS.
 4. COORDINATE ALL ROOF PENETRATIONS WITH GC AND ROOFING CONTRACTOR.



MECHANICAL ROOF PLAN

1
1/4" = 1'-0"



project number
20190122

drawn by checked

Issue Log	
ISSUE FOR CONSTRUCTION	11/07/19

David L. Bacorn, P.E., is a duly licensed Professional Engineer in the State of Texas, License No. 109697. He is the owner and operator of Bacorn Bros., Inc., a mechanical engineering and construction company. Bacorn Bros., Inc. is a registered firm with the State of Texas, License No. F-19803. Bacorn Bros., Inc. is not responsible for the accuracy or completeness of the information provided herein. The information is provided for informational purposes only and should not be used for any other purpose without the express written consent of Bacorn Bros., Inc.

DX SPLIT SYSTEM SCHEDULE					
INDOOR FAN COIL UNIT	TAG	MAKE	AHU-1	AHU-2	
	GENERAL	AMERICAN STD	AMERICAN STD	AMERICAN STD	
	MODEL	GAM90C48M1	GAM90C48M1	GAM90B36M1	
	ORIENTATION	HORIZONTAL	HORIZONTAL	HORIZONTAL	
	TOTAL AIRFLOW (CFM)	1,000	1,000	200	
	OUTSIDE AIRFLOW (CFM)	100	100	50	
	%OA	10%	10%	25%	
	FILTER	NONE	NONE	NONE	
	COOLING COIL	TYPE	NONE	NONE	
	SENSIBLE CAPACITY (MBH)	41.6	41.6	33.5	
	ELECTRIC HEATER	ENTERING AIR (DB)	9.6	3.2	
		70.0	70.0	70.0	
		80.0	80.0	90.0	
	SUPPLY FAN	NO. OF STAGES	1	1	
		EXTERNAL STATIC (IN. WG.)	0.5	0.5	
		MOTOR HP	0.75	0.5	
	ELECTRICAL DATA	VOLTS / PHASE	240/1	240/1	
		MIN. CIRCUIT AMPS	51	40	
		MAX. OVERCURRENT PROTECTION	60	45	
OUTDOOR CONDENSING UNIT	TAG	MAKE	CU-1	CU-2	
	GENERAL	AMERICAN STD	AMERICAN STD	AMERICAN STD	
	MODEL	4A/AS04BE	4A/AS04BE	4A/AS04BE	
	TYPE	ELECTRIC	ELECTRIC	ELECTRIC	
		COOLING	COOLING	COOLING	
	NOMINAL TONS (AIR STD. COND.)	4.0	4.0	3.0	
	MIN. # OF COMPRESSOR STAGES	1	1	1	
	MIN. EFFICIENCY RATING (SEER)	14	14	14	
	ELECTRICAL DATA	VOLTS / PHASE	240/1	240/1	
		MIN. CIRCUIT AMPS	26	19	
		MAX. OVERCURRENT PROTECTION	45	30	

- NOTES:
1. PROVIDE MAKE AND MODEL SPECIFIED OR AN ENGINEER APPROVED EQUAL.
 2. PROVIDE DX SPLIT SYSTEMS WITH CONTROLS INCLUDING WALL MOUNTED ELECTRONIC PROGRAMMABLE THERMOSTATS WITH AUTOMATIC HEATCOOL SWITCH-OVER CAPABILITY.
 3. PROVIDE ALL INDOOR AND OUTDOOR UNITS WITH SINGLE POINT ELECTRICAL CONNECTION.
 4. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL FLEXIBLE DUCT CONNECTIONS AT THE SUPPLY AND RETURN CONNECTIONS OF THE INDOOR FAN COIL UNIT.
 5. THE MECHANICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL REFRIGERATION PIPING IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AND REQUIREMENTS.
 6. THE MECHANICAL CONTRACTOR SHALL INSTALL SECONDARY DRP PANS UNDER ALL CONCEALED INDOOR FAN COIL UNITS. THE SECONDARY DRP PAN SHALL BE MONITORED BY A FLOAT SWITCH THAT IS INTERLOCKED TO THE SUPPLY FAN SUCH THAT THE UNIT WILL SHUT DOWN UPON DETECTION OF CONDENSATE IN THE SECONDARY PAN.

DUCTWORK SCHEDULE						
DUCT WORK ID	SERVICE	MATERIAL TYPE	JOINT TYPE	INSULATION- JACKET		REMARKS
				INTERIOR CONCEALED	INTERIOR EXPOSED	
SA	SUPPLY AIR	GAUVANIZED SHEET METAL PER SMACNA + 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	1/2" DLR R-4 MIN	NONE
RA	RETURN AIR	GAUVANIZED SHEET METAL PER SMACNA - 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	NONE	NONE
OA	UNCONDITIONED OUTSIDE AIR	GAUVANIZED SHEET METAL PER SMACNA + 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	1" DWV-ASJ R-6 MIN	NONE
SA / RA	FINAL AIR DEVICE CONNECTIONS	FLEXIBLE ROUND DUCTWORK W/ MIN R-6	N / A	N / A R-6 MIN	N / A R-6 MIN	FLEXIBLE DUCTWORK RUNS SHALL BE A MAXIMUM OF 5 FEET

- NOTES:
1. ALL DUCT SIZES INDICATE INSIDE CLEAR DIMENSIONS IN INCHES.
 2. ALL DUCTWORK TO BE CONSTRUCTED PER SMACNA STANDARDS.
 3. PROVIDE ROUNDED ELBOWS ON EXTERIOR TURNING VANES. ROUNDED RECTANGULAR ELBOWS SHALL HAVE CENTER LINE RADIIUS TO WIDTH RATIO (R/W) OF 1:5 UNLESS OTHERWISE SPECIFIED. ALL ROUND ELBOWS SHALL HAVE A CENTERLINE RADIIUS TO DIAMETER RATIO (R/D) OF 1:5 UNL.
 4. PROVIDE 1" FLEXIBLE ALUMINUM JACKET REFER TO DUCTWORK INSULATION - JACKET SCHEDULE FOR DETAILED INFORMATION.
 5. ASJ - ALL SERVICE JACKET FSK - FOLSKRMAKRAFT JACKET WAS - MASTIC JACKET, AL - ALUMINIUM JACKET, PVC - PVC JACKET, FAL - FLEXIBLE ALUMINIUM JACKET. REFER TO DUCTWORK INSULATION - JACKET SCHEDULE FOR DETAILED INFORMATION.
 6. ALL DUCTWORK IS TO BE INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS.
 7. FURNISH AND INSTALL ALL INTERFER ELBOWS WITH TURNING VANES. RADUSED RECTANGULAR ELBOWS SHALL HAVE CENTER LINE RADIIUS TO WIDTH RATIO (R/W) OF 1:5 UNLESS OTHERWISE SPECIFIED. ALL ROUND ELBOWS SHALL HAVE A CENTERLINE RADIIUS TO DIAMETER RATIO (R/D) OF 1:5 UNL.
 8. DUCTWORK IN VENTILATED ATTICS TO BE INSULATED PER THE EXTERIOR INSULATION REQUIREMENTS.
 9. ALL DUCTWORK SUPPORTS SHALL BE FURNISHED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

FAN SCHEDULE											
MARK	SERVICE	TYPE	MAKE	MODEL	FAN				ROTATION/ARRANGEMENT	MAX SONES (1/4")	POWER (HP)
					FLOW (CFM)	RPM	SP (IN. WG.)	CMSTR. CLASS			
EF-1 & 2	RESTROOM	CABINET FAN WITH LIGHT	BROAN	669	50	1,300	0.25	N/A	N/A	1/25	1,300
										1/201	
										X	X

- NOTES:
1. PROVIDE MAKE AND MODEL SPECIFIED OR OWNER APPROVED EQUAL.
 2. PROVIDE WITH BACKDRAFT DAMPER.

AIR DISTRIBUTION DEVICE SCHEDULE							
MARK	GROUP	TYPE/PATTERN	BORDER/MOUNT	CONSTRUCTION	MANUF.	MODEL	NOTES
A	SUPPLY AIR SIDEWALL REGISTERS	SEE DRAWINGS FOR SIZE	SIDEWALL	STEEL, PAINTED WHITE	TITUS	S300FS	FURNISH WITH OPPOSED BLADE DAMPER AND FRONT BLADES PARALLEL TO THE SHORT DIMENSION PROVIDE WITH MODEL AS AIR EXTRACTOR FOR BALANCING
B	RETURN REGISTERS	24" x 24" FILTER RETURN (DUCTED)	LAY-IN CEILING	STEEL, PAINTED WHITE	TITUS	306FLF1 BORDER 3	FURNISH RETURN GRILLE FOR DUCTED RETURN APPLICATIONS. PROVIDE NECK CONNECTION AS SPECIFIED ON DRAWINGS.
NOTES:							
1. PROVIDE MAKE AND MODEL SPECIFIED OR ENGINEER APPROVED SUBSTITUTE.							
2. COORDINATE AIR DEVICE COLOR SELECTION WITH ARCHITECT.							
3. ALL 24"x24" CEILING MOUNTED SUPPLY AND RETURNS IN GYD OR PLASTER CEILING SHALL BE INSTALLED WITH A LAY-IN PLASTER FRAME EQUAL TO TITUS MODEL T101L.							

- NOTES:
1. PROVIDE MAKE AND MODEL SPECIFIED OR ENGINEER APPROVED SUBSTITUTE.
 2. COORDINATE AIR DEVICE COLOR SELECTION WITH ARCHITECT AND INTERIOR DESIGNER. SUPPLY AND RETURN GRIP OR PASTER CEILINGS SHALL BE INSTALLED WITH A LAY-IN PASTER FRAME EQUAL TO TITUS MODEL T80L.
 3. ALL LAY-IN PASTER FRAME EQUAL TO TITUS MODEL T80L.

VENTILATION RATE CALCULATION						
SPACE	OCCUPANCY CLASSIFICATION	AREA (SF)	PEOPLE OA FLOW' (QTY PEOPLE)	AREA OA FLOW' (CFM/PERSON)	CALCULATED OA FLOW (CFM)	REMARKS
RETAIL	SALES	770	12	7.5	0.12	
RESIDENCE	PRIVATE DWELLING	795	2	15	0	
1. VENTILATION FLOW RATE CALCULATIONS BASED ON 2015 UMC TABLE 402.1 MINIMUM VENTILATION RATES						OA FLOW INCREASED TO MEET MINIMUM 0.25 CFM/PERSON
NOTES:						BELOW MINIMUM

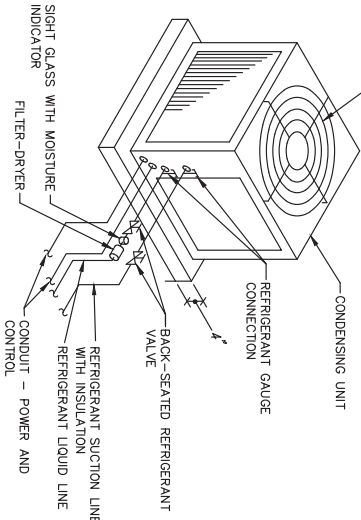
1. VENTILATION FLOW RATE CALCULATIONS BASED ON 2015 UMC TABLE 402.1 MINIMUM VENTILATION RATES

DUCT WORK ID	SERVICE	MATERIAL TYPE	JOINT TYPE	INSULATION - JACKET		REMARKS
				INTERIOR CONCEALED	INTERIOR EXPOSED	
SA	SUPPLY AIR	GAUVANIZED SHEET METAL PER SMACNA + 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	1/2" DLR R-4 MIN	NONE
RA	RETURN AIR	GAUVANIZED SHEET METAL PER SMACNA - 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	NONE	NONE
OA	UNCONDITIONED OUTSIDE AIR	GAUVANIZED SHEET METAL PER SMACNA + 2" W.G.	PER SMACNA	1" DWV-FSK R-6 MIN	1" DWV-ASJ R-6 MIN	NONE
SA / RA	FINAL AIR DEVICE CONNECTIONS	FLEXIBLE ROUND DUCTWORK W/ MIN R-6	N / A	N / A R-6 MIN	N / A R-6 MIN	FLEXIBLE DUCTWORK RUNS SHALL BE A MAXIMUM OF 5 FEET

- NOTES:
1. ALL DUCT SIZES INDICATE INSIDE CLEAR DIMENSIONS IN INCHES.
 2. ALL DUCTWORK TO BE CONSTRUCTED PER SMACNA STANDARDS.
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 5. ASJ - ALL SERVICE JACKET FSK - FOLSKRMAKRAFT JACKET WAS - MASTIC JACKET, AL - ALUMINIUM JACKET, PVC - PVC JACKET, FAL - FLEXIBLE ALUMINIUM JACKET. REFER TO DUCTWORK INSULATION - JACKET SCHEDULE FOR DETAILED INFORMATION.
 6. ALL DUCTWORK IS TO BE INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS.
 7. FURNISH AND INSTALL ALL INTERFER ELBOWS WITH TURNING VANES. RADUSED RECTANGULAR ELBOWS SHALL HAVE CENTER LINE RADIIUS TO WIDTH RATIO (R/W) OF 1:5 UNLESS OTHERWISE SPECIFIED. ALL ROUND ELBOWS SHALL HAVE A CENTERLINE RADIIUS TO DIAMETER RATIO (R/D) OF 1:5 UNL.
 8. DUCTWORK IN VENTILATED ATTICS TO BE INSULATED PER THE EXTERIOR INSULATION REQUIREMENTS.
 9. ALL DUCTWORK SUPPORTS SHALL BE FURNISHED AND INSTALLED PER SMACNA HVAC DUCT CONSTRUCTION STANDARDS.

