

# APPROVED

01/30/2024 6:24:59 AM

## CODE SOLUTIONS PLAN REVIEW CHECK SHEET

Phone 817-379-1129

code.solutions@verizon.net

Permit # B23-0034

Address: 1716 Keller Pkwy. Date: January 29, 2024

Project: Bloomfield Lot 6 Office

TDLR#: 2023017381 Construction Value: 950,000.00

Plans Examiner: Tim A. Fleming RAS, MCP, TSBPE#I2011

**Site Code Review:** *Plans reviewed for compliance with the 2021 International Building Code and International Plumbing Code*

**Site plan in compliance with IBC section 107.2.6 is required.**

**107.2.6 Site plan.** The *construction documents* submitted with the application for *permit* shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from *lot lines*, the established street grades and the proposed finished grades and, as applicable, *flood hazard areas*, *floodways*, and *design flood elevations*; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The *building official* is authorized to waive or modify the requirement for a site plan where the application for *permit* is for *alteration* or *repair* or where otherwise warranted.

Is a boundary line survey or plat provided?	Yes
Is a site plan provided?	Yes
Is the scale acceptable?	Yes
Are property lines indicated?	Yes
Are proposed buildings shown?	Yes
Distances to property lines shown?	Yes
Is a grading plan provided?	Yes

### Site Utility Plan

Sewer collection systems are located in public right of way or on private property contained in easements dedicated to and maintained by the public sewer provider. See TCEQ Section 217.2 Definition of Building Lateral:

(11) Building lateral--A pipe that conveys raw wastewater and connects the plumbing of a structure to a collection system pipe. For an alternative collection system, a pipe that conveys raw wastewater and connects the plumbing of a structure to an on-site component (e.g., grinder pump, vacuum valve pit, septic tank effluent pump). A building lateral is not a part of a collection system.

Building Laterals are not subject to TCEQ standards and are required to be installed by a plumber in conformance with the Plumbing Code. The Plumbing Code defines this section of pipe as "Building Sewer".

Is a site utility plan provided?

Yes

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**Site Code Comments:**

1. Site Utility Plan Not Provided. Please provide site utility plan.

**1-29-2024 Resolved**

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**Building Code Review:** Plans reviewed for compliance with the 2021 International Building Code and International Existing Building Code

**Description of Work:** New Construction of two story 5,980 sq ft office building.

**Application:** New Construction 2021 IBC, IMC, IPC, IFGC, IECC 2020 NEC

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**Design Professional in Responsible Charge** - A registered design professional engaged by the owner or the owner's authorized agent to review and coordinate certain aspects of the project, as determined by the building official, for compatibility with the design of the building or structure, including submittal documents prepared by others, deferred submittal documents and phased submittal documents.

Wayne R. Lambdin

**TBAE#:** 13667

**Status:** Active

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**Building Code Review:** Plans reviewed for compliance with the 2021 International Building Code and International Existing Building Code

**Occupancy:** B

**Building Area:** 5,980

**Construction Type:** V-B

**Fire Sprinkler System:** No

**Minimum Yard:** TBD

**Unlimited Area Building:** No

**Allowable Area:**

**Basic Allowable Area ( $A_t$ ):** 9,000

*Table 506.2 NS- No Sprinkler, S1 - Single story sprinkled, SM - Multi Story Sprinkled*

**Max Bldg Area:** 6,000 see fire sprinkler requirements

*Total Allowable Area up to 3 Stories*

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**Fire Resistance**

Fire Resistance of Structure

Construction Type: V-B

*See IBC Table 601*

Structural Frame 0 Bearing Walls, Interior 0, Exterior 0

Floor Construction 0 Roof Construction C

Are walls within 10 feet of a property line? TBD

Are unprotected openings within 10 feet of a property line? TBD

Draftstops Required? Yes  
*IBC section 718.4.3*

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## Fire Protection Systems Chapter 9

### Fire Sprinkler Threshold *(IBC Section 903)*

Occupancy: B Threshold: 6,000 sq ft

Building Area exceeds the 6,000 sq ft fire area threshold. Please consult Fire Marshal to confirm fire sprinkler requirements.

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## Exiting

Occupant Load: 45 Exits Required: 1 ea floor

Maximum Travel Distance: 200 Exit Width: 36" min ea

Is Exit Separation Compliant Yes  
*IBC Section 1007.1.1*

Is Common Path of Egress compliant? Yes  
*See IBC Section 1006.2.1*

Is Exit signage required? No  
*See IBC section 1013.1 Exception #1*

Is Emergency exit lighting required? No  
*See IBC Section 1008.3*

Are doors required to swing out? No  
*Occ. Load > 50 see IBC section 1010.1.2.1*

Is panic hardware required? No  
*Groups A & E w/ Occupant Load over 50 & all H occupancies*

Do Doors reduce the required width by more than one-half. No  
*See IBC Section 1005.7.1*

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**Structural:** *This review is a nonstructural review. Structural plans prepared by:*

Is any structural work proposed? Yes

Structural Engineer: Thomas L. Sadler PE

TBPE#: 45440 Specialty: STR Status: Active

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**Building Code Comments: 1-4-2024 Revised building plans submitted.**

1. Permit submittal incomplete. The checklist from the permit application for the city of Keller is inserted below:

**BUILDING PLANS SIZE: 24" x 36"**

- Elevations
- Approved Plat
- Floor plan
- Roof plan
- Door, window, and hardware schedule
- Structural plans
- Foundation plan designed by a State of Texas licensed professional engineer
- Construction details: interior and exterior wall sections, interior finish, interior elevations, etc.
- Mechanical, electrical (including riser diagram), and plumbing (including riser diagram) plans.
- Fire protection plan for fire-rated walls, ceilings, and floors (if applicable)
- Architect's or engineer's seal and signature as required by state law
- Site Plan- Location of building on property and setbacks
- Civil Plans **Required to be provided separately**

**ENERGY PLANS SIZE: 8.5" x 11"**

- COMcheck or equivalent energy code compliance report

**1-4-2024 Please provide utility site plan.**

**1-22-2024 Resolved**

2. Space under stair is not rated. Enclosed space under stairs shall be protected by one-hour fire resistive construction. See IBC section 1011.7.3 inserted below:

**1011.7.3 Enclosures under interior stairways.** The walls and soffits within enclosed usable spaces under enclosed and unenclosed stairways shall be protected by 1-hour fire-resistance-rated construction or the fire-resistance rating of the stairway enclosure, whichever is greater. Access to the enclosed space shall not be directly from within the stairway enclosure.

**1-29-2024 Inspector to confirm**

3. The elevator is to be enclosed by one hour shaft walls. See IBC section 712.1.9. Please provide revised plans with elevator shaft wall extending vertically from first floor to roof deck.

**1-22-2024 Resolved**

4. Architects plans do not confirm stair tread dimensions. Stair tread rise and run shall be compliant with IBC section 1011.5.2 inserted below:

**1011.5.2 Riser height and tread depth.** Stair riser heights shall be 7 inches (178 mm) maximum and 4 inches (102 mm) minimum. The riser height shall be measured vertically between the nosings of adjacent treads. Rectangular tread depths shall be 11 inches (279 mm) minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing.

Please provide revised plans indicating floor depth of the selected floor ceiling assembly (see structural plans) and calculate the rise and run.

### **1-22-2024 Resolved**

5. Handrail height not indicated on plan. Handrails at stairs and ramps shall be located as required by IBC section 1014.2 inserted below:

**1014.2 Height.** Handrail height, measured above stair tread nosings, or finish surface of ramp slope, shall be uniform, not less than 34 inches (864 mm) and not more than 38 inches (965 mm). Handrail height of alternating tread devices and ships ladders, measured above tread nosings, shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

### **1-29-2024 Resolved**

6. No handrail details provided. Unable to confirm handrail cross section dimensions and graspability. Please provide revised plans including handrail details compliant with IBC section 1014.3 inserted below:

**1014.3 Handrail graspability.** Required handrails shall comply with Section 1014.3.1 or shall provide equivalent graspability.