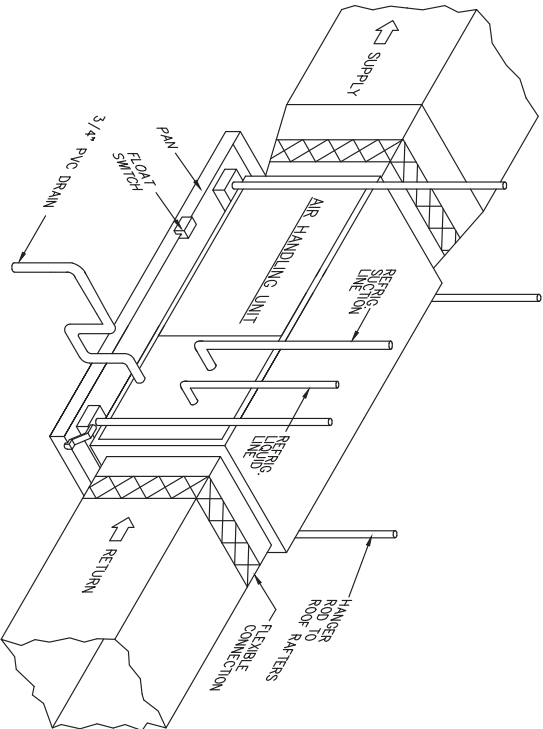
1 DX CONDENSER DETAIL

NTS



2 DX AIR HANDLER DETAIL

NTS



* This report does not display heating only systems.
 Project Name: 112 DEPOT, REV11 THG
 Dataset Name:

TBACB0700 v6.3.3 calculated at 09:30 AM on 11/05/2019

Load/Airflow Summary Report Page 1 of 1

Load / Airflow Summary													
By None													
Floor Area	People	Coil Sensible	Coil Latent	Space Sensible	Space Latent	Air Change	WV Minimum	WV Maximum	Main Coil Sensible	Main Coil Latent	Fan Max CA	Fan Cfg	Percent OA
ft²	#	BTU/h	BTU/h	BTU/h	BTU/h	ACH/hr	cfm	cfm	BTU/h	BTU/h	cfm	cfm	%
System Zone Room -- Alternating 1 Retail													
AHU-1	770	12.0	38,423	44,173	1,664	9.26	0	0	-32,079	1,664	6.4	6.4	
AHU-1	770	12.0	38,423	44,173	1,664	7.09	0	0	-32,079	1,664	6.4	6.4	
Bottom	305	2.0	13,036	14,160	554	7.41	0	0	-10,442	554	4.7	4.7	
AHU-2	795	4.0	31,442	33,846	1,349				-25,164	1,349	5.0	5.0	
AHU-2	795	4.0	30,225	32,640	1,349				-25,164	1,349	5.0	5.0	

BACORN BROS.

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 www.BacornBros.com
 Registered Firm F-19803



112 DEPOT STEET

112 DEPOT ST.
 ELGIN, TX 78621

project number
 20190122

drawn by checked

Issue Log
 ISSUE FOR CONSTRUCTION 11/07/19
 PERMIT REVIEW COMMENTS 12/18/19

Sheet

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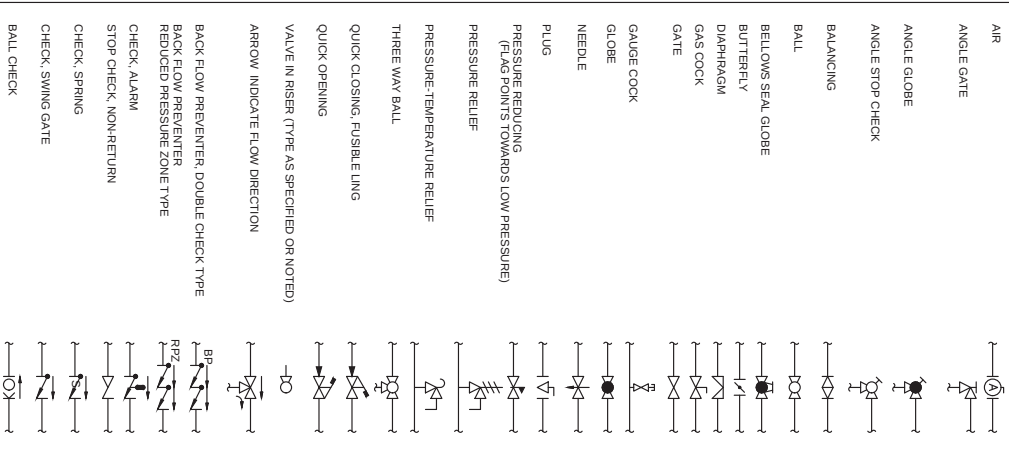
MECHANICAL
 SCHEDULES &
 DETAILS