**1014.3.1 Type I.** Handrails with a circular cross section shall have an outside diameter of not less than 1 1/4 inches (32 mm) and not greater than 2 inches (51 mm). Where the handrail is not circular, it shall have a perimeter dimension of not less than 4 inches (102 mm) and not greater than 6 1/4 inches (160 mm) with a maximum cross-sectional dimension of 2 1/4 inches (57 mm) and minimum cross-sectional dimension of 1 inch (25 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

**1014.3.2 Type II.** Handrails with a perimeter greater than 6 1/4 inches (160 mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of not less than 5/16 inch (8 mm) within 7/8 inch (22 mm) below the widest portion of the profile. This required depth shall continue for not less than 3/8 inch (10 mm) to a level that is not less than 1 3/4 inches (45 mm) below the tallest portion of the profile. The width of the handrail above the recess shall be not less than 1 1/4 inches (32 mm) to not greater than 2 3/4 inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

### **1-29-2024 Resolved**

7. No handrail details provided. Unable to confirm handrail extensions at top and bottom of stair runs. Please provide revised plans including handrail details compliant with IBC section 1014.6 inserted below:

**1014.6 Handrail extensions.** Handrails shall return to a wall, guard or the walking surface or shall be continuous to the handrail of an adjacent flight of stairs or ramp run. Where handrails are not continuous between flights, the handrails shall extend horizontally not less than 12 inches (305 mm) beyond the top riser and continue to slope for the depth of one tread beyond the bottom riser. At ramps where handrails are not continuous between runs, the handrails shall extend horizontally above the landing 12 inches (305 mm)

minimum beyond the top and bottom of ramp runs. The extensions of handrails shall be in the same direction of the flights of stairs at stairways and the ramp runs at ramps.

### **1-29-2024 Resolved**

8. No handrail details provided. Unable to confirm handrail clearances or projections. Please provide revised plans including handrail details compliant with IBC section 1014.7 & 1014.8 inserted below:

**1014.7 Clearance.** Clear space between a handrail and a wall or other surface shall be not less than 1 1/2 inches (38 mm). A handrail and a wall or other surface adjacent to the handrail shall be free of any sharp or abrasive elements.

**1014.8 Projections.** On ramps and on ramped aisles that are part of an accessible route, the clear width between handrails shall be 36 inches (914 mm) minimum. Projections into the required width of aisles, stairways and ramps at each side shall not exceed 4 1/2 inches (114 mm) at or below the handrail height. Projections into the required width shall not be limited above the minimum headroom height required in Section 1011.3. Projections due to intermediate handrails shall not constitute a reduction in the egress width. Where a pair of intermediate handrails are provided within the stairway width without a walking surface between the pair of intermediate handrails and the distance between the pair of intermediate handrails is greater than 6 inches (152 mm), the available egress width shall be reduced by the distance between the closest edges of each such intermediate pair of handrails that is greater than 6 inches (152 mm).

### **1-29-2024 Resolved**

9. Plans contain no glazing information. Glazing in hazardous locations shall be labeled safety glazing in accordance with IBC section 2406.4 inserted below:

**2406.4 Hazardous locations.** The locations specified in Sections 2406.4.1 through 2406.4.7 shall be considered to be specific hazardous locations requiring safety glazing materials.

**2406.4.1 Glazing in doors.** Glazing in all fixed and operable panels of swinging, sliding and bifold doors shall be considered to be a hazardous location.

**2406.4.2 Glazing adjacent to doors.** Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge of the glazing is within a 24-inch (610 mm) arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the walking surface shall be considered to be a hazardous location.

**2406.4.3 Glazing in windows.** Glazing in an individual fixed or operable panel that meets all of the following conditions shall be considered to be a hazardous location:

1. The exposed area of an individual pane is greater than 9 square feet (0.84 m<sup>2</sup>).
2. The bottom edge of the glazing is less than 18 inches (457 mm) above the floor.
3. The top edge of the glazing is greater than 36 inches (914 mm) above the floor.
4. One or more walking surface(s) are within 36 inches (914 mm), measured horizontally and in a straight line, of the plane of the glazing.

**2406.4.4 Glazing in guards and railings.** Glazing in *guards* and railings, including structural baluster panels and nonstructural in-fill panels, regardless of area or height above a walking surface shall be considered to be a hazardous location.

**2406.4.5 Glazing and wet surfaces.** Glazing in walls, enclosures or fences containing or facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and indoor or outdoor *swimming pools* where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) measured vertically above any standing or walking surface shall be

considered to be a hazardous location. This shall apply to single glazing and all panes in multiple glazing.

**Exception:** Glazing that is more than 60 inches (1524 mm), measured horizontally and in a straight line, from the water's edge of a bathtub, hot tub, spa, whirlpool or *swimming pool*.

**2406.4.6 Glazing adjacent to stairways and ramps.** Glazing where the bottom exposed edge of the glazing is less than 60 inches (1524 mm) above the plane of the adjacent walking surface of *stairways*, landings between flights of *stairs* and ramps shall be considered to be a hazardous location.

Please provide revised plans indicating safety glazing where needed.

**1-29-2024 Resolved**

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**Accessibility:** *Plans reviewed for compliance with the accessibility provisions of the 2021 International Building Code and International Existing Building Code*

TDLR Project Registration Number 2023017381

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**Energy Code:** *Plans reviewed for compliance with the 2018 International Energy Conservation Code:*

**Comcheck Report**

<b>Envelope Statement Provided:</b>	Provided
<b>Mechanical Statement Provided:</b>	Not Provided
<b>Interior Lighting Statement Provided:</b>	Not Provided
<b>Exterior Lighting Statement Provided:</b>	Yes

**Energy Code Comments:**

1. Please provide comcheck Interior Lighting and Mechanical compliance statement.

**1-29-2024 Resolved**

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**Mechanical:** *Plans reviewed for compliance with the 2021 International Mechanical Code:*

**1-4-2024 Revised building plans submitted.**

**Mechanical Engineer:** Jessica J. Kilgore PE

**TBPE#:** 106106 **Specialty:** CIV **Status:** Active

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**HVAC System Exceed 2000 CFM:** No **Smoke Detectors in Ret Air:** NR



Main and Feeder Sizes

Yes

Grounding location:

Yes

Conduit Size

Yes

Wire Sizes

Yes

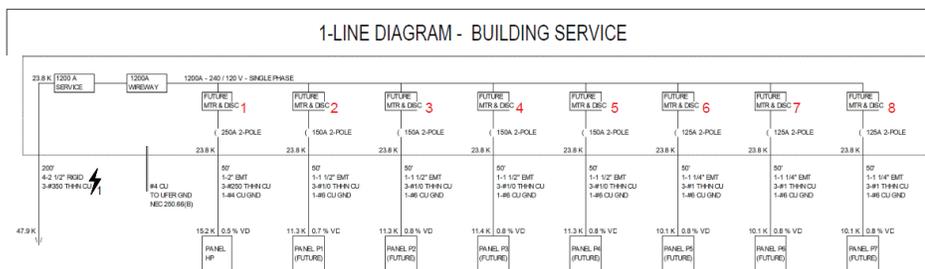
Engineer's fault current calculation:

No

NEC Article 110.22 (B)

Electrical Code Comments: 1-4-2024 Revised building plans submitted.

1. Electrical One-Line Diagram indicates this building to be served with a 1200 A service and wireway with eight meters and disconnects mounted off that wireway.



As drawn, it will take 8 throws of the hand to disconnect power to this building. One set of Service Entrance Conductors shall be permitted to supply up to six service disconnects. There shall be no more than 6 sets of disconnects per service grouped in any one location. NEC 230.71

Please revise plans to provide a compliant number of disconnects for this small office building.

1-29-2024 Resolved

2. Supply fault current calculation and specify Interrupting Rating for overcurrent devices and Short-Circuit Current Ratings for service, feeder, and branch circuit equipment. Reference: NEC sections 110.9, 110.10, 110.24 & 240.86

This is a function of engineering and cannot be deferred to the trades.

1-29-2024 Resolved

**Plumbing:** Plans reviewed for compliance with the 2021 International Plumbing and Fuel Gas Codes:

**Plumbing Engineer:** Jessica J. Kilgore PE

**TBPE#:** 106106 **Specialty:** CIV **Status:** Active

Backflow Device: Water Service: Yes Other Locations: NA

Water Meter Size: TBD Irrigation Meter Size: TBD

Sewer Service Size: 4" Clean Out Spacing: TBD

**Plumbing Fixture Count to be determined at time of tenant finish out.**

**Plumbing Code Comments:**

*Plumbing Code Plans Examiner Tim A. Fleming TSBPE Inspector License I2011*

**1-4-2024 Revised building plans submitted.**

1. No site utility plan provided.
2. The Texas Department of Licensing and Regulation (TDLR) has adopted the 2007 Elevator Code (ASME A17.1-2007/CSA B44-07). That code requires sump pumps to be installed in the elevator pits of Electric Elevators. Such installation must be in compliance with the following requirements:
  1. The sump pump/drain shall have the capacity to remove a minimum of 11.4 m<sup>3</sup>/h (3,000 gal/h) per elevator.
  2. For electric elevators, where there is no expectation of hydraulic fluid or oil contamination, the sump may discharge into the sanitary sewer system.
  3. Where hydraulic elevators are installed a trap or interceptor rated for the "minimum storage capacity", equivalent to the volume of hydraulic fluid or oil that is contained in the system, will be required prior to discharge into the sanitary sewer.
  4. In either situation, discharge to the storm drainage system is not permitted.
  5. Gravity drains that comply with the above provisions should be discussed with the Chief Plumbing Inspector before installation."

Typical elevator details sheet A9.1 indicates a hydraulic elevator. Please confirm type of elevator and revise sump discharge as needed.

**1-29-2024 Resolved**

3. Floor drains are required in public toilet rooms. See 2021 IPC section 412 as amended inserted below:

**412.4 Required location for floor drains ~~Public laundries and central washing facilities.~~ Floor drains shall be installed in the following areas.**

1. In public coin-operated laundries and in the central washing facilities of multiple family dwellings, the rooms containing automatic clothes washers shall be provided with floor drains located to readily drain the entire floor area. Such

drains shall have a minimum outlet of not less than 3 inches (76 mm) in diameter.

2. Commercial kitchens. In lieu of floor drains in commercial kitchens, the code official may accept floor sinks.

3. Public restrooms.

4. Trap Primer Required - Floor drains shall be provided a trap primer or shall be equipped with an approved trap seal device. See 2021 IPC section 1002.4.

***1-29-2024 Resolved***

5. Tempered water is required at all hand washing facilities including lavatories and break room sinks. See IPC section 419.5 inserted below:

**419.5 Tempered water for public hand-washing facilities.** Tempered water shall be delivered from lavatories and group wash fixtures located in public toilet facilities provided for customers, patrons and visitors. Tempered water shall be delivered through an approved water-temperature limiting device that conforms to ASSE 1070/ASME A112.1070/CSA B125.70 or CSA B125.3.

***1-29-2024 Resolved***

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# Interior Lighting Compliance Certificate

**CODE SOLUTIONS INC.**

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

## Project Information

Energy Code: 2018 IECC  
Project Title: 1819 OFFICE BUILDING LOT 6 BLOOMFIELD  
Project Type: New Construction

Construction Site:  
1716 KELLER PARKWAY  
KELLER, Texas 76248

Owner/Agent:  
GARLAND BELL  
EMPIRE BUILDERS  
3477 Vista Highlands Lane  
FORT WORTH, Texas 76135  
405-414-5575  
GB@TXEMPIREGROUP.COM

Designer/Contractor:  
JESSICA KILGORE  
AME ENGINEERING  
3825 W GREEN OAKS BLVD STE  
200  
ARLINGTON, Texas 76016  
817-653-4122  
mail@ameengineer.com

## Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
Reduced Lighting Power, 1.0 credit

## Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1-Common Space Types:Corridor/Transition <8 ft wide	266	0.59	157
2-Common Space Types:Restrooms	110	0.77	85
3-Common Space Types:Lobby - General	115	0.90	104
Total Allowed Watts =			345

## Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
1-Common Space Types:Corridor/Transition <8 ft wide LED - A: RECESS CAN: Other:	1	10	18	180
2-Common Space Types:Restrooms LED - A: RECESS CAN: Other:	1	2	18	36
LED - B: VANITY SCONCE: Other:	1	2	20	40
3-Common Space Types:Lobby - General LED - A: RECESS CAN: Other:	1	4	18	72
Total Proposed Watts =				328

**Interior Lighting PASSES: Design 5% better than code**

## Interior Lighting Compliance Statement

*Compliance Statement:* The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jessica Kilgore, P.E.  
Name - Title

*Jessica Kilgore*  
Signature

11/21/23  
Date



# Exterior Lighting Compliance Certificate

CODE SOLUTIONS INC.

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. COMPLIANCE must be maintained on site for inspectors use only.

## Project Information

Energy Code: 2018 IECC  
 Project Title: 1819 OFFICE BUILDING LOT 6 BLOOMFIELD  
 Project Type: New Construction  
 Exterior Lighting Zone 2 (Neighborhood business district (LZ2))

Construction Site:  
 1716 KELLER PARKWAY  
 KELLER, Texas 76248

Owner/Agent:  
 GARLAND BELL  
 EMPIRE BUILDERS  
 3477 Vista Highlands Lane  
 FORT WORTH, Texas 76135  
 405-414-5575  
 GB@TXEMPIREGROUP.COM

Designer/Contractor:  
 JESSICA KILGORE  
 AME ENGINEERING  
 3825 W GREEN OAKS BLVD STE  
 200  
 ARLINGTON, Texas 76016  
 817-653-4122  
 mail@ameengineer.com

## Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
WALLS (Illuminated area of facade wall or surface)	4648 ft2	0.07	No	349
Total Tradable Watts (a) =				1075
Total Allowed Watts =				1424
Total Allowed Supplemental Watts (b) =				400

- (a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
- (b) A supplemental allowance equal to 400 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

## Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixture	D Fixture Watt.	E (C X D)
<u>SIDEWALKS (Walkway &lt; 10 feet wide, 330 ft of walkway length): Tradable Wattage</u>				
<u>WALLS (Illuminated area of facade wall or surface, 4648 ft2): Non-tradable Wattage</u>				
LED: SC: PTW8-3-13L-120V-40K 13W LED: Other:	1	12	13	156
<u>ENTRY PORCHES (Entry canopy, 232 ft2): Tradable Wattage</u>				
<u>PARKING LOT (Parking area, 12067 ft2): Tradable Wattage</u>				
<u>CONCRETE WALK (Walkway &gt;= 10 feet wide, 616 ft2): Tradable Wattage</u>				
<u>ADA RAMPS/STAIRS (Stairway, 440 ft2): Tradable Wattage</u>				
Total Tradable Proposed Watts =				0

**Exterior Lighting Compliance Statement**

*Compliance Statement:* The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jessica Kilgore, P.E.  
Name - Title

*Jessica Kilgore*  
Signature

11/21/23  
Date



# COMcheck Software Version COMcheckWeb Mechanical Compliance Certificate

## CODE SOLUTIONS INC.

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

### Project Information

Energy Code: 2018 IECC  
Project Title: 1819 OFFICE BUILDING LOT 6 BLOOMFIELD  
Location: Keller, Texas  
Climate Zone: 3a  
Project Type: New Construction

Construction Site:  
1716 KELLER PARKWAY  
KELLER, Texas 76248

Owner/Agent:  
GARLAND BELL  
EMPIRE BUILDERS  
3477 Vista Highlands Lane  
FORT WORTH, Texas 76135  
405-414-5575  
GB@TXEMPIREGROUP.COM

Designer/Contractor:  
JESSICA KILGORE  
AME ENGINEERING  
3825 W GREEN OAKS BLVD STE  
200  
ARLINGTON, Texas 76016  
817-653-4122  
mail@ameengineer.com

### Additional Efficiency Package(s)

Credits: 1.0 Required 1.0 Proposed  
Reduced Lighting Power, 1.0 credit

### Mechanical Systems List

#### Quantity System Type & Description

- 1 HP-1 (Unknown):  
VRF Condensing Unit, Air Cooled Heat Pump  
Heating Mode: Capacity = 24 kBtu/h,  
No minimum efficiency requirement applies  
Cooling Mode: Capacity = 23 kBtu/h,  
No minimum efficiency requirement applies  
Fan System: None
- 1 FCU-1 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 8 kBtu/h, Unknown Economizer  
No minimum efficiency requirement applies
- 1 FCU-2 (Single Zone):  
Cooling: 1 each - VRF Zone Fan Unit, Capacity = 16 kBtu/h, Unknown Economizer  
No minimum efficiency requirement applies
- 2 EWH:  
Electric Instantaneous Water Heater, Capacity: 1 gallons  
No minimum efficiency requirement applies

### Mechanical Compliance Statement

**Compliance Statement:** The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2018 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Jessica Kilgore, P.E.  
Name - Title

  
Signature

11/21/23  
Date

# OFFICE BLDG. (SHELL) - LOT 6 BLOOMFIELD

1716 KELLER PARKWAY  
KELLER, TEXAS

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES, INCLUDING THE FOLLOWING:  
2021 INTERNATIONAL BUILDING CODE  
2021 INTERNATIONAL MECHANICAL CODE  
2021 INTERNATIONAL PLUMBING CODE  
2020 NATIONAL ELECTRICAL CODE  
2021 INTERNATIONAL FIRE CODE  
2021 INTERNATIONAL ENERGY CODE  
AMERICANS WITH DISABILITIES ACT

#### SPECIAL INSPECTION REQUIREMENTS

THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING PERIODIC SPECIAL INSPECTIONS BY A QUALIFIED REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR EACH PORTION OF THE WORK. SPECIAL INSPECTION REQUIREMENTS TO COMPLY WITH SECTION 1704 OF THE INTERNATIONAL BUILDING CODE. SUCH INSPECTIONS SHALL INCLUDE: THE FOUNDATION, TRUSSES, WALL AND WIND WIND SHEAR BRACING.