PLUMBING SPECIFICATIONS

2. SHOP DRAWINGS: ALL SHOP DRAWINGS, INCLUDING PRODUCT DATA SUBMITTALS, SHALL BE

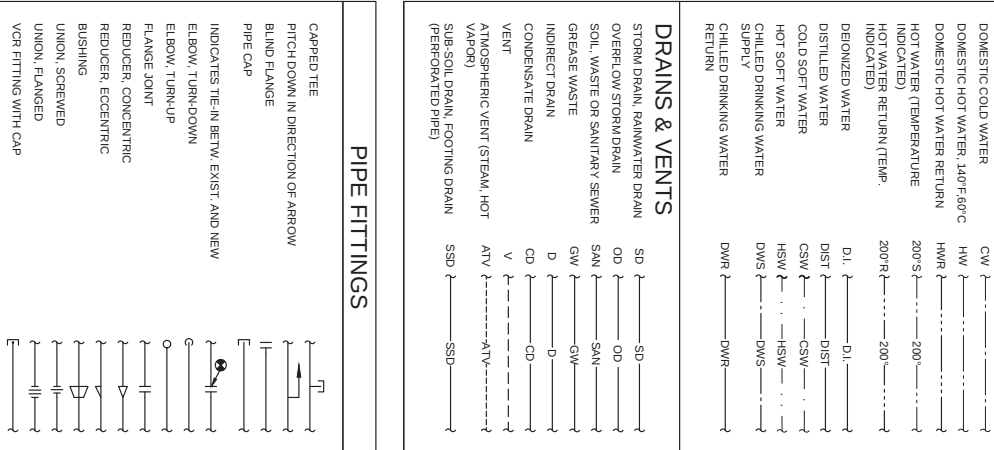
- | | | | |
|------|--|---------------|---|
| 1. | CONTRACT RESOLUTION WHERE CONFLICTS MAY EXIST BETWEEN THE MINIMUM REQUIREMENTS OF VARIOUS LAWS, CODES, AUTHORITIES, AND/OR WITHIN THE CONTRACT DOCUMENTS, THE HIGHER QUALITY, GREATER QUANTITY, MORE RESTRICTIVE AND/OR MORE PROTECTIVE REQUIREMENTS SHALL PREVAIL. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER AND OWNER REPRESENTATIVE FOR THE RESOLUTION OF THE ISSUE PRIOR TO EXECUTING THE WORK IN QUESTION. | 2. | SHOULD ANY OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST IN THE DRAWINGS, THE ARCHITECT/ENGINEER SHALL BE RESPONSIBLE FOR RESOLVING THEM. THE CONTRACTOR'S OBLIGATION IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK, OTHERWISE, HE SHALL AT HIS OWN EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECT CAUSED BY SUCH UNINTENTIONAL ERROR. |
| | 3. CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS FOR ACCURACY, AND CONFIRMING THAT THE WORK'S BUILDABLE AS SHOWN AND MEETS ALL APPLICABLE CODES BEFORE PROCEEDING WITH CONSTRUCTION. IF THERE ARE ANY QUESTIONS REGARDING THESE OR OTHER COORDINATION ISSUES, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ARCHITECT/ENGINEER BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATED WORK. | | 4. COORDINATION |
| 4.1. | CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING FULL COORDINATION WITH OTHER TRADES AND CONTRACTORS TO ACCOMPLISH THE WORK AS SHOWN AND NOTED IN THESE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL COMPRE THE DRAWINGS OF OTHER TRADES AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE. | 4.2. | THE CONTRACTOR SHALL NOT FABRICATE OR INSTALL ITEMS AS SHOWN ON THE DRAWINGS IF THERE ARE DISCREPANCIES OR CONFLICTS BETWEEN THE EXISTING CONDITIONS AND THE INFORMATION SHOWN ON THE DRAWINGS UNLESS SUCH DISCREPANCIES HAVE BEEN RESOLVED PRIOR TO FABRICATION OR INSTALLATION. THE CONTRACTOR SHALL IMMEDIATELY CALL SUCH DISCREPANCIES OR CONFLICTS TO THE ATTENTION OF THE PROJECT COORDINATOR. |
| | 4.3. DUCTWORK, PIPING, CONDUIT, CABLING, ETC. SHOWN ON DRAWINGS SHALL BE COORDINATED WITH AIR DISTRIBUTION DEVICES, SPECIAL CEILING, FLOOR, AND STRUCTURE CONSTRUCTION, ETC. PROVIDE ADDITIONAL RISERS AND RISERS TO THOSE INDICATED ON THE DRAWINGS AS REQUIRED TO COORDINATE WITH ARCHITECTURAL ITEMS. ALL PIPING, DUCTWORK, CONDUIT, AND CABLING SHALL BE INSTALLED IN AN ORDERLY MANNER, GROUDED TOGETHER WHEREVER POSSIBLE, AND LOCATED SO AS TO CONSERVE BUILDING SPACE. DUCTWORK, PIPING, CONDUIT, CABLING, ETC. SHOWN ON EACH PLAN IS RUN ABOVE THE CEILING ON THE FLOOR WHERE IT IS SHOWN UNLESS OTHERWISE NOTED. | | 5. AS BUILDING, THE CONTRACTOR SHALL MAINTAIN HIS SET OF CONSTRUCTION DRAWINGS ON SITE AT ALL TIMES SO THAT ALL CHANGES BETWEEN THE DRAWINGS AND THE ACTUAL CONSTRUCTION CAN BE NOTED ON THE DRAWINGS. THIS INCLUDES ALL DEVIATIONS FROM THE ORIGINAL CONTRACT. THE CONTRACTOR SHALL INDICATE ALL CHANGES FROM THE ORIGINAL PLANS MADE DURING THE INSTALLATION OF HIS WORK IN RED INK ON TWO BLUELINE PRINTS, AT THE END OF CONSTRUCTION, THE CONTRACTOR SHALL SIGN AND DATE THE DRAWINGS CERTIFYING THAT THE SET IS AN ACCURATE REFLECTION OF THE ACTUAL CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN THE SET OF CONSTRUCTION DRAWINGS ON SITE AFTER PROJECT COMPLETION. NOTE THAT THE FINAL INVOICE FOR THE CONTRACT WILL NOT BE PAID BY THE OWNER UNTIL FINAL AS-BUILT DRAWINGS ARE RECEIVED. |
| 6. | STARTUP AND TRAINING: Vendors for all major pieces of equipment shall provide startup assistance and a minimum of 8-hour owner training. | 8. SUBMITTALS | 1. CONTRACTOR SHALL PROVIDE PRODUCT DATA SUBMITTALS ON ALL MAJOR EQUIPMENT, COMPONENTS, AND MATERIALS SPECIFIED IN THESE PLANS FOR ENGINEERS AND OWNER'S REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION. |
| | 11. COMPLIANCE DATA: PUBLISHED LITERATURE, CERTIFICATES, AND LISTS INDICATING THE PRODUCTS COMPLIANCE WITH STANDARDS REFERENCED IN THESE SPECIFICATIONS. | | 12. PUBLISHED LITERATURE: INDICATE DIMENSIONS, WEIGHTS, CAPACITIES, RATINGS, HORSEPOWER, GAGES, AND FINISHES OF MATERIALS, AND ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS. |
| 13. | PERFORMANCE DATA: PERFORMANCE DATA INCLUDING RATING CURVES, PUMP CAPACITY, AND EQUIPMENT OUTPUT CAPACITIES COMPLETE WITH RATING CONDITIONS AS SCHEDULED ON CONTRACT DRAWINGS. AS A MINIMUM, SUBMITTED DATA SHALL INCLUDE ALL PERFORMANCE DATA SCHEDULED OR NOTED ON CONTRACT DRAWINGS. | 14. | SOUND POWER LEVEL DATA: EQUIPMENT SOUND POWER LEVELS AT 63, 125, 250, 500, 1000, 2000, 4000, AND 8000 HZ OCTAVE BAND CENTER FREQUENCIES, PLUS DB A WEIGHTED SOUND LEVEL. DATA SHALL INCLUDE DISTANCE FROM EQUIPMENT TO TEST EQUIPMENT. |
| | 15. ELECTRICAL REQUIREMENTS: POWER SUPPLY WIRING INCLUDING WIRING DIAGRAMS FOR INTERLOCK AND CONTROL WIRING, CLEARLY INDICATING FACTORY-INSTALLED AND FIELD-INSTALLED WIRING. | | 16. SHOP DRAWINGS: INDICATE ASSEMBLY, JUNT DIMENSIONS, WEIGHT, LOADING, REQUIRED CLEARANCES, CONSTRUCTION DETAILS, FIELD CONNECTION DETAILS, AND ELECTRICAL CHARACTERISTICS AND CONNECTION REQUIREMENTS. |
| 17. | MANUFACTURER'S INSTRUCTIONS: INCLUDE INSTALLATION INSTRUCTIONS. | 18. | CERTIFICATES: SIGNED LETTERS CERTIFYING COMPLIANCE WITH SPECIFIED REQUIREMENTS. |
| | 19. CALCULATIONS: DESIGN AND/OR DESIGN CALCULATIONS. | | 20. MANUFACTURER'S VARIANTS. |
| 21. | INSTALLATION, OPERATION, AND MAINTENANCE MANUALS. | 22. | PROVIDE TRAP PRIMER ON ALL FLOOR DRAINS. LOCATE TRAP PRIMERS EXPOSED IN MECHANICAL ROOMS, OR IN WET WALL OR RESTROOMS. PROVIDE TRAP PRIMER ACCESS PANEL IN WALL OF A COLOR TO MATCH WALL. COORDINATE LOCATION WITH PLUMBING FIXTURES AND TILE PATTERNS. |
| | 23. PROVIDE NON-CONDUCTING DIELECTRIC CONNECTIONS WHEREVER JOINING DISSIMILAR METALS. | | 24. PROVIDE PIPING MATERIALS AND FACTORY-FABRICATED PIPING PRODUCTS OF SIZE, TYPES, PRESSURE RATINGS, AND CAPACITIES AS INDICATED, WHERE NOT INDICATED, PROVIDE PROPER MATERIALS WHICH MATCH PIPE MATERIALS USED IN SOIL, AND VENT PIPING SYSTEMS. |
| 25. | INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. | 26. | INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL, NOT INVERTED. |
| | 27. PORTABLE WATER SYSTEMS SHALL BE DISCONNECTED PRIOR TO USE PER CODE. | | 28. UPON COMPLETION OF A SECTION OR OF THE ENTIRE WATER SUPPLY SYSTEM, IT SHALL BE HYDROSTATICALLY TESTED. THE WATER USED FOR TESTS SHALL BE OBTAINED FROM A PORTABLE SOURCE OF SUPPLY. |
| 29. | NOT ALL PIPE SIZES ARE SHOWN ON PLANS FOR CLARITY. REFER TO RISER DIAGRAMS FOR PIPING SIZES. | 30. | COORDINATE FIRE ALARM CONNECTIONS TO FIRE PROTECTION SYSTEM WITH FIRE PROTECTION CONTRACTOR. |
| | 31. DOMESTIC WATER AND DRAIN PIPING FOR 150 PSIG WORKING PRESSURE SYSTEMS SHALL EITHER BE ASTM A-120, 57T SCHEDULE 40 GALVANIZED STEEL WITH SCREWED FITTINGS OR TYPE "L" HARD DRAWN COPPER WITH ASTM A-32, 76 GROUND 99.14 TITANIUM/NIUM SOLDERED JOINTS. CONNECTIONS BETWEEN STEEL AND COPPER PIPING SYSTEMS SHALL BE MADE WITH INSULATING UNIONS OR COUPLINGS. STOP VALVES SHALL BE BRONZE BALL VALVES WITH STAINLESS STEEL BALLS AND TEFLON PACKING AND GASKETS. HANGERS SHALL BE FEE AND MASON FIBRE 36-4 WITH FIBRE 227 ADJUSTABLE FOR COPPER PIPE. | | 32. SANITARY WASTE AND VENT PIPING SHALL BE SCHEDULE 40, 60, 90, 120, AND 150, CITY CODE AND A-M-P-NO INSTALLATION STANDARD IS-9-95 UTILIZING SOLVENT CEMENT AND PRIMER THAT CONFORMS TO INDUSTRY STANDARDS ASTM, NSF AND IPC 2015. |
| 33. | PLUMBING CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR ON FLOOR CONSTRUCTION FOR RECEIVING DRAINS TO REQUIRED INVERT ELEVATIONS AND PROPER FLOOR SLOPE TO DRAIN LOCATIONS. | 34. | INSTALL SHUT-OFF VALVES AT EACH BRANCH SERVING A RESTROOM OR ENTRY GROUPING. INSTALL HOT AND COLD WATER SHUT-OFF VALVES AND SHOCK ARRESTORS ACCESSIBLY AT EACH INSTANT BATTERY. COORDINATE ACCESS PANEL LOCATIONS WITH ARCHITECT. |
| | 35. ALL BUILDING DRAIN PIPING SHALL BE RUN AT A MINIMUM SLOPE OF .018" PER LINEAR FOOT UNLESS OTHERWISE NOTED. | | 36. PLUMBING CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR ON FLOOR CONSTRUCTION FOR RECEIVING DRAINS TO REQUIRED INVERT ELEVATIONS AND PROPER FLOOR SLOPE TO DRAIN LOCATIONS. |

VALVES

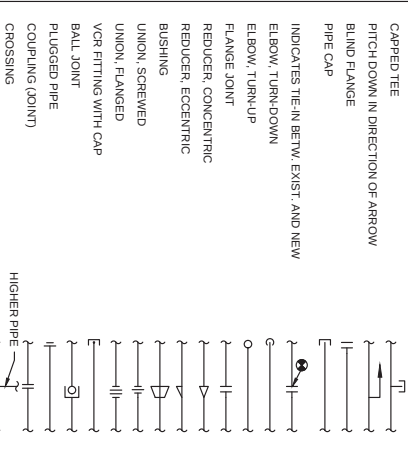


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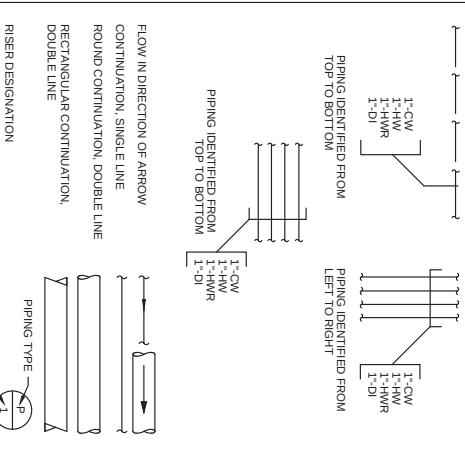
WATER



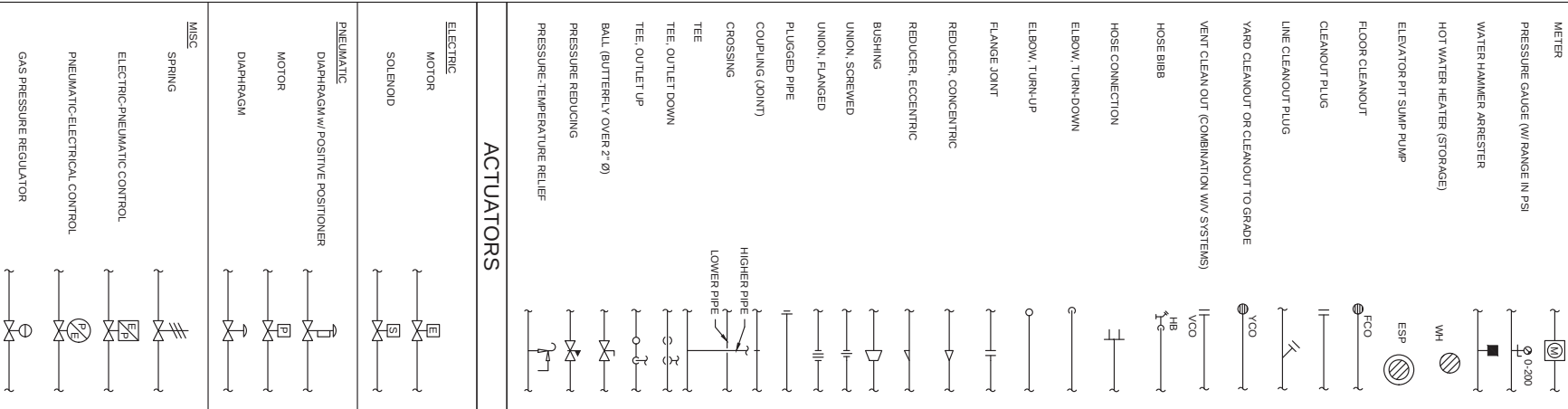
PIPE FITTINGS



PIPING LABELING



PLUMBING SYMBOLS



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Registered Firm F-19803

112 DEPOT STEET
112 DEPOT ST.
ELGIN, TX 78621



project number
20190122

by checked

Log

INSTRUCTION 11/07/

101

11

11

sheet

PLUMBING NOTES & SYMBOLS

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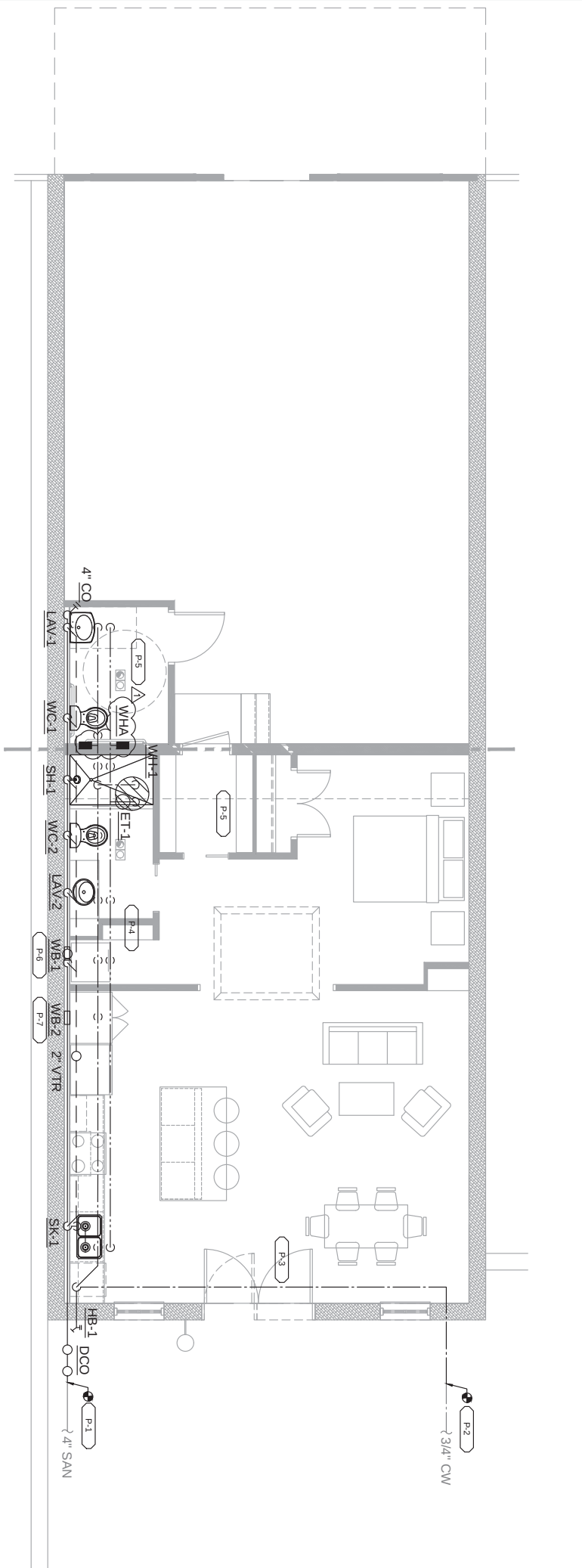
Issue Log	
	ISSUE FOR CONSTRUCTION 11/07/19
1	PERMIT REVIEW COMMENTS 12/18/19

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PLUMBING
FLOOR PLAN



PLUMBING FLOOR PLAN

1/4" = 1'-0"

GENERAL NOTES

1. APPLICATIONS FOR THE 2012 ICC AND IRC 2012.
2. ALL APPLICABLE CODES AND REQUIREMENTS TO BE APPROVED BY OWNER, ARCHITECT, AND ENGINEER.
3. ALL APPLICABLE CODES AND REQUIREMENTS TO BE APPROVED BY OWNER, ARCHITECT, AND ENGINEER.
4. ALL APPLICABLE CODES AND REQUIREMENTS TO BE APPROVED BY OWNER, ARCHITECT, AND ENGINEER.
5. PROVIDE INSULATED CONDENSATE DRAIN LINES TO ALL AIR HANDLING UNITS AND FAN COILS. SLOPE AWAY FROM UNIT AT A MINIMUM OF 1/8" PER FOOT.
6. PROVIDE AND INSTALL SUPPLY STRIPS ON ALL FACES.

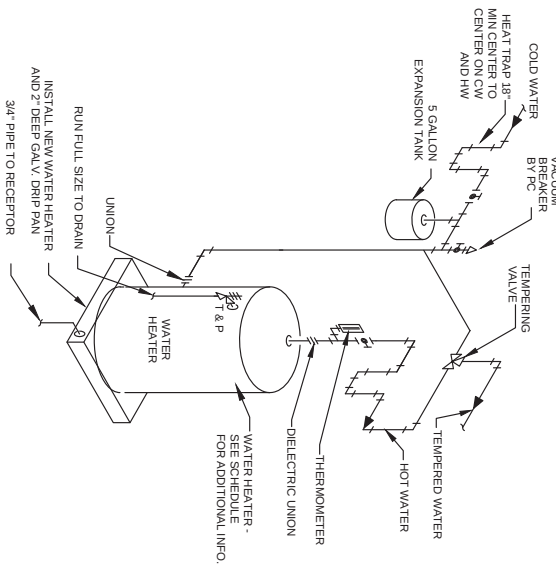
PLUMBING PLAN NOTES

1. ON SITE, LOW AMBIENT SEVERITY PIPING TO EXISTING 5" DRAINAGE SEWER
2. CONSIDER LOCATING EXISTING PIPING PRIOR TO STARTING WORK. FACTORS TO CONSIDER: WATER, WETTER AND MICROCLIMATE PREVENTIVE LOCATION PRIOR TO STARTING WORK.
3. EXISTING WORK UNDERGROUND. ALL CIV AND HW PIPING ABOVE GRADE.
4. RISE IN STUDD WALL.
5. WATER HEATER ABOVE CEILING ON MECHANICAL PLATFORM. ROUTE 4" PIPE AND DRAIN PIPING OUT TO EXTERIOR. CONCEAL IN NEW STUDD WALL, LAUNCHER, TUBES.
6. PROVIDE WASING MACHINE WALL WATER WITH DRAIN PROVIDE CIV AND HW SEWER. EXISTING PIPING WALL. WATER WITH DRAIN, WASING MACHINE WITH DRAIN PROVIDE CIV AND HW. PROVIDE CIV AND HW DRAIN FROM HOT/COLD SINK TO DISMISHER.
7. WATER HAMMER ARRESTOR.

PLUMBING FIXTURE SCHEDULE								
MARK	ITEM	MANUFACTURER	MODEL	WASTE (IN)	VENT (IN)	CW (IN)	HV (IN)	DESCRIPTION
WC-1	WATER CLOSET (ADA)	KOHLER	HIGHLINE 3999	3"	2"	1/2"	-	ADA HEIGHT VITREOUS CHINA, FLOOR MOUNTED TOILET, TANK TYPE, CLASS FIVE 1.28 GPF. PROVIDE WITH OPEN FRONT SEAT LESS COVER.
LAV-1	LAVAATORY (ADA)	KOHLER	K2031	1-1/2"	1-1/4"	1/2"	1/2"	WALL MOUNT, ADA WHITE PORCELAIN, PROVIDE WITH MCILINE 156A 1-1/4" OPEN GRID P.O., PLUG, MCILINE 8872BECO 1-1/4" P-TRAP WITH CLEANOUT, AND MCILINE LF2185LK SUPPLY STOP VALVE. FAUCET KOHLER K-9094 (0.5 GPM).
WC-2	WATER CLOSET	KOHLER	HIGHLINE 3999	3"	2"	1/2"	-	HEIGHT VITREOUS CHINA, FLOOR MOUNTED TOILET, TANK TYPE, CLASS FIVE 1.28 GPF. PROVIDE WITH OPEN FRONT SEAT LESS COVER.
LAV-2	LAVAATORY	KOHLER	K906-4	1-1/2"	1-1/4"	1/2"	1/2"	MCILINE 156A 1-1/4" OPEN GRID P.O., PLUG, MCILINE 8872BECO 1-1/4" P-TRAP WITH CLEANOUT, AND MCILINE LF2185LK SUPPLY STOP VALVE. FAUCET KOHLER K-9094-4CP (0.5 GPM).
SK-1	KITCHEN SINK	EIKAY	EFRRJ31810T 30-3/4"x18-1/2"x10"	1-1/2"	1-1/4"	1/2"	1/2"	UNDERMOUNT ADA, STAINLESS STEEL SINK, PROVIDE WITH MCILINE 155A 1-1/4" OPEN GRID P.O., PLUG, MCILINE 8872BECO 1-1/4" P-TRAP WITH CLEANOUT, AND MCILINE LF2185LK SUPPLY STOP VALVE. FAUCET EIKAY LK600MS (1.5 GPM).
HB-1	HOSE BIB	WOODFORD	MODEL B85	-	-	3/4"	-	ENCASED, NON-FREEZE, OUTDOOR WALL HYDRANT WITH INTEGRAL BACKFLOW PREVENTER, FINISH WITH KEY LOCK.
WB-1	WATER SUPPLY BOX	IPS WATERITE	MBS1200 HA	2"	1-1/4"	1/2"	1/2"	LAUDRY SUPPLY BOX WITH INTEGRAL HAMMER ARRESTORS, QUARTER TURN VALVES, AND DRAIN SWAP-ON FRAME TO ACCOMMODATE 3/4" DRYWALL.
WB-2	WATER SUPPLY BOX	IPS WATERITE	AB9700 HA	-	-	1/2"	-	ICE MAKER SUPPLY BOX WITH INTEGRAL HAMMER ARRESTOR AND QUARTER TURN VALVE. SWAP-ON FRAME TO ACCOMMODATE 3/4" DRYWALL.
FOO	FLOOR CLEANOUT	ZURN	ZI40-K	-	-	-	-	ADJUSTABLE FLOOR CLEANOUT WITH ANCHOR FLANGE AND STAINLESS SECURED TOP. WASTE LINE SIZE AS INDICATED ON PLAN.
WCO	WALL CLEANOUT	ZURN	ZI441	-	-	-	-	WALL CLEANOUT WITH ROUND STAINLESS STEEL ACCESS COVER. WASTE LINE SIZED AS INDICATED ON PLANS.
WHA	WATER HAMMER ARRESTOR	PPP	SC SERIES	-	-	VARIABLES	-	WATER HAMMER ARRESTOR WITH NPT SOLID HEX BRASS ADAPTER OR SOLDER END CONNECTION CONSTRUCTED OF COPPER, RUBBER BODY AND POLYPROPYLENE PISTON. SIZE PER MPTR BASED ON SHU AS REQUIRED.
NOTES: 1. PROVIDE THE MAKE AND MODEL SPECIFIED OR AN ENGINEER APPROVED EQUAL.								

ELECTRIC WATER HEATER SCHEDULE				
MARK	TANK SIZE GALLONS	WATTS	MANUFACTURER VOLTS/PHASE	MOCP NOTES
WH-1	40	4,500	A.O. SMITH 240/1	30A LOW BOY

NOTES:
 1. PROVIDE THE MAKE AND MODEL SPECIFIED OR AN ENGINEER APPROVED EQUAL.
 2. PROVIDE AND INSTALL CIRCULATION PUMP BELT & GOSSETT PL-30 (115-VOLTS, 1.4 AMPS) WITH AQUASTAT AND THERM.



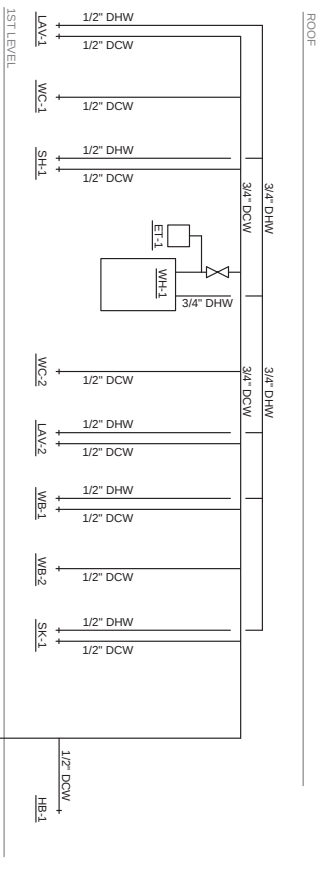
ELECTRIC WATER HEATER DETAIL

NTS

PIPE SCHEDULE										
PIPING ID	SERVICE	SIZE	MATERIAL TYPE	FITTING TYPE	JOINT TYPE	INSULATION LOCATION			DESIGN PRESSURE	REMARKS
						CONCEALED INTERIOR	EXPOSED	EXTERIOR		
DCW	DOMESTIC COLD WATER (ABOVE GRADE)	ALL	TYPE 1 COPPER HARD DRAWN TUBING ASTM B 88	WROUGHT COPPER FITTINGS PER ASTM B 32	SOLDER 95% TIN, 5% SILVER PER ASTM B32	1" GF-ASU R-4.2	1" GF-PVC R-4.2	2" GF-AL R-6.9	100 PSIG	PEX IS AN ACCEPTABLE PIPING ALTERNATIVE FOR DOMESTIC WATER
DHW	DOMESTIC HOT WATER	ALL	TYPE 1 COPPER HARD DRAWN TUBING ASTM B 88	WROUGHT COPPER FITTINGS PER	SOLDER 95% TIN, 5% SILVER PER ASTM B32	1" GF-ASU R-4.2	1" GF-PVC R-4.3	2" GF-AL R-6.9	100 PSIG	PEX IS AN ACCEPTABLE PIPING ALTERNATIVE FOR DOMESTIC WATER
SAN	SANITARY SEWER (ABOVE GRADE)	ALL	PVC	PVC	SOLVENT WELDED	N/A	N/A	N/A	10' HEAD	
	SANITARY SEWER (BELOW GRADE WITHIN 5' OF BUILDING)	ALL	PVC	PVC	SOLVENT WELDED	N/A	N/A	N/A	10' HEAD	
CD	CONDENSATE DRAIN	ALL	PVC	PVC	SOLVENT WELDED	1" GF-ASU R-4.2	1" GF-PVC R-4.2	2" GF-AL R-6.9	10' HEAD	
NOTES:										
1. INSULATION TYPE OF GLASS FIBER OR CELLULAR GLASS OR FLEXIBLE ELASTOMERIC CELLULAR OS - CALCIUM SILICATE, PI - POLYISOCYANURATE FOAM										
2. JACKET TYPE: ASU - ALL SERVICE JACKET, AL - ALUMINUM PVC - POLYVINYL CHLORIDE										
3. PROVIDE PRODUCT LISTED OR ENGINEER PRE-APPROVED EQUAL, APPLIES TO ALL PRODUCTS LISTED IN SCHEDULE										
4. INSTALL ALL PRODUCTS PER THE MANUFACTURERS RECOMMENDATIONS.										
5. ALL PIPING IS TO BE SUPPORTED PER ANSI B31.9, ASME B31.1, MSS SP-58 AND MSS SP-69										
6. DIELECTRIC UNIONS OR FLANGES ARE TO BE PROVIDED AND INSTALLED AT THE JOINT OF DISSIMILAR METALS										
7. LABEL ALL PIPING IN ACCORDANCE WITH ASME A13.1.										
8. CLEAN AND FLUSH ALL NEWLY INSTALLED PIPING AND STRAINER / FILTERS WITH SYSTEM APPROPRIATE MATERIAL PRIOR TO PUTTING SYSTEM INTO OPERATION.										