#### NOTICE:

THESE DOCUMENTS AND RELATED CONTRACT DOCUMENTS WERE PREPARED SPECIFICALLY FOR THE CONSTRUCTION LOCATION AT:  
1716 KELLER PARKWAY  
KELLER, TEXAS

ALL PLANS, DETAILS, SCHEDULES, SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS ARE COPYRIGHTED BY LAMBDIN ARCHITECTS, 2019, AND ARE PROTECTED BY ALL APPLICABLE COPYRIGHT LAWS, AND THEIR USE, IN WHOLE OR IN PART, FOR ANY OTHER BUILDING OR CONSTRUCTION PROJECT IS STRICTLY PROHIBITED.

THE SEAL OF THE ARCHITECT AND ENGINEERS AFFIXED TO THESE CONTRACT DOCUMENTS ARE PROTECTED BY SPECIFIC LICENSING REGULATIONS OF THE STATE OF TEXAS, AND THEIR USE BY ANY OTHER PERSON, FOR ANY OTHER CONSTRUCTION PROJECT, OR FOR ANY OTHER PURPOSE IS STRICTLY FORBIDDEN.

CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION. THE LIMITS OF DESIGNER/ARCHITECT'S LIABILITY NOT TO EXCEED FEE PAID FOR SERVICES AND PLANS.

CONSTRUCTION TO MEET ALL FEDERAL, STATE AND LOCAL CODES INCLUDING STATE ENERGY CODE REQUIREMENTS.

THE TEXAS BOARD OF ARCHITECTURAL EXAMINERS HAS JURISDICTION OVER COMPLAINTS REGARDING THE PROFESSIONAL PRACTICES OF PERSONS REGISTERED AS ARCHITECTS IN TEXAS.

TEXAS BOARD OF ARCHITECTURAL EXAMINERS  
P.O. BOX 12337  
AUSTIN, TEXAS 78711-2337  
TELEPHONE: 512.305.9000  
FAX: 512.305.8900

#### PROJECT DATA

LOT SIZE 0.473  
OCCUPANCY TYPE BUSINESS GROUP B  
CONSTRUCTION TYPE V-B  
NOT SPRINKLED  
TOTAL BUILDING AREA 5,997 S.F. (1,869 UP, 4,128 DN)  
TOTAL BUILDING HEIGHT 29'-4"

OCCUPANCY 38 PEOPLE

PARKING	REQUIRED	PROVIDED
SPACES REQ'D.	20	27
ACCESSIBLE	1	1

TDLR REGISTRATION# TAB52023017381

#### INDEX OF DRAWINGS

Cover Sheet  
Certified Plat  
A0.1 Typical Abbreviations  
A0.2 General Notes  
A1.1 Site Plan  
C5.1 SITE WATER PLAN  
C6.1 SITE SANITARY SEWER PLAN  
A2.1 1 ST. Floor Plan  
A2.2 2 ND.Floor Plan  
A2.4 Roof Plan  
A3.1 Exterior Elevations  
A3.2 Exterior Elevations  
A4.1 Schedules  
A5.1 Millwork Detail  
A6.1 Typical Framing  
A6.2 Stair Section  
A7.1 Life Safety Plan  
A7.2 Schedule Details  
A8.1 Commcheck Page 1 And 2



VICINITY MAP

#### NOTE TO CONTRACTOR

#### Accessibility Standards

These plans have not been reviewed for compliance with any accessibility standards. Please contact the Texas Department of Licensing and Regulation for information relating to accessibility requirements for this project.

These plans have been marked with notes to assist the contractor and inspector deliver a code compliant building. The contractor and inspector are to review these notes and obtain clarification if needed.

STRUCTURAL ENGINEER  
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**APPROVED**

#### CODE SOLUTIONS INC.

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

DATE ISSUED:	FREL
DATE REV.:	4-1-2023
DATE REV.:	10-11-2023
DATE REV.:	11-19-2023
DATE REV.:	12-14-2023
DATE REV.:	1-19-2024



**TARRANT COUNTY TAX OFFICE**  
100 E. Weatherford, Room 105 • Fort Worth, Texas 76196-0301 • 817-884-1100  
taxoffice@tarrantcounty.com  
In God We Trust

**RON WRIGHT**  
Tax Assessor-Collector

TAX CERTIFICATE FOR ACCOUNT: 00003852848		DATE: 4/12/2018	PAGE 1 OF 1
AD NUMBER: A-04-1A	FEE: \$10.00	PROPERTY DESCRIPTION	
CERTIFICATE NO: 73741277		DUNHAM, J A SURVEY ABSTRACT	
COLLECTING AGENCY		424 TRACT 1A	
RON WRIGHT			
PO BOX 961019			
FORT WORTH TX 76181-0019			
REQUESTED BY	000172Z KELLER PKWY		
170 PLAYERS	3.998 ACRES		
	PROPERTY OWNER		
	170 PLAYERS LLC		
151 PLAYERS CIRCLE SUITE 200			
SOUTH LAKE TX 76092	170 PLAYERS CIR		
	SOUTH LAKE TX 760928942		

YEAR	TAX UNIT	AMOUNT DUE
2017	CITY OF KELLER	\$0.00
2017	Tarrant County	\$0.00
2017	JPS HEALTH NETWORK	\$0.00
2017	TARRANT COUNTY COLLEGE	\$0.00
2017	KELLER ISD	\$0.00
TOTAL		\$0.00

ISSUED TO: 170 PLAYERS  
ACCOUNT NUMBER: 00003852848  
TOTAL CERTIFIED TAX: \$0.00

As Deputy Tax Assessor/Collector for Tarrant County, I do hereby certify pursuant to Texas Property Tax Code Section 31.08 that the delinquent taxes, penalties and attorney fees due for only the above described property are as listed below according to the current tax records. Additional taxes may become due on the described property, which are not reflected herein, if the said described property has or is receiving any special statutory valuations that may trigger tax rollback provisions and other changes to the appraisal roll made subsequent to the issuance of this certificate.

This certificate applies to ad valorem taxes only and does not apply to any special assessment levies.

*[Signature]* Deputy

**MARY LOUISE GARCIA**  
COUNTY CLERK  
100 West Weatherford Fort Worth, TX 76198-0401  
PHONE (817) 884-1195

**MONTAGE DEVELOPMENT COMPANY LLC**  
151 PLAYERS CIRCLE STE 200  
SOUTH LAKE, TX 76092

Submitter: MONTAGE DEVELOPMENT COMPANY LLC

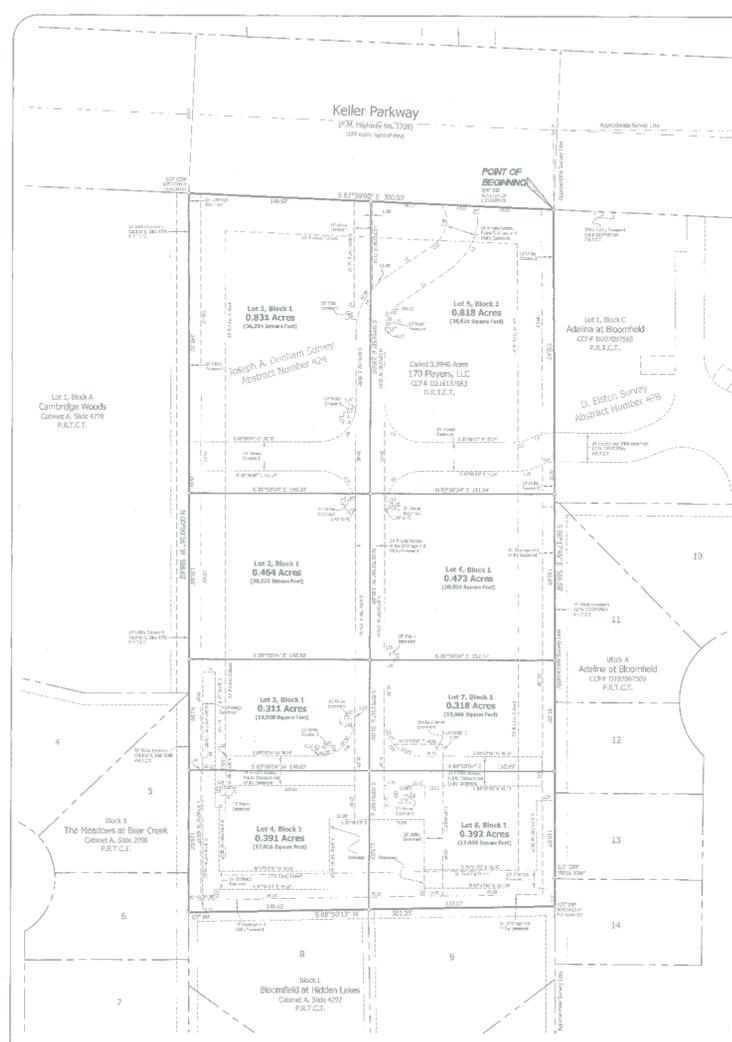
**DO NOT DESTROY**  
**WARNING - THIS IS PART OF THE OFFICIAL RECORD.**

Filed For Registration: 4/12/2018 10:52 AM  
Instrument #: D218077655  
PLAT A 3 PGS \$85.00

By: *[Signature]*  
D218077655

ANY PROVISION WHICH RESTRICTS THE SALE, RENTAL OR USE OF THE DESCRIBED REAL PROPERTY BECAUSE OF COLOR OR RACE IS INVALID AND UNENFORCEABLE UNDER FEDERAL LAW.

BLOOMFIELD ADDITION



Page 2 of 3

LINE	LENGTH	BEARING	POINT	BEARING	POINT
1	12.34	S 89° 57' 00" E	100.00	S 89° 57' 00" E	112.34
2	12.34	S 89° 57' 00" E	112.34	S 89° 57' 00" E	124.68
3	12.34	S 89° 57' 00" E	124.68	S 89° 57' 00" E	137.02
4	12.34	S 89° 57' 00" E	137.02	S 89° 57' 00" E	149.36
5	12.34	S 89° 57' 00" E	149.36	S 89° 57' 00" E	161.70
6	12.34	S 89° 57' 00" E	161.70	S 89° 57' 00" E	174.04
7	12.34	S 89° 57' 00" E	174.04	S 89° 57' 00" E	186.38
8	12.34	S 89° 57' 00" E	186.38	S 89° 57' 00" E	198.72
9	12.34	S 89° 57' 00" E	198.72	S 89° 57' 00" E	211.06
10	12.34	S 89° 57' 00" E	211.06	S 89° 57' 00" E	223.40
11	12.34	S 89° 57' 00" E	223.40	S 89° 57' 00" E	235.74
12	12.34	S 89° 57' 00" E	235.74	S 89° 57' 00" E	248.08
13	12.34	S 89° 57' 00" E	248.08	S 89° 57' 00" E	260.42
14	12.34	S 89° 57' 00" E	260.42	S 89° 57' 00" E	272.76
15	12.34	S 89° 57' 00" E	272.76	S 89° 57' 00" E	285.10
16	12.34	S 89° 57' 00" E	285.10	S 89° 57' 00" E	297.44
17	12.34	S 89° 57' 00" E	297.44	S 89° 57' 00" E	309.78
18	12.34	S 89° 57' 00" E	309.78	S 89° 57' 00" E	322.12
19	12.34	S 89° 57' 00" E	322.12	S 89° 57' 00" E	334.46
20	12.34	S 89° 57' 00" E	334.46	S 89° 57' 00" E	346.80
21	12.34	S 89° 57' 00" E	346.80	S 89° 57' 00" E	359.14
22	12.34	S 89° 57' 00" E	359.14	S 89° 57' 00" E	371.48
23	12.34	S 89° 57' 00" E	371.48	S 89° 57' 00" E	383.82
24	12.34	S 89° 57' 00" E	383.82	S 89° 57' 00" E	396.16
25	12.34	S 89° 57' 00" E	396.16	S 89° 57' 00" E	408.50
26	12.34	S 89° 57' 00" E	408.50	S 89° 57' 00" E	420.84
27	12.34	S 89° 57' 00" E	420.84	S 89° 57' 00" E	433.18
28	12.34	S 89° 57' 00" E	433.18	S 89° 57' 00" E	445.52
29	12.34	S 89° 57' 00" E	445.52	S 89° 57' 00" E	457.86
30	12.34	S 89° 57' 00" E	457.86	S 89° 57' 00" E	470.20
31	12.34	S 89° 57' 00" E	470.20	S 89° 57' 00" E	482.54
32	12.34	S 89° 57' 00" E	482.54	S 89° 57' 00" E	494.88
33	12.34	S 89° 57' 00" E	494.88	S 89° 57' 00" E	507.22
34	12.34	S 89° 57' 00" E	507.22	S 89° 57' 00" E	519.56
35	12.34	S 89° 57' 00" E	519.56	S 89° 57' 00" E	531.90
36	12.34	S 89° 57' 00" E	531.90	S 89° 57' 00" E	544.24
37	12.34	S 89° 57' 00" E	544.24	S 89° 57' 00" E	556.58
38	12.34	S 89° 57' 00" E	556.58	S 89° 57' 00" E	568.92
39	12.34	S 89° 57' 00" E	568.92	S 89° 57' 00" E	581.26
40	12.34	S 89° 57' 00" E	581.26	S 89° 57' 00" E	593.60
41	12.34	S 89° 57' 00" E	593.60	S 89° 57' 00" E	605.94
42	12.34	S 89° 57' 00" E	605.94	S 89° 57' 00" E	618.28
43	12.34	S 89° 57' 00" E	618.28	S 89° 57' 00" E	630.62
44	12.34	S 89° 57' 00" E	630.62	S 89° 57' 00" E	642.96
45	12.34	S 89° 57' 00" E	642.96	S 89° 57' 00" E	655.30
46	12.34	S 89° 57' 00" E	655.30	S 89° 57' 00" E	667.64
47	12.34	S 89° 57' 00" E	667.64	S 89° 57' 00" E	680.00
48	12.34	S 89° 57' 00" E	680.00	S 89° 57' 00" E	692.36
49	12.34	S 89° 57' 00" E	692.36	S 89° 57' 00" E	704.72
50	12.34	S 89° 57' 00" E	704.72	S 89° 57' 00" E	717.08
51	12.34	S 89° 57' 00" E	717.08	S 89° 57' 00" E	729.44
52	12.34	S 89° 57' 00" E	729.44	S 89° 57' 00" E	741.80
53	12.34	S 89° 57' 00" E	741.80	S 89° 57' 00" E	754.16
54	12.34	S 89° 57' 00" E	754.16	S 89° 57' 00" E	766.52
55	12.34	S 89° 57' 00" E	766.52	S 89° 57' 00" E	778.88
56	12.34	S 89° 57' 00" E	778.88	S 89° 57' 00" E	791.24
57	12.34	S 89° 57' 00" E	791.24	S 89° 57' 00" E	803.60
58	12.34	S 89° 57' 00" E	803.60	S 89° 57' 00" E	815.96
59	12.34	S 89° 57' 00" E	815.96	S 89° 57' 00" E	828.32
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61	12.34	S 89° 57' 00" E	840.68	S 89° 57' 00" E	853.04
62	12.34	S 89° 57' 00" E	853.04	S 89° 57' 00" E	865.40
63	12.34	S 89° 57' 00" E	865.40	S 89° 57' 00" E	877.76
64	12.34	S 89° 57' 00" E	877.76	S 89° 57' 00" E	890.12
65	12.34	S 89° 57' 00" E	890.12	S 89° 57' 00" E	902.48
66	12.34	S 89° 57' 00" E	902.48	S 89° 57' 00" E	914.84
67	12.34	S 89° 57' 00" E	914.84	S 89° 57' 00" E	927.20
68	12.34	S 89° 57' 00" E	927.20	S 89° 57' 00" E	939.56
69	12.34	S 89° 57' 00" E	939.56	S 89° 57' 00" E	951.92
70	12.34	S 89° 57' 00" E	951.92	S 89° 57' 00" E	964.28
71	12.34	S 89° 57' 00" E	964.28	S 89° 57' 00" E	976.64
72	12.34	S 89° 57' 00" E	976.64	S 89° 57' 00" E	989.00
73	12.34	S 89° 57' 00" E	989.00	S 89° 57' 00" E	1001.36
74	12.34	S 89° 57' 00" E	1001.36	S 89° 57' 00" E	1013.72
75	12.34	S 89° 57' 00" E	1013.72	S 89° 57' 00" E	1026.08
76	12.34	S 89° 57' 00" E	1026.08	S 89° 57' 00" E	1038.44
77	12.34	S 89° 57' 00" E	1038.44	S 89° 57' 00" E	1050.80
78	12.34	S 89° 57' 00" E	1050.80	S 89° 57' 00" E	1063.16
79	12.34	S 89° 57' 00" E	1063.16	S 89° 57' 00" E	1075.52
80	12.34	S 89° 57' 00" E	1075.52	S 89° 57' 00" E	1087.88
81	12.34	S 89° 57' 00" E	1087.88	S 89° 57' 00" E	1100.24
82	12.34	S 89° 57' 00" E	1100.24	S 89° 57' 00" E	1112.60
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87	12.34	S 89° 57' 00" E	1162.04	S 89° 57' 00" E	1174.40
88	12.34	S 89° 57' 00" E	1174.40	S 89° 57' 00" E	1186.76
89	12.34	S 89° 57' 00" E	1186.76	S 89° 57' 00" E	1199.12
90	12.34	S 89° 57' 00" E	1199.12	S 89° 57' 00" E	1211.48
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93	12.34	S 89° 57' 00" E	1236.20	S 89° 57' 00" E	1248.56
94	12.34	S 89° 57' 00" E	1248.56	S 89° 57' 00" E	1260.92
95	12.34	S 89° 57' 00" E	1260.92	S 89° 57' 00" E	1273.28
96	12.34	S 89° 57' 00" E	1273.28	S 89° 57' 00" E	1285.64
97	12.34	S 89° 57' 00" E	1285.64	S 89° 57' 00" E	1298.00
98	12.34	S 89° 57' 00" E	1298.00	S 89° 57' 00" E	1310.36
99	12.34	S 89° 57' 00" E	1310.36	S 89° 57' 00" E	1322.72
100	12.34	S 89° 57' 00" E	1322.72	S 89° 57' 00" E	1335.08