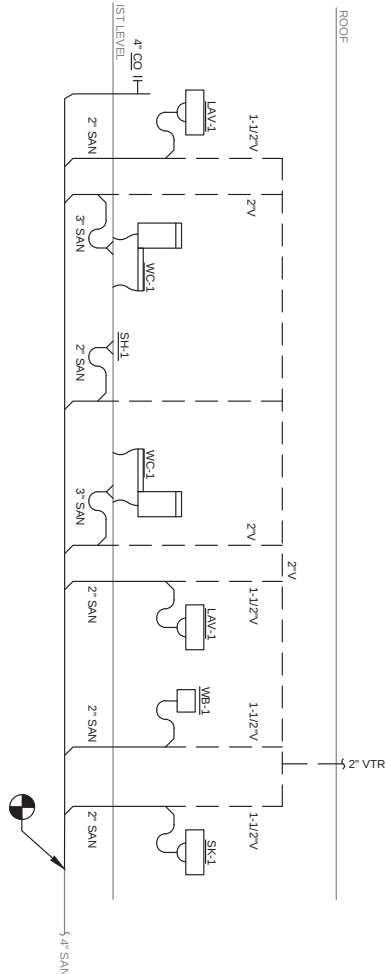
Plumbing Calculation Form for Sanitary and Domestic Water Fixture Units									
	Fixture Type	Quantity	Sanitary ¹		Domestic Water ²				
			Delivery Total/FU	CWSFU per fixture	TRICWSFU SPU	HWSFU per fixture	TRIHWSFU SPU	SESU per Fixture	TRISESU per Fixture
Water Closet / Flush Tank	1	3.0	3.0	2.5	2.5	0.8	0.8	1.0	1.0
Lavatory / Private, Fixed	1	1.0	1.0	0.8	0.8	0.8	0.8	1.0	1.0
Kitchen Sink / Private, Fixed	1	1.0	1.0	0.8	0.8	0.8	0.8	1.0	1.0
Ice Machine / Private	1	--	3.0	3.0	3.0	--	--	3.0	3.0
Drain / Vent / Private	1	2.0	0.5	0.5	1.5	1.5	2.0	2.0	2.0
Clothes Washer / Private	1	2.0	0.5	0.5	1.5	1.5	2.0	2.0	2.0
Lavatory / Public, Fixed	1	1.0	1.0	0.8	0.8	0.8	1.0	1.0	1.0
Water Closet / Public, Flush Tank	1	4.0	2.5	2.5	--	--	2.5	2.5	2.5
Total			14.0		11.4		5.4		15.0

Plumbing Calculation Form for Sanitary and Domestic Water Fixture Units



PARTIAL SUPPLY WATER RISER

2	N.T.S.
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PARTIAL DRAIN/VENT RISER

3
N.T.S

BACORN BROS.
PO Box 341621
Lakeway Texas 78734
Ph. (512)953-3474
www.BacornBros.com
Registered Firm F-19803