LINE	LENGTH	BEARING	POINT	BEARING	POINT
1	12.34	S 89° 57' 00" E	100.00	S 89° 57' 00" E	112.34
2	12.34	S 89° 57' 00" E	112.34	S 89° 57' 00" E	124.68
3	12.34	S 89° 57' 00" E	124.68	S 89° 57' 00" E	137.02
4	12.34	S 89° 57' 00" E	137.02	S 89° 57' 00" E	149.36
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6	12.34	S 89° 57' 00" E	161.70	S 89° 57' 00" E	174.04
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24	12.34	S 89° 57' 00" E	383.82	S 89° 57' 00" E	396.16
25	12.34	S 89° 57' 00" E	396.16	S 89° 57' 00" E	408.50
26	12.34	S			

DATE ISSUED:	PREL
DATE REV.:	4-1-2023
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# TYPICAL ABBREVIATIONS

## ABBREVIATIONS

<b>A</b>		<b>CP</b>	Cement Plaster	<b>EXT</b>	Exterior	<b>H</b>	High	<b>M</b>	Machine	<b>S</b>	Spacing As Noted	<b>W</b>	Wide
A	Ampere	CPT	Carpet	EW	Electric Wall Heater	H	High	M	Maintenance	SAN	Schedule	W	With
A/C	Air Conditioning	CT	"Current Transformer,"	ESMT	Easement	H/C	Hardware Cloth	MAINT	Manual	SC	Solid Care	W/	With
AB	Anchor Bolt	CTR	"Center, Contractor"	ELAS	Elastic	HB	Hose Bib	MAN	Material	SCHED	Schedule	W/O	Without
ABV	Above	CU	"Copper, Condensing Unit"	EF	Each Face	HDBD	Hardboard	MAX	Maximum	SD	"Soap Dispenser, Storm	WB	Wet Bulb
AC	"Alternating Current, Acoustical,"	CW	Cold Water	EP	Electric Panel	HDCP	Handicapped	MAT	1000 BTUH Per Hour	SECT	Section	WC	Water Closet
Air Conditioner		CAB	Cabinet	ESC	Escalator	HDWR	Hardware	MDS	Main Distribution Switchboard	SE	Service	WD	Wood
ACC	Access(ible)	CAN	Canvas	EST	Estimate	HID	High Intensity D	MDSE	Mechanical	SF	"Square Foot(age), Supply	WDW	Window
ACFL	Access Floor	CSMT	Casement	EXG	Existing	HOA	Hollow Metal	MECH	Mechanical	Fan"	Fan"	WG	"Wire Guard, Water Gauge"
ACPL	Acoustical Plaster	CI	Cast Iron	EXMP	Expanded Metal Plate	HOR	Horizontal	MEMB	Membrane	SH	Shelf	WHM	Watt Hour Meter
ACR	Acrylic Plastic	CST	Cast Stone	EB	Expansion Bolt	HP	High Point	MET	Metal	SH	"Sensible Heat Ratio,	WI	Wrought Iron
ACT	"Acoustical Title, Actual"	CB	Catch Basin	EJT	Expansion Joint	HPS	High Pressure Sodium	MFR	Manufacturer	SHT	Shower"	WP	"Waterproofing, Waterproof"
AD	Area Drain	CLG	Ceiling			HR	Hour	MGMNT	Management	SHT	Sheet	WR	Waste Receptacle
ADDL	Additional	CHT	Ceiling Height	F	"Fuse(d), Fixture Number"	HT	Height	MGR	Manager	SIM	Similar	W.R.	Water Resistant
ADH	Adhesive	CEM	Cement	FA	Fire Alarm	HTG	Heating	MH	Manhole	SL	Slope	WRSCT	Weatherstrip
AFF	Above Finished Floor	CM	Centimeter(s)	FACP	Fire Alarm Control Panel	HTR	Heater	MIN	"Minimum, Minute"	SLNT	Sealant	WT	Wainscott
AGG	Aggregate	CER	Ceramic	FAF	Forced Air Furnace	HV	High Voltage	MISC	Miscellaneous	SLR	Sealer	WWF	Welded Wire Fabric
ADJ	"Adjustable, Adjacent"	CHAM	Chamfer	FCW	Filtered Cold Water	HVAC	Heating/Ventilating/Air	MM	Millimeter	SND	Sanitary Napkin Dispenser		
ALT	Alternate	CHIM	Chimney	FDN	Floor Drain	Conditioning		MO	Masonry Opening	SNR	Sanitary Napkin Receptor		
ALUM	Aluminum	CR	Chromium	FD	Floor Drain	HW	Hot Water	MOT	Motor(ized)	*SP	"Static Pressure, Spare"	Y	Yard
ANC	Anchor, Anghorage	CIR	Circle	FDN	Foundation	HYD	Hydrant	MSS	Manual Motor Starter Switch	SPEC	Specification(s)		
ANOD	Anodized	CIRC	Circumference	FFE	Finished Floor Evaluation	HRL	Handrail	MTD	Mount(ing), (ed)	SPK	Speaker		
ANT	Antenna	CLS	Closure	FG	Full Glass	HWD	Hardwood	MT	"Empty, Mat"	SPKLR	Speaker		
AP	Access Panel	CGL	Coated Glass	FIN	Finish(ed)	HDR	Header			SQ	Square		
APPROX	Approximate(ly)	COMB	Combination	FIXT	Fixture	HD	Heavy Duty	N	Neutral	SS	"Sanitary Sewer, Start-Stop"		
ARCH	Architectural	COM	Common	FL	Floor	HCR	Hollow Core	N	Neutral	SSD	See Structural Drawings		
ASPH	Asphalt	COMPMT	Compartment	FLA	Full Load Amps			N/A	Not Applicable	SKK	Service Sink (Slop Sink)		
AT	Asphalt Tile	COMPO	Composition, Composite	FLEX	Flexible	I	Inside Diameter	NC	Normally Closed	SIS	Stainless Steel		
ATM	Automatic Teller Machine	CG	Corner Guard	FLG	Flange	ID	"Inch, Intermediate Nailing"	NF	"Near Face, Non Fused"	STD	Standard		
ATS	Automatic Transfer Switch	CORR	Corrugated	FLUOR	Fluorescent	IN	"Inch, Intermediate Nailing"	N.I.C.	Not in Contract	STIFF	Stiffener		
AUTO	Automatic	CTR	Counter	FPI	Fins Per Inch	INCAND	Incandescent	NO	"Normally Open, Number"	STL	Steel		
AWG	American Wire Gage	CS	Countersink	FR	Frame(d), (ing)	INFO	Information	NOM	Nominal	STOR	Storage		
AWN	Awning	CRS	Course	FS	Far Side	INSUL	Insulation	NS	"Near Side, Non-Slip"	STR	Starter		
		CFT	Cubic Foot	FT	Foot	INT	Interior	NTS	Not To Scale	STRUC	Structure(d)		
		CYD	Cubic Yard	FTG	Footing	INV	Invert			SUP	Supply		
				FUT	Future	IPS	Interior Paint System	O	Outside Air, Overall	SUSP	Suspended		
B	Bottom of			FVS	Fixed Vinyl Strip	ISOL	Isolation (Joint)	OA	On Center, Center to Center	SW	Switch		
B/O	Battery	D	Dry Bulb	FOC	Face Of Concrete	INCLN	Incinerator	OC	Office	SWBD	Switchboard		
BAT	Board	DB	Double	FOF	Face Of Finish	INCL	Include, (ed), (ing)	OD	Overflow Drain	SWGR	Switchgear		
BD	Between	DC	Direct Current	FOH	Front Of House	INS	Insulate, (ed), (ing)	OH	Overhead	SYM	Symmetrical		
BET	Breaker	DEG	Degrees	FOM	Face Of Masonry	INSC	Insulating Concrete	OP	Operations	SYS	System		
BKR	Building	DEPT	Department	FOS	Face Of Sluds	IGL	Insulating Glass	OPNG	Opening	T	Thermostat		
BLDG	Blocking	DET	Detector	FAS	Fasten, Fasteners	INTM	Intermediate	OPP	Opposite	T	Tongue and Groove		
BLKG	Beam	DF	Drinking Fountain	FN	Fence			OWN	Owner	T & G	Thermostat		
BM	Boundary Nailing	DIA	"Diameter, Diagonal"	FBD	Fiberwood	J	Janitor	P	Pale	T-STAT	Thermostat		
BRG	Bearing	DIFF	Diffuser	FGL	Fiberglass	JAN	Janitor	P	Pale	T/O, TO	Top of		
BTM	Bottom	DIM	Dimension	FFE	Finished Floor E	J-B	Joist Bearing Elevation	PB	Pushbutton	TB	Towel Bar		
BTU	British Thermal Unit	DISC	Disconnect	FFL	Finished Floor L	JBE	Joist Bearing Elevation	PCP	Precast Wall Panel	TD	Towel Dispenser		
BTUH	British Thermal Unit Per Hour	DISP	Dispenser	FE	Fire Extinguisher	JG	Joist Girder	PENET	Penetration	TECH	Technical		
BSMT	Basement	DIST	Distribution	FEC	Fire Extinguisher	JST	Joist	PIV	Post Indicator Valve	TEL	Telephone		
BL	Base Line	DIV	Division	FHS	Fire Hose Static	JT	Joint	PL	Plate	TEMP	"Temperature, Temporary"		