112 DEPOT STEET
112 DEPOT ST.
ELGIN, TX 78621

STATE OF TEXAS
PROFESSIONAL ENGINEER
DAVID L. BACCHIN
109697
11/01/04

project number
20190122

drawn by checked

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sheet

P2.0

PLUMBING
SCHEDULES &
DETAILS

GENERAL CONDITIONS		INSTALLATION	PRODUCT SPECIFICATIONS
CODE REQUIREMENTS			
1. THE PUBLICATIONS AND STANDARDS OF THE FOLLOWING AUTHORITIES, IN ADDITION TO THOSE SPECIFIED IN RELATED SUPPLEMENTARY CONDITIONS, SHALL BE OBSERVED DURING CONSTRUCTION AND ARE REFERENCED IN THE DOCUMENTATION BY THE ABBREVIATIONS NOTED: 1.1 UNITED STATES OF AMERICA STANDARDS INSTITUTE - USASI 1.2 INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS - IEEE 1.3 NATIONAL ELECTRICAL CODE - NEC 1.4 NATIONAL FIRE PROTECTION ASSOCIATION - NFPA 1.5 UNDERWRITERS LABORATORY - UL 1.6 NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION - NEMA 1.7 CERTIFIED BALLAST MANUFACTURERS - CBM 1.8 AMERICAN SOCIETY FOR TESTING AND MATERIALS - ASTM 1.9 OCCUPATIONAL SAFETY AND HEALTH ACT - OSHA 2. UNO - CENTER OF DEVICES SHALL BE MOUNTED PER AIA REQUIREMENTS. 2.1 OPERABLE DEVICES SWITCHES, CAD READER, ETC AT OR BELOW 48" AFF 2.2 RECEPTACLES, TELEPHONE AND DATA OUTLETS AT 36" AFF (MEASURED TO BOTTOM OF DEVICE), UNO 3. THE CONTRACTOR SHALL COMPLY WITH THE MOST RECENTLY REVISED VERSIONS OF ALL APPLICABLE REQUIREMENTS OF LAWS, RULES, REGULATIONS, CODES AND ORDINANCES OF FEDERAL, STATE AND LOCAL JURISDICTIONS AND AGENCIES HAVING JURISDICTION OVER THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS, LICENSES AND APPROVALS PRIOR TO WORK. ALL WORK SHALL BE PERFORMED PER 2024 NEC, AND CITY OF FULGREATVILLE REQUIREMENTS. MODIFICATIONS REQUIRED BY THE ABOVE SAID AUTHORITIES HAVING JURISDICTION SHALL BE MADE WITHOUT ADDITIONAL CHARGE TO THE OWNER. SCOPE OF WORK 1. THE SCOPE OF WORK SHALL INCLUDE COMPLETE PROVISIONS FOR ELECTRICAL POWER DISTRIBUTION TO ALL LIGHTING DEVICES, APPLIANCES, AND EQUIPMENT SHOWN ON THE CONSTRUCTION DOCUMENTS. 1.1. PROVISIONS INCLUDE, BUT ARE NOT LIMITED TO, ALL SUPPLIES, MATERIALS, EQUIPMENT, TOOLS AND LABOR. 1.2. PROVISIONS ALSO INCLUDE ALL MISCELLANEOUS MATERIALS REQUIRED TO COMPLETE THE WORK SHOWN INCLUDING, BUT NOT LIMITED TO SUPPORTS, HANGERS, RACEWAYS, BOXES, SLEEVES, SEALS, EQUIPMENT PADS, WIRING CONNECTORS, TERMINALS, LABELS, SIGNS, AND MARKERS. 1.3. THE CONSTRUCTION DOCUMENTS INCLUDE ALL PLANS, ELEVATIONS, DETAILS, DIAGRAMS, SCHEDULES, AND NOTES ON THE DRAWINGS AND THE WRITTEN SPECIFICATIONS INCLUDING ANY ITEMS MENTIONED IN EITHER THE SPECIFICATIONS OR ON THE DRAWINGS BUT NOT IN THE OTHER. 1.4. WHERE USED ON THE PLANS AND IN THE SPECIFICATIONS AND WHERE NOT SPECIFICALLY NOTED OTHERWISE, THE TERM "PROVIDE" AND THE TERM "INSTALL" SHALL MEAN FINISH, INSTALL, CONNECT AND TEST. 1.5. UNLESS EXPLICITLY NOTED BY OTHERS OR EXISTING, ALL ITEMS SHOWN GRAPHICALLY OR SPECIFIED BY NOTES AND DETAILS ON THE PLANS SHALL BE FURNISHED, INSTALLED, CONNECTED AND TESTED AS NEEDED. 2. ADDITIONALLY, THE SCOPE OF WORK SHALL INCLUDE 2.1. APPLICATION FOR TEMPORARY AND PERMANENT ELECTRICAL SERVICE, PERMITTING, AND INSPECTION. 2.2. TESTING AND COMMISSIONING. 2.3. EQUIPMENT RENTAL. 2.4. TEMPORARY CONSTRUCTION POWER AND LIGHTING. 2.5. PROVISIONS FOR MAINTAINING THE FUNCTIONALITY OF EXISTING TO REMAIN BUILDING COMMUNICATIONS, FIRE ALARM, SECURITY/ACCESS CONTROL, PUBLIC ADDRESS, AND BELL SYSTEMS THAT WILL BE AFFECTED BY THE WORK. SUBMITTALS 1. PRODUCT DATA SUBMIT CATALOG DATA SHOWING MANUFACTURER'S NAME AND CONTACT INFORMATION, ALL STANDARD FEATURES, AMPERAGE, VOLTAGE, AC RATINGS, DIMENSIONS, WEIGHTS, LISTINGS & PRODUCT LABELS, MATERIAL TYPES, FINISHES AND CLEAN/TYPING WHICH OPTIONAL FEATURES WILL BE PROVIDED. 1.1. WHERE MULTIPLE SIZES ARE LISTED, INDICATE WHICH PRODUCTS TO BE USED. 1.2. WHERE MULTIPLE PRODUCTS ARE SHOWN ON THE SAME PAGE, INDICATE WHICH PRODUCTS TO BE USED. 2. SHOP DRAWINGS (WHERE APPLICABLE) MANUFACTURER OR CONTRACTOR PREPARED DRAWINGS SHOWING ALL RELEVANT DIMENSIONS, WEIGHTS, ELECTRICAL & MECHANICAL CONNECTION REQUIREMENTS, CONDUIT ENTRY POINTS, ASSEMBLY REQUIREMENTS, LIFTING REQUIREMENTS, LIFTING POINTS, REQUIRED CLEARANCES, INCLUDE PLAN VIEWS & ELEVATIONS. 2.1. INCLUDE ALL RELEVANT ELECTRICAL DIAGRAMS INCLUDING SCHEMATIC AND INTERCONNECT DIAGRAMS FOR POWER, SIGNAL, AND CONTROL WIRING. COORDINATION 1. ALL POWER OUTRAGES SHALL BE COORDINATED IN WRITING WITH OWNER ONE (1) WEEK (MIN) PRIOR TO THE OUTAGE. 2. IF THE OWNER WILL OCCUPY ANY PORTION OF THE FACILITY DURING ANY PERIOD OF CONSTRUCTION, COOPERATE FULLY WITH THE OWNER OR HIS REPRESENTATIVE DURING CONSTRUCTION OPERATIONS TO MINIMIZE CONFLICTS AND TO FACILITATE OWNER USAGE SO AS NOT TO INTERFERE WITH THE OWNER'S OPERATIONS. 3. THE DRAWINGS ARE DIAGNOSTIC. THEY DO NOT SHOW SWITCHES, POWER AND DATA OUTLETS, SPECIAL SYSTEMS COMPONENTS, ACCESS CONTROL, ETI, ETC. ELECTRICAL EQUIPMENT, EQUIPMENT CONNECTIONS, REQUIRED RACEWAY, ETC. IN DETAIL. THE CONTRACTOR SHALL PROVIDE THE NECESSARY DETAILS FOR THE ELECTRICAL SYSTEMS TO BE INSTALLED, INCLUDING MECHANICAL, PLUMBING, FIRE PROTECTION AND SPECIAL SYSTEMS PLANS TO IDENTIFY CONFLICTS AND AREAS THAT REQUIRE COORDINATION. 4. COORDINATE ELECTRICAL AND SPECIAL SYSTEMS EQUIPMENT ROUTING WITH FURNITURE, MILLWORK, SIGNS, MECHANICAL AND PLUMBING SYSTEMS, SPRINKLER SYSTEMS, ARCHITECTURAL AND STRUCTURAL ELEMENTS, AND THE OWNERS REPRESENTATIVE. MINOR CHANGES IN ELECTRICAL EQUIPMENT LOCATIONS AND LAYOUT THAT ARE REQUIRED BY SITE CONDITIONS OR ORDERED BY THE DESIGN TEAM PRIOR TO PERFORMANCE OF WORK SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGES TO THE OWNER. 5. MAINTAIN REQUIRED NEG WORKING SPACE AND DEDICATED EQUIPMENT SPACE AROUND ALL ELECTRICAL EQUIPMENT CONTROLS AND DISCONNECTS. PROVIDE ACCESS TO ALL ELECTRICAL EQUIPMENT AND DISCONNECTS THROUGHOUT THE PROJECT. CLEARANCE CANNOT BE PROVIDED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO ROUGH-IN. 6. COORDINATE COLOR SELECTIONS FOR LUMINAIRES AND ALL DEVICE PLATES WITH ARCHITECT. QUALIFICATIONS 1. MANUFACTURER COMPANY SPECIALIZING IN MANUFACTURING PRODUCTS SHOWN ON THE CONSTRUCTION DOCUMENTS WITH MINIMUM THREE YEARS DOCUMENTED EXPERIENCE. 2. INSTALLER A STATE LICENSED ELECTRICIAN WITH DOCUMENTED EXPERIENCE INSTALLING ALL EQUIPMENT SPECIFIED HEREIN. THE CONTRACTOR SHALL VERIFY THE QUALITY OF THE INSTALLATION AND SIGN OFF ON THE COMPLETED WORK. THE MANUFACTURER, INSTALLER SHALL BE A MANUFACTURER TRAINED AND/OR CERTIFIED INSTALLER OF THE SPECIFIC PRODUCT TO BE INSTALLED. WARRANTY ASSURANCE 1. UNLESS OTHERWISE APPROVED, ALL EQUIPMENT SHALL BE NEW, PROPERLY DESIGNED FROM A REPUTABLE MANUFACTURER MEETING THE SPECIFICATION QUALIFICATIONS, IN COMPLIANCE WITH THE SPECIFICATION REQUIREMENTS, AND IN FULL WORKING ORDER. 2. WHERE TWO OR MORE ITEMS OF THE SAME CLASS OF EQUIPMENT ARE REQUIRED, THESE ITEMS SHALL BE PRODUCTS OF A SINGLE MANUFACTURER, HOWEVER, THE COMPONENT PARTS OF THE ITEM NEED NOT BE THE PRODUCTS OF THE SAME MANUFACTURER UNLESS STATED IN THE TECHNICAL SECTION. 3. LISTING AND LABELING: WHERE REQUIRED, ALL ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES SHALL BE LISTED AND LABELED AS DEFINED IN NFPA 70E ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITY HAVING JURISDICTION AND MARKED FOR THE INTENDED USE. TESTING AGENCY SHALL BE UNLESS NOTED OTHERWISE OR PRE-APPROVED BY OWNER AND AIA. 4. ALL EQUIPMENT USED FOR TESTING SHALL BE IN FULL WORKING ORDER AND CALIBRATED PER THE MANUFACTURERS RECOMMENDATIONS. 5. RECOMMENDATIONS. IDENTIFICATION 1. PROVIDE APPROPRIATE LABELS AND WARNING SIGNS FOR ALL EQUIPMENT, WIRING DEVICES, CONDUCTORS, CABLES, BOX, AND ENCLOSURES. PROVIDE DIRECTED ELECTRICAL WARNING TABLE FOR UNDERGROUND CONDUITS. 2. CONDUCTOR TAGGING: TAG ALL CONDUCTORS AT MOTOR CONTROLS, PANELS, TERMINAL CABINETS AND JUNCTION BOXES. TAG CIRCUITS WHICH PASS THROUGH OTHER DEVICES SUCH AS LIGHTING CONNECTORS. 3. PROVIDE A TYPED PANEL DIRECTORY FOR EACH PANEL, PROVIDED OR MODIFIED FOR THIS PROJECT. DIRECTORY SHALL IDENTIFY EACH CIRCUIT, NUMBER, SIZE, TYPE, LOADS BY ROOM NUMBER, MOUNT ON INSIDE OF EACH PANEL, AND FILE WITH THE OTHER WHEN THE WORK IS COMPLETED. 4. PROVIDE EACH PANEL WITH A MANUFACTURER PREPARED ARC FLASH HAZARD WARNING LABEL. 5. ALL ELECTRICAL EQUIPMENT SHALL BE IDENTIFIED BY MEANS OF 3X1" (MINIMUM) PLATES PERMANENTLY ATTACHED TO THE EQUIPMENT. PLATES SHALL BE METAL, PLASTIC OR SIMILAR BACK WITH 1/8" (MIN) ENGRAVED WHITE LETTERS. 6. JUNCTION AND PULL BOXES SHALL BE LABELED WITH PANEL NAME, CIRCUIT #, AND VOLTAGE. 7. RECEPTACLES SHALL BE LABELED WITH THE PANEL NAME AND CIRCUIT #. USE WHITE LABELS WITH BLACK TEXT. 8. FIRE ALARM, EMERGENCY CRITICAL PWR, LIFE SAFETY LABELS, INCLUDING RECEPTACLES, SHALL BE COLOR CODED & ENGRAVED.	GENERAL REQUIREMENTS 1. THE CONTRACTOR SHALL PROVIDE CONCRETE FLOOR SLEEPING PADS FOR ALL FLUORIMOUNTED ELECTRICAL EQUIPMENT. THE CONCRETE SHALL PROVIDE A MINIMUM OF 1/2" THICKNESS OF THE ELECTRICAL EQUIPMENT ON ALL SITES. THE CONCRETE PAD SHALL BE 6" TALL AND CONTAIN A 1/2" CHAMFER ON ALL SIDES. PROVIDE A MINIMUM OF 3000 PSI CONCRETE AND A 4# REBAR. 2. ALL TERMINALS, LUGS AND BUS JOINTS SHALL BE TIGHTENED PER THE MANUFACTURERS TORQUE RECOMMENDATIONS. 3. PROVIDE SLEEVES FOR PENETRATIONS THROUGH WALL/FLOORS. SEAL ALL OPENINGS, USE PREPARED SEALANT FOR OPENINGS IN RATED WALLS. CONDUCTORS AND CABLES 1. ALL BUILDING WIRING SHALL BE INSTALLED COPPER CONDUCTORS RUN FROM LOUAD TO SOURCE INSIDE RACEWAY. CONTINUOUS (WITHOUT SPACES) BETWEEN JUNCTION AND PULL BOXES, AND EXPRESSED INSIDE PANELS ONLY. 2. ALL SINGLE POLE CIRCUITS SHALL HAVE A DEDICATED NEUTRAL CONDUCTOR ROUTED TO THE SOURCE PANEL. 3. FIELD WIRING WHETHER A NEUTRAL IS REQUIRED FOR ALL TWO AND THREE POLE CIRCUITS. FOR ALL LOADS EXCEPT MOTORS, A NEUTRAL IS ASSIGNED TO BE REQUIRED UNLESS FIELD DETERMINED TO BE UNNECESSARY. 4. ALL POWER & CONTROL WIRING ROUTED THROUGH RETURN AIR PLenums SHALL BE PLenum RATED. 5. UP TO 3/24" CIRCUITS MAY SHARE A RACEWAY FOR HOMERUNS WHERE SUITABLE & PER NEC CONDUIT FILL RULES. 6. 120V, 20A HOME RUNS LONGER THAN 100' AND 277V, 20A HOME RUNS LONGER THAN 150' SHALL BE #10 MIN. GROUNDING AND BONDING 1. ALL RACEWAYS AND CIRCUITS SHALL BE PROVIDED WITH A NEC 250 COMPLIANT GREEN GROUND CONDUCTOR. 2. ALL EQUIPMENT SHALL BE PROPERLY BONDED. 3. AT A MINIMUM, A GROUNDING ELECTRODE CONDUCTOR, SIZED PER NEC TABLE 250.66, SHALL BE CONNECTED FROM THE GROUND BUS OF THE SERVICE ENTRANCE DISCONNECT TO 3/4"x1/2" COPPER CLAMP STEEL GROUND ROD TO THE BUILDING METAL, COLD WATER AND GAS PIPING AT THE POINT OF ENTRANCE INTO THE BUILDING, STRUCTURAL STEEL, AND 20' OF BARE COPPER ENCASED IN THE SLAB. ADDITIONAL GROUNDING REQUIREMENTS MAY BE SPECIFIED ON THE PLANS OR IN BARE COPPER. 4. ROUTING OF GROUNDING ELECTRODE CONDUCTORS SHALL BE IN METAL CONDUIT IN ALL LOCATIONS THAT ARE SUBJECT TO PHYSICAL ABUSE OR ENVIRONMENTAL DETERIORATION SUCH AS EXTREMELY MOUNTED, EXPOSED BELOW LAY IN CEILING, ETC. UPON COMPLETION OF THE WORK, ALL PARTS OF THE ELECTRICAL INSTALLATION SHALL BE INSPECTED AND PROVED TO BE FREE OF UNWANTED GROUNDS AND OTHER DEFECTS. 6. PROVIDE A 4" GROUND FROM THE SERVICE ENTRANCE GROUND BUS TO ALL TELEPHONE SERVICE BOARDS AND HANGERS AND SUPPORTS. 7. SUPPORT RACEWAYS USING GALVANIZED STEEL, OR MALLEABLE IRON STRAPS, CHANNEL, OR PIPE CLAMPS AS APPROPRIATE. 8. PROVIDE SUPPORTS AT ALL BOXES, ELEC. EQUIP., LOADS, & AT CODE REQUIRED INTERVALS ALONG RACEWAYS. 3. GROUP RELATED RACEWAYS AND SUPPORT USING STEEL CHANNEL CONDUIT RACKS WITH 25% SHARE CAPACITY. RACEWAY AND BOXES 1. PROVIDE COMPLETE RACEWAY SYSTEMS FROM SOURCE TO ALL LOADS WITH DEDICATED SUPPORTS FOR EACH RACEWAY ELEMENT. 2. PROVIDE ALL REQUIRED BOXES & SUPPORTS FOR WIRING DEVICES, TELECOMMUNICATIONS, FIRE ALARM, ACCESS CONTROL, CONTROL EQUIPMENT, ALARMS, SENSORS, ETC. 3. PROVIDE PULL BOXES AT APPROPRIATE LOCATIONS FOR ALL POWER AND SPECIAL SYSTEMS RACEWAYS WHETHER SHOWN ON PLANS OR NOT. INSTALL IN CONCEALED, ACCESSIBLE LOCATIONS. 4. DO NOT INSTALL RACEWAY WITH MORE THAN THE EQUIVALENT OF THREE NINETY DEGREE BENDS BETWEEN PULL POINTS. 5. THE CONDUIT ROUTING SHOWN ON THESE PLANS IS DIAGNOSTIC. 6. COORDINATE INTERIOR ROUTING WITH OTHER TRADES, STRUCTURE, NEW AND EXISTING UTILITIES, DUCTWORK, PIPING, AND OTHER EXISTING CONDITIONS AS REQUIRED FOR A COMPLETE, CONFLICT FREE INSTALLATION. 7. COORDINATE LINE ROUTING WITH OTHER TRADES, STRUCTURE, NEW AND EXISTING BURIED UTILITIES, PAVED AREAS, CONDUIT SLEEVES, AND LANDSCAPING BEFORE DIGGING TO AVOID CONFLICTS, DAMAGE, AND TO ALLOW FOR FUTURE INSTALLATIONS. 8. ROUTE RACEWAYS PARALLEL AND PERPENDICULAR TO WALLS, FLOORS, AND CEILINGS. 9. ROUTE EXPOSED CONDUIT PARALLEL, AND TIGHT TO STRUCTURAL ELEMENTS. FOLLOW ALL SURFACE CONTOURS, DO NOT ROUTE IN FREE AIR FROM POINT TO POINT. 6. INSTALL RACEWAYS SO THAT IT DEMANDS TO JUNCTION AND PULL BOXES TO AVOID MOISTURE TRAPS AT LOW POINTS. INSTALL JUNCTION BOX WITH DRAIN FITTING AT LOW POINTS IN CONDUIT SYSTEM. 7. INSTALL FITTINGS TO ACCOMMODATE EXP		

PRODUCT SPECIFICATIONS	
GENERAL REQUIREMENTS	
1. COMPLIANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF PROVIDING EQUIPMENT THAT IS NEW, PROPERLY DESIGNED, FROM A REPUTABLE MANUFACTURER, AND IN FULL WORKING ORDER.	
2. IF CONFLICTS BETWEEN THE SPECIFICATIONS AND DRAWINGS OCCUR, THE HIGHER QUALITY OR QUANTITY SHALL BE PROVIDED AND INSTALLED. IF THERE IS ANY QUESTION AS TO QUALITY, SIZE OR QUANTITY NECESSARY, THE CONTRACTOR SHALL PROVIDE A WRITTEN REQUEST FOR CLARIFICATION FROM THE ENGINEER. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL EXPENSES INCURRED AS A RESULT OF THE CONTRACTOR'S FAILURE TO OBTAIN CLARIFICATION.	
3. ALL ELECTRICAL EQUIPMENT ENCLOSURES SHALL BE 1/2 GAUGE SHEET METAL (MIN), PROVIDED WITH MANUFACTURER'S CORROSION RESISTANT PAINT SYSTEM, PROVIDED WITH CONDUIT/DOOR, HINGED, LATCHING DOORS (UNO).	
4. EQUIPMENT TO BE INSTALLED OUTDOORS SHALL HAVE NEMA 3R ENCLOSURES MIN. EQUIPMENT IN CORROSIVE OR HAZARDOUS ENVIRONMENTS SHALL BE RATED FOR THE INTENDED USE.	
CONDUCTORS AND CABLES	
1. THINWALL SOFT DRAUN, STRANDED COPPER, XXXXX FOR UG, USE SOLID COPPER FOR #10 & SMALLER, MIN SIZE #12	
RACEWAY AND BOXES	
1. RACEWAY AND BOX SPECIFICATIONS ARE BY LOCATION.	
TRANSFORMERS	
1. ALL DRY-TYPE DISTRIBUTION TRANSFORMERS 15KVA AND LARGER SHALL CONFORM TO NEMA TP-1-2002 STANDARDS AND BE ENERGY STAR RATED	
PANEL BOARDS	
1. PROVIDE ALL PANELS WITH COPPER PHASE, NEUTRAL, GROUND BUSES, 42 PROVISIONS COMMON RAIL MOUNTING SPACES (MIN).	
2. ALL BRANCH CIRCUIT BREAKERS SHALL BE BOLT ON TYPE THERMAL MAGNETIC WITH BREAKER TRIP HANDLE FOR MULTIPLE POLES, HACR RATED FOR MECHANICAL LOADS.	
3. PROVIDE ADJUSTABLE TRIP SETTINGS FOR DISTRIBUTION BREAKERS, UNO: 11 000 TO 900A, LSIG 1000A & ABOVE.	
4. PROVIDE CONTINUOUSLY HINGED DOOR AND FRONT COVER, LATCH AND KEY LOCK, METAL DIRECTORY FRAME.	
WIRING DEVICES	
1. WIRING DEVICES SHALL BE COMMERCIAL, GRADE (MIN), GROUNDING, AND RATED FOR LOAD (20A MIN).	
2. SURFACE MOUNTED RACEWAY FOR RECEPTACLES AND DATA OUTLETS SHALL BE RUL, CHANNEL, METAL RACEWAYS, TWO PIECE DESIGN WITH METAL BASE AND SNAP-ON METAL COVER, ASSEMBLED BASE AND COVER SHALL BE A MINIMUM OF 1/4" DEEP, 1/2" DEEP, DEVICE BRACKETS AND COVER PLATES THAT WILL ACCEPT DUPLEX RECEPTACLES AND STANDARD DATA JACK MOUNTING PLATES WITHOUT FIELD CUTTING MUST BE AVAILABLE FROM THE RACEWAY MANUFACTURER.	
ENCLOSED SWITCHES AND CONTACTORS	
1. DISCONNECTS SHALL BE QUICK MAKE/BREAK, LOAD INTERRUPTING, KNIFE SWITCHES WITH EXTERNAL HANDLE LOCKABLE IN ON AND OFF POSITIONS, FULLY HINGED DOOR THAT IS LOCKED WHEN ENERGIZED AND PROVIDED WITH A DEFEATER MECHANISM TO OPEN ENCLOSURE WHEN ENERGIZED.	
2. ENCLOSED MOTOR STARTERS SHALL HAVE REMOTE START SIGNAL INPUT, FULL SIZED OVERLOADS, CONTROL, XHMM WITH PRIMARY & SECONDARY FUSING, HAND-OFF-AUTO SELECTOR SWITCH, (2) NORMALLY OPEN AND (2) NORMALLY CLOSED AUX. DRY CONTACTS, COORDINATE CPT VOLTAGE WITH CONTRACTOR PROVIDING EQUIPMENT TO BE CONTROLLED.	
LIGHTING	
1. ALL LIGHT FIXTURES/LAMPS SHALL BE UL LISTED AND CONFORM TO ALL APPLICABLE UL, ANSI AND NFPA STANDARDS.	
RACEWAY AND BOX SPECIFICATIONS BY LOCATION	
GENERAL REQUIREMENTS	
1. PROVIDE RACEWAY AND BOXES AS SPECIFIED BELOW FOR POWER, LIGHTING, COMMUNICATIONS, FIRE ALARM, ACCESS CONTROL/SECURITY, CONTROLS, AND OTHER SPECIAL SYSTEMS.	
OTHER SPECIAL SYSTEMS	
1. PROVIDE RACEWAY AND BOXES FOR ALL EQUIPMENT, LIGHTING, WIRING DEVICES, COMMUNICATIONS EQUIPMENT AND OUTLETS, FIRE ALARM EQUIPMENT, APPLIANCES, AND DEVICES, ACCESS CONTROL/SECURITY POINTS, CONTROLS POINTS, AND OTHER SPECIAL SYSTEMS SHOWN ON PLANS.	
2. PROVIDE RACEWAY BOXES AT OTHER LOCATIONS AS REQUIRED FOR APPROXIMATE LOCATIONS UNLESS DIMENSIONED. PROVIDE RACEWAY TO COMPLETE WIRING SYSTEM.	
3. PROVIDE COMPRESSION CONNECTIONS FOR ALL METAL RACEWAYS.	
UNDERGROUND	
1. PROVIDE WRAPPED RIGID STEEL CONDUIT WHERE ENTERING/EXITING SLABS OR GRADE, FOR ELBOWS 1" AND LARGER.	
2. PROVIDE THICKWALL NONMETALLIC CONDUIT FOR STRAIGHT RUNS THAT ARE BURIED AND/OR IN CONCRETE.	
3. PROVIDE CAST METAL BOXES OR POLYMER CONCRETE BOXES, COORDINATE WITH ENGINEER.	
4. PROVIDE BOXES FOR UTILITY SERVICE CONDUIT OR CABLEING PER UTILITY PROVIDER'S SPECIFICATIONS	
5. NONMETALLIC HANDHOLES MAY BE USED FOR SITE LIGHTING AND CONTROLS CIRCUITS	
6. PROVIDE RIGID STEEL CONDUIT WITHIN 5 FT OF BUILDING FOUNDATION.	
IN CONCRETE	
1. PROVIDE WRAPPED RIGID STEEL CONDUIT WHERE ENTERING OR EXITING CONCRETE, FOR ELBOWS 1" AND LARGER.	
2. PROVIDE THICKWALL NONMETALLIC CONDUIT FOR STRAIGHT RUNS IN CONCRETE.	
3. PROVIDE CAST METAL BOXES, NONMETALLIC MAY BE USED ONLY WITH ENGINEER APPROVAL.	
4. USE CONCRETE TIGHT, MASONRY RATED BOXES AND FITTINGS WERE INSTALLED IN CONCRETE, STONE, BRICK, CMU.	
EXTERIOR ABOVE GRADE AND WET/DAMP INTERIOR LOCATIONS.	
1. PROVIDE RIGID STEEL CONDUIT AND FITTINGS.	
2. PROVIDE CAST METAL OUTLET, JUNCTION, AND PULL BOXES, GASKETED, RATED NEMA 3R MIN.	
CONCEALED DRY INTERIOR LOCATIONS.	
1. PROVIDE RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT, OR ELECTRICAL METALLIC TUBING.	
2. PROVIDE SHEET-METAL BOXES.	
EXPOSED DRY INTERIOR LOCATIONS.	
1. PROVIDE RIGID STEEL CONDUIT BELOW 10 FEET, AND RIGID STEEL, INTERMEDIATE METAL, OR ELECTRICAL METALLIC TUBING ABOVE 10 FEET, PROVIDE SHEET-METAL BOXES.	
SPECIAL SYSTEMS NOTES	
SPECIAL SYSTEMS INCLUDE, BUT ARE NOT LIMITED TO, TELECOMMUNICATIONS, FIRE ALARM, AUDIO/VIDEO, ACCESS CONTROL SYSTEMS.	
2. FOR SPECIAL SYSTEMS EQUIPMENT AND DEVICES SHOWN ON THE CONSTRUCTION DOCUMENTS, OR EQUIPMENT AND DEVICES THAT CAN REASONABLY IMPLIES AS REQUIRED TO OPERATE ITEMS SHOWN, ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR POWER, RACEWAY/BOX/ENCLOSURES/ROUGH-IN, CONDUIT, AND CONDUIT/FITTING/PROVISION BLEND IN/SHD SPECIAL SYSTEMS BE PROVIDED BY A SPECIALIST CONTRACTOR, OWNER'S AGENT, OR UNDER SEPARATE CONTRACT.	
3. TEL COMMUNICATIONS, CO-COATING, JACKS, EQUIPMENT BACKS, NETWORKING EQUIPMENT, AND PATCH PANELS WILL BE PROVIDED AND INSTALLED BY TELECOM CONTRACTOR, ALL OTHER WORK BY TELECOM CONTRACTOR.	
4. AUDIO/VIDEO: COORDINATE SCOPE WITH OWNER PRIOR TO BID.	
5. ACCESS CONTROL (SECURITY): COORDINATE SCOPE WITH OWNER PRIOR TO BID.	
6. COORDINATE REQUIREMENTS FOR DATA ROOMS WITH OWNER'S INFORMATION TECHNOLOGIES REPRESENTATIVE (IT REP).	
7. CONSTRUCTION: COORDINATE GENERAL PROVISIONS SHALL BE PROVIDED BY THE CONTRACTOR. ADDITIONAL ITEMS SPECIFIED ELSEWHERE ON THE PLAN.	
4.1. 3/4" FIRE RATED, PLYWOOD SHEETS ON ALL WALLS OF IT CLOSETS UNLESS DIRECTED OTHERWISE BY IT REP. PAINT TO MATCH WALL TO WHICH BOARD IS ATTACHED.	
4.2. SERVICE PROVIDER SHIPPED IN SAND AT 18" WITH PULL STRIPS FROM SERVICE DEMARC TO MAIN TELECOM ROOM. COORDINATE DEMARC LOCATION WITH SERVICE PROVIDER AND TERMINATION POINT WITH COMMUNICATIONS CONTRACTORS. REFER TO SITE PLANS TO DETERMINE CONDUIT RUN LENGTHS AND ROUTING.	
4.3. FOUR(4) 1" CONDUIT SLEEVES BETWEEN EACH FLOOR FOR TELECOM, FA, AND ACCESS CONTROL.	
4.4. DOUBLE GANG DEMARC BOX WITH SINGLE GANG REDUCER (AS NEEDED) AT EACH LOCATION SHOWN ON PLANS. NOTE THAT SOME SPECIAL SYSTEMS EQUIPMENT MAY REQUIRE A DIFFERENT SIZE BOX. COORDINATE LOCATIONS AND SIZES FOR BOXES WITH RESPECTIVE SPECIALIST CONTRACTORS PRIOR TO INSTALLATION.	
4.5. CONDUIT WITH PULL STRINGS FROM SOURCE (TEL, PHONE, BACKBOARD, SECURITY PANEL, FACE, ETC) OR ACCESSIBLE CEILING SPACE TO ALL DEVICE LOCATIONS SHOWN ON THESE PLANS. HORIZONTAL CONDUITS MAY BE COMBINED WHERE APPROVED BY SPECIALIST CONTRACTOR. COORDINATE CONDUIT SIZES WITH RESPECTIVE SPECIALIST CONTRACTORS PRIOR TO INSTALLATION.	
4.6. ALL ALARM PANELS (GAS, CHEMICAL, FIRE, SECURITY, ETC) SHOWN ON THE MEPLANS SHALL BE PROVIDED WITH A MIN. OF THREE(3) 1" CONDUITS ROUTED FROM THE PANEL TO ABOVE CEILING AND A 20A, 200V CIRCUIT AT THE PANEL. COORDINATE ROUTING AND ADDITIONAL REQUIREMENTS WITH SPECIALIST CONTRACTOR.	
5. POWER LIMITED AND NON POWER LIMITED CABLE SHALL NOT SHAKE COMMON RACEWAYS OR ENTER JUNCTION BOXES THROUGH THE SAME OPENING.	