BPL	Bearing Plate	DND	Down	FPL	Fireplace	JF	Joint Filter	PLC	Power Line Carrier	TG	Transfer Grille		
BEL	Below	DR	Door	FRT	Fire-Retardant	K	Kydex	PLF	Pounds per Lineal Foot	TF	Transfer Fan		
RMA	Rench Mark	DTL	Detail	FLG	Flashing	K	1000 Circular Mills	PLM	Plastic Laminate	TFE	Top of Footing Elevation		
BVL	Beveled	DWG	Drawing	FGL	Float Glass	KIT	Kitchen	PNL	Panel Nailing	THD	Threaded		
BS	Both Sides	DWL	Dowel	FLR	Floor(ing)	KLF	Klips per Lineal Foot	PNL	Panel	THK	Thick(ness)		
BRKT	Bracket	DWP	Dampproofing	FL	Flow Line	KO	Knockout	PN	Panel	THRES	Threshold		
BRS	Brass	DPR	Damper	FJ	Flush Joint	KNT	Kips per Square Inch	PNL	Panel	TOD	Top of Deck		
BRK	Brick	DP	Dampproofing	FL	Flow Line	KNT	Knockout	POS	Point of Sale	TOF	Top of Framing		
BRZ	Bronze	DL	Dead Load	FJT	Furred, (ing)	KSI	Kips per Square Inch	PP	Power Pole	TOM	Top of Masonry		
BO	By Owner	DEM	Demolish, Demolition	FUR	Furred, (ing)	KV	Kilovolt	PREP	Preparation	TOP	Top of Parapet		
BOH	Back of House	DMT	Demountable	G	Gas Piping, Ground	KVA	Kilovolt Amp	PRV	Power Roof Ventilator	TPH	Toilet Paper Holder		
BUR	Built Up Roofing	DSP	Dispenser	DTA	Dovetail Anchor	KW	Kilowatt	FSF	Pounds per Square Foot	TPTN	Toilet Partition		
		DTA	Dovetail Anchor Slot	DS	Sown Spout	KWH	Kilowatt Hour	FSI	Pounds per Square Inch	TR	Transfer		
		DTS	Dovetail Anchor Slot	DT	Drain Tile	GALV	Galvanized	PWR	Power	TRANSF	Transformer		
		DS	General Contractor	DWR	Drawer	GCN	Garden Center			TS	Thermal Switch		
		DT	Drain Tile	DWG	Drawing	GEN	General	L	"Length, Angle"	TSP	Total Static Pressure		
		DWR	Drawer	DF	Drinking Fountain	GFI	Ground Fault Interrupt	L	Location	TEL	Television		
		DWG	Drawing	DW	Dumbwaiter	GH	Gravity Intake Hood	LAT	Leaving Air Temperature	TYP	Typical		
		DF	Drinking Fountain			GL	Glass, Glazing	LAV	Lavatory	U	Undercut		
		DW	Dumbwaiter			GLU-LAM	Glued Laminated	LB	Pound	UH	Unit Header		
		E	Existing			LLH	Long Leg Horizontal	LLV	Long Leg Vertical	UON	Unless Otherwise Noted		
		(E)	Existing			GND	Ground	LOC	Location	UR	Urinal		
		EA	Each			GPM	Gallons Per Minute	LT	Light	US	Underside		
		EAT	Entering Air Temperature			GR	Grade	LTG	Lighting	UTIL	Utility		
		EER	Energy Efficiency Ratio			GYP	Gypsum	LV	Low Voltage				
		EFA	Exhaust Fan			GYP BD	Gypsum Board	LVT	Low Voltage				
		EFS	Exterior Finish System			GKT	Gasket(ed)	LVR	Louver				
		ELEV	Elevation			GC	General Contractor	LBL	Label				
		ELEC	Electric(al)			GLB	Glass Block	LAB	Laboratory				
		EMBED	"Embedment, Embedded"			GB	Grab Bar						

# GENERAL NOTES

- CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS AND NOTIFY ARCHITECT OF ANY DISCREPANCIES WITH PLANS AND AS-BUILT CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.
- DO NOT SCALE DRAWINGS; DIMENSIONS GOVERN. LARGE SCALE DETAILS GOVERN OVER SMALL SCALE DETAILS.
- THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, INSPECTION FEES, AND DEPOSITS REQUIRED FOR THE INSTALLATION OF ALL WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CALL FOR LOCAL INSPECTIONS AND OBTAIN APPROVAL FROM THE CITY OF KELLER INSPECTORS.
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING PERFORMANCE OF THE WORK.
- UNLESS OTHERWISE PROVIDED IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL PROVIDE AND PAY FOR ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, CONSTRUCTION EQUIPMENT, MACHINERY, TRANSPORTATION AND OTHER FACILITIES AND SERVICES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
- ALL WORK TO BE DONE IN A PROFESSIONAL WORKMANLIKE MANNER AND IN ACCORDANCE WITH THE CITY CODES AND ALL OTHER STATE AND LOCAL CODES THAT HAVE AUTHORITY OVER THIS PROJECT.
- CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT FINISHED STRUCTURE. THEY DO NOT INDICATE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT STRUCTURE AND PERSONNEL DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, EXCAVATION PROTECTION, SCAFFOLDING, JOB SITE SAFETY, ETC. OBSERVATION VISITS TO THE SITE BY ARCHITECT, OWNER, OR ENGINEER SHALL NOT INCLUDE INSPECTION OF ABOVE ITEMS.
- IT IS THE RESPONSIBILITY OF CONTRACTOR TO SUPERVISE AND COORDINATE VARIOUS TRADES ON BUILDING FACE TO ALLOW SUFFICIENT ROOM FOR ALL EQUIPMENT.
- ALL WOOD BLOCKING TO BE FIRE RETARDANT TREATED. ALL WOOD IN CONTACT WITH MASONRY OR CONCRETE TO BE WOLMANIZED.
- STOREFRONT AND CURTAINWALL SYSTEMS SHOWN ARE THE RESULT OF PRELIMINARY ENGINEERING BY MANUFACTURER. DETAILS SHALL BE USED FOR BIDDING PURPOSES ONLY. SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER PREPARED BY AND BEARING THE SEAL OF A REGISTERED PROFESSIONAL ENGINEER. LOAD CALCULATIONS SHALL REFLECT SUCH DESIGN VALUES AS REQUIRED BY THE CITY AND THE PROJECT MANUAL (THE MOST RESTRICTIVE REQUIREMENTS SHALL GOVERN).
- THE CONTRACTOR SHALL NOT STORE BUILDING MATERIALS, STAGE CONSTRUCTION OPERATIONS FROM, NOR GAIN ACCESS TO THE CONSTRUCTION SITE OVER ADJACENT PROPERTIES, UNLESS SPECIFIC WRITTEN PERMISSION IS RECEIVED. CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR RESTORATION TO ORIGINAL CONDITIONS.
- NO PIPING SHALL RUN EXPOSED ON EXTERIOR OF BUILDING WITHOUT ARCHITECTS APPROVAL ANY PIPING, CONDUIT, ETC. RUN ON THE EXTERIOR FACE OF THE BUILDING SHALL BE PAINTED TO MATCH THE ADJACENT SURFACE.
- FIRE EXTINGUISHERS SHALL BE PURCHASED AND INSTALLED BY THE TENANT PER LOCAL FIRE DEPT. AND BUILDING CODE REQUIREMENTS.
- ALL EXTERIOR DOORS SHALL RECEIVE WEATHER STRIPPING UNLESS SPECIFICALLY NOTED TO THE CONTRARY WITHIN THE CONTRACT DOCUMENTS.
- PENETRATION THRU WALLS OR CEILINGS NOTED TO BE FIRE RATED PARTITIONS SHALL BE FIRE SAFED AND SEALED AS REQUIRED TO MAINTAIN THE RATING OF THE WALL OR FLOOR/CEILING. ALL WALL AND FLOOR/CEILING PENETRATIONS SHALL BE PROTECTED BY AN APPROPRIATELY TESTED/RATED ASSEMBLY.
- THIS FACILITY HAS BEEN DESIGNED WITH THE INTENT TO COMPLY WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND THE AMERICANS WITH DISABILITIES ACT (ADA).
- ALL HOLES IN CONCRETE FLOOR SLAB CAUSED BY THE ATTACHMENT OF FORMWORK, BRACING, CONSTRUCTION TRAFFIC, MATERIAL STORAGE OR OTHER REASONS SHALL BE CLEANED AND PATCHED. REF: PROJECT MANUAL FOR PATCHING REQUIREMENTS.
- ALL DIMENSIONS ARE TO FACE OF STUD UNLESS NOTED OTHERWISE.