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112 DEPOT ST.

ELGIN, TX 78621



project number
20190122

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checked

Issue Log

ISSUE FOR CONSTRUCTION 11/07/19

Sheet

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ELECTRICAL

NOTES



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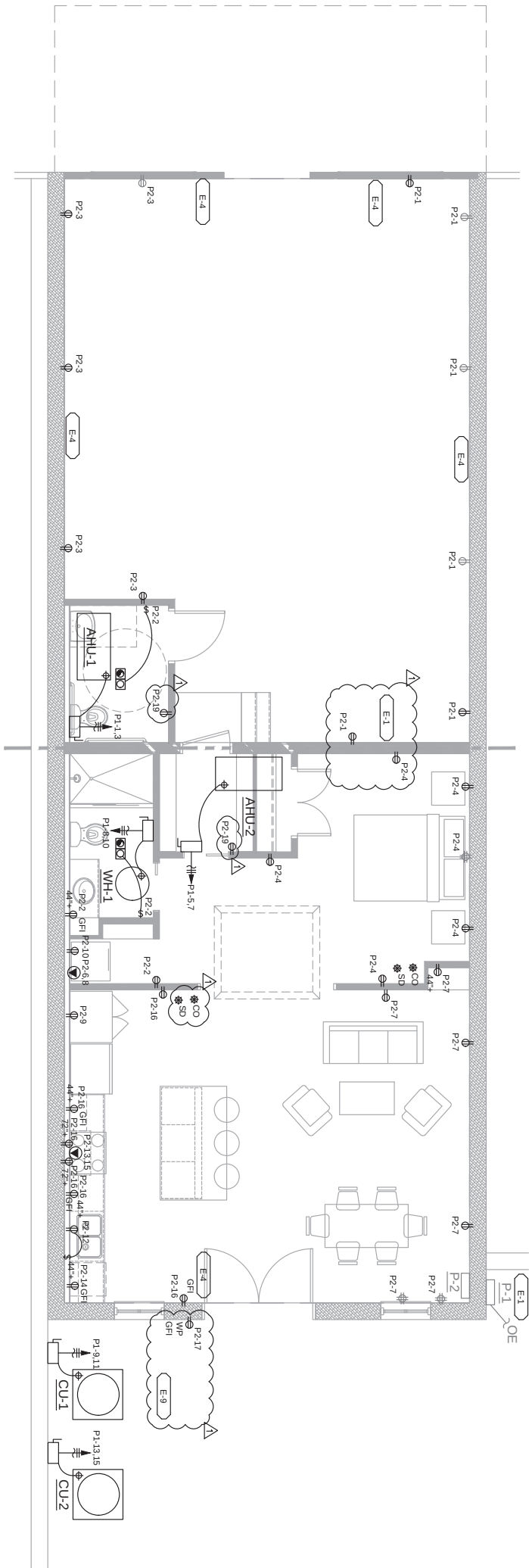
Issue Log	
	ISSUE FOR CONSTRUCTION 11/07/19
1	PERMIT REVIEW COMMENTS 12/18/19

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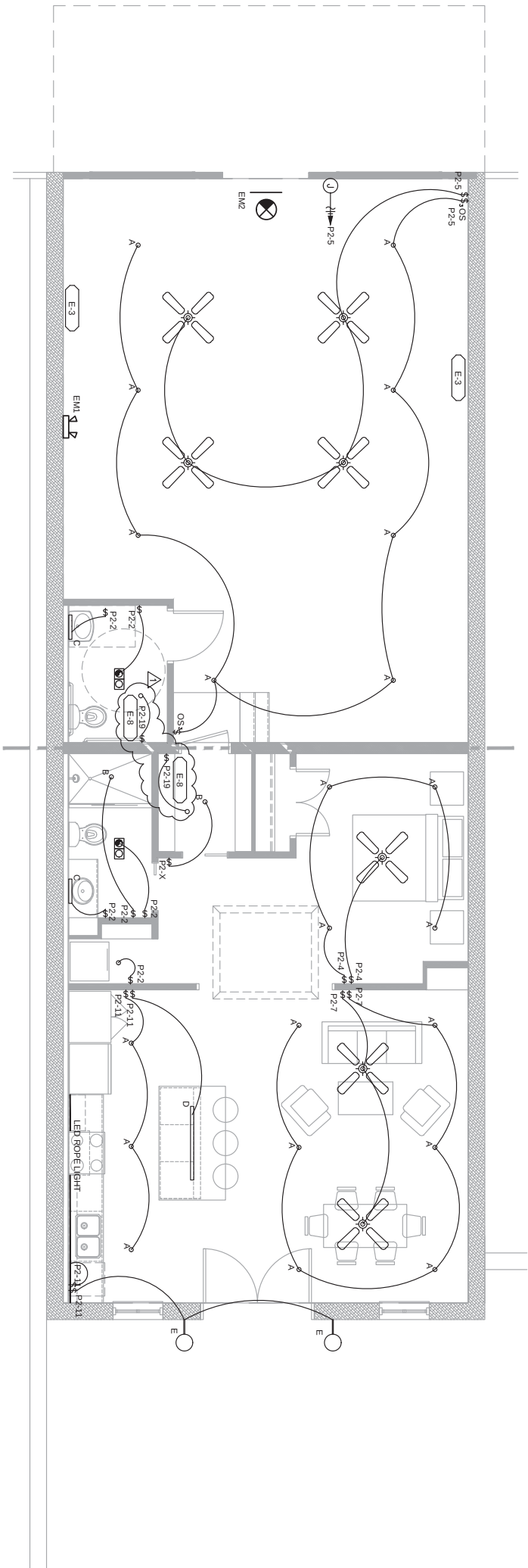
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E1.0

**ELECTRICAL
POWER
FLOOR PLAN**



1/4" = 1'-0"



1/4" = 1'-0"

- GENERAL NOTES
1. APPLICABLE CODES: NEC 2017, IFC 2012, IFCC 2012, AND NEC 2014.
2. ALL WORK IS TO BE PERFORMED BY A LICENSED ELECTRICAL IN-CORPORATED WITHIN LOCAL AND NATIONAL CODES.
3. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT MANUFACTURERS PRIOR TO ORDERING.
4. PROVIDE THE FOLLOWING INFORMATION ON OR COVER ON EACH OF ALL JUNCTION BOXES THAT BE LABELED WITH THE BRANCH CIRCUIT NUMBERS AND THEIR PANEL ORIGINATIONS:
5. ROUTE OVERHEAD CIRCUITS IN BETWEEN PARTISANS TO AVOID CONFLICTS.
6. CONDUIT SHALL BE INSTALLED AT LEAST 18" ABOVE FLOOR FINISH.
7. ARCHITECTURAL SHALL COORDINATE LUMINAIRE LOCATIONS WITH THE ARCHITECTURAL ELEVATIONS AND RCP PRIOR TO INSTALLATION. VERIFY LOCATIONS AND MOUNTING METHODS, AND MATERIALS THAT ARE ULTRACOLOR COLOR-SELECTED FOR LIGHTING.
8. ROOM EXIT SIGNS UNMOUNTED WITH ADJACENT LIGHTING IN THE ROOM PROVIDE EMERGENCY FIXTURES WITH UNADJUSTED HOT.
9. ALL 15A AND 20A JUNK RECEPTALS SHALL BE INSTALLED ON ALL 15A AND 20A POWER RESISTANT RECEPTALS SHALL BE GFI PROTECTED ON ALL 15A AND 20A AND DWELLING UNITS.
10. AND DWELLING UNITS IN ALL BUSINESS RETAIL, OFFICES, CORRIDORS,

E-1

1. CONTRIBUTE TO PROVIDE BACKLOG, AND CONSIDER FOR ALL DATA/VIDEO RECORDING DEVICES.
2. DRIPS AND SECURITY CAMERAS, ALL ATTENDANCE TO TERMINATE IN OFFICE. OCCUPANCY SENSOR MUST BE AUTO ON / MANUAL OR AUTO OFF. IF MANUAL OFF FEATURE IS PRESENT, IT MUST NOT BE ABLE TO OVERRIDE THE AUTO ON FEATURE FOR MORE THAN 5 MINUTES.
3. DEMO EXISTING 4FT STRIP LIGHTS SURFACE MOUNTED ON WALL.
4. ALL NEW CONDUIT ON THIS WALL TO BE SURFACE MOUNTED AND END TO END TO MATCH.
5. ADDITIONAL ELECTRICAL SERVICE ENTRANCE WITH 200KCB PANEL, METER, AND TELECOM PANEL.
6. RECEPTACLES IN 2 R FRIE RATED WALL, THE ANKULAS SPACE BETWEEN THE WALL WEIRANGE AND THE BOX SHALL NOT EXCEED 2IN.
7. BOXES ON OPPOSITE SIDES OF THE WALL SHALL BE SEPARATED BY 18" FROM EACH OTHER.
8. PROVIDE SWITCHED LIGHT IN NATIC AREA ADJACENT TO MECHANICAL UNIT. SURFACE MOUNT LIGHT SWITCH ON THE FRIE WALL.
9. ANY EXISTING OUTDOOR RECEPTACLES MUST BE REPLACED WITH WEATHERPROOF RCP RECEPTACLE.

P1 (EXISTING)																		
PANEL OPTIONS:			BUS RATING: MAIN: 200A MCB VOLTAGE: 240/120V 1ø, 3W LOCATION: REFER TO PLAN FED FROM: REFER TO ONE LINE FEEDER SIZE: REFER TO ONE LINE				AC RATING: 35kVA BUSSING: COPPER MOUNTING: SURFACE NEMA ENCLOSURE: NEMA 3R			CB OPT: ST - SHUNT TRIP SS - SOLID STATE GF - GROUND FAULT CIRCUIT INTERRUPTER FF - FULLY RATED L - LOCKABLE EP - EQUIPMENT GROUND FAULT (99mA)								
LOAD (VA)										LOAD (VA)								
LIGHT	RECEPT	CONT	MISC	MOTOR	KITCH	CCT	LOAD SERVED	CB AMP/ POLE	CB AMP/ POLE	CB OPT	LIGHT	RECEPT	CONT	MISC	MOTOR	KITCH		
0	0	0	11490	6120	1	1	1	60/2	A	90/3	2	0	0	0	9240	0	0	
0	0	0	11250	6120	1	1	1	60/2	A	90/3	4	0	0	0	9000	0	0	
0	0	0	11250	5400	1	1	1	60/2	A	90/3	6	0	0	0	2250	0	0	
0	0	0	22740	5400	1	1	1	30/2	B	30/2	8	0	0	0	2250	0	0	
				NONSIM	1	1	1	45/2	A	9	10							
				NONSIM	1	1	1	45/2	A	9	12							
				NONSIM	1	1	1	45/2	A	9	14							
				NONSIM	1	1	1	45/2	A	9	16							
				NONSIM	1	1	1	45/2	A	9	18							
PHASE LOADING										DEMAND AMPS PER PHASE		PANEL TOTALS						
LIGHT	RECEPT	CONT	MISC	MOTOR	KITCH		TOTAL				LIGHT	RECEPT	CONT	MISC	MOTOR	KITCH		
0	0	0	11490	11520	0		22010			192 A	0	0	0	0	22 74	23 04	0	
0	0	0	11250	11520	0		22770			190 A	1 25	(1)	1 25	1	(2)	0 65	0	
0	0	0	22740	23040	0		TOTAL				0 00	0 00	0 00	22 74	23 04	0 00		
												45 78 (1) = PER NEC ARTICLE 220 44 240 (2) = PER NEC ARTICLE 220 50						
												TOTAL PANEL DEMAND AMPEPAGE						
												191						