# TYPICAL SYMBOLS

	SECTION		HEIGHT ELEVATION INDICATOR
	ELEVATION		PARTITION TYPE
	ROOM NAME AND NUMBER		NEW INFO. (SOLID)
	COLUMN LINE INDICATOR		DEMO INFO. (DASHED)
	DOOR NUMBER INDICATOR		REVISION INDICATOR
	GLAZING TYPE		LAY-IN CEILING W/ LED FIXTURE
	DETAIL INDICATOR		DOWNLIGHT
	SPOT ELEVATION		DUPLEX OUTLET
	EXIT DIRECTION SIGN W/ BATTERY BACK UP		DUPLEX OUTLET W/DIMMER OR ELEVATION
	J' BOX		QUAD OUTLET
	EXHAUST FAN		TELEPHONE ONLY
	SWITCH		TELEPHONE/DATA
	EMERGENCY LIGHTS W/ BATTERY BACK UP		

# APPROVED

CODE SOLUTIONS INC.

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OFFICE BUILDING  
LOT #6  
1716 KELLER PARKWAY  
KELLER, TEXAS 76248

CONSTRUCTION PLANS



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#22-041-2

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DATE REV.:	4-1-2023
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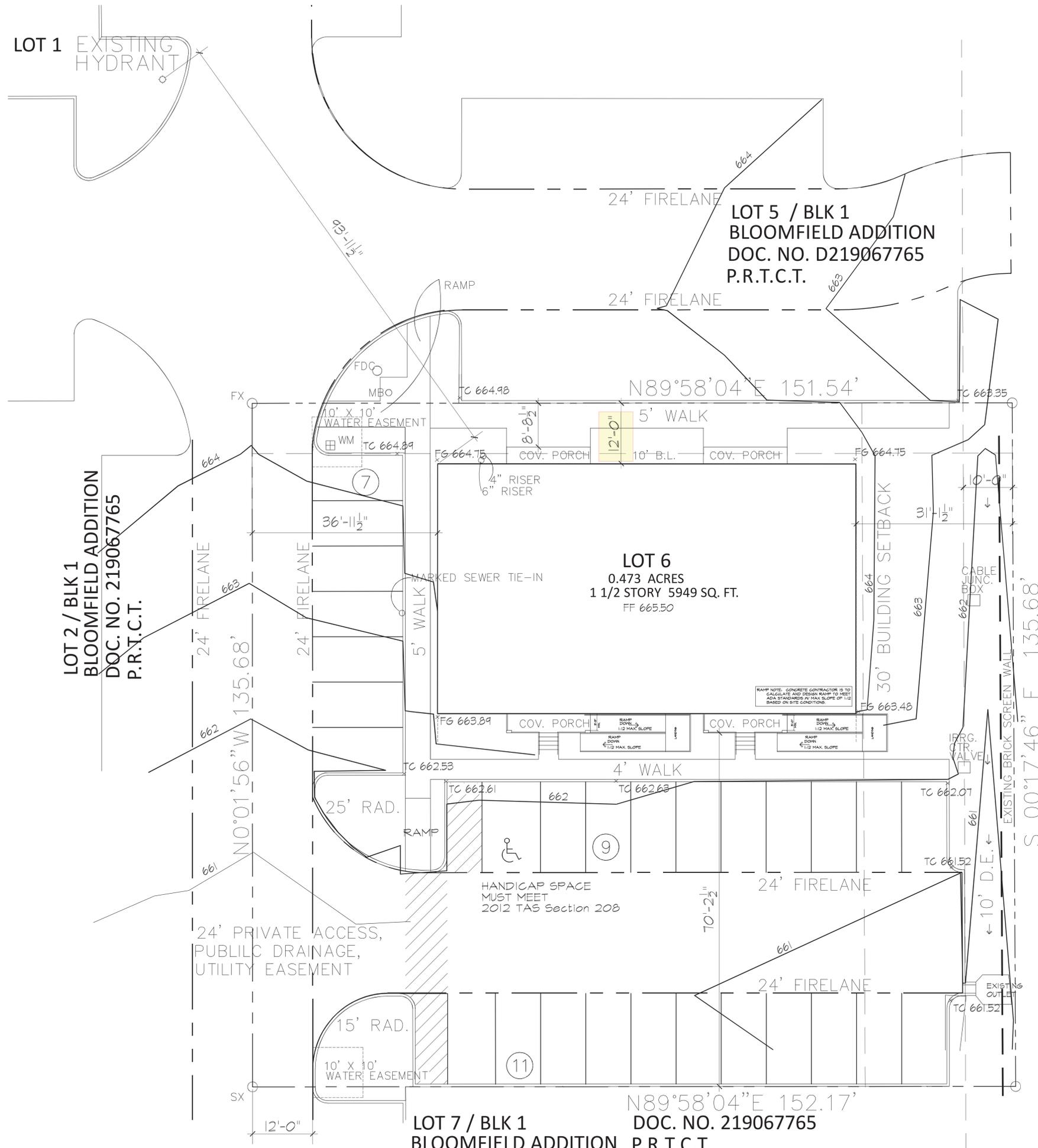
LOT 1 / BLK 1  
ADALINA BLOOMFIELD  
DOC. NO. 207097569  
P.R.T.C.T.

LOT 5 / BLK 1  
BLOOMFIELD ADDITION  
DOC. NO. D219067765  
P.R.T.C.T.

LOT 2 / BLK 1  
BLOOMFIELD ADDITION  
DOC. NO. 219067765  
P.R.T.C.T.

LOT 6  
0.473 ACRES  
1 1/2 STORY 5949 SQ. FT.  
FF 66550

LOT 7 / BLK 1  
BLOOMFIELD ADDITION P.R.T.C.T.  
DOC. NO. 219067765



**APPROVED**

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BLOCK A  
ADALINA BLOOMFIELD  
DOC. NO. 207097569  
P.R.T.C.T.

**01 SITE PLAN  
& FIRE PROTECTION PLAN**

SCALE 1" = 10'  
NOTE: REFER TO CIVIL PLANS FOR SITE DETAILS.



CONSTRUCTION PLANS

OFFICE BUILDING  
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KELLER, TEXAS 76248



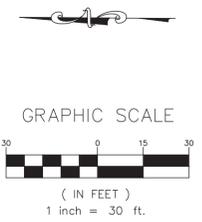
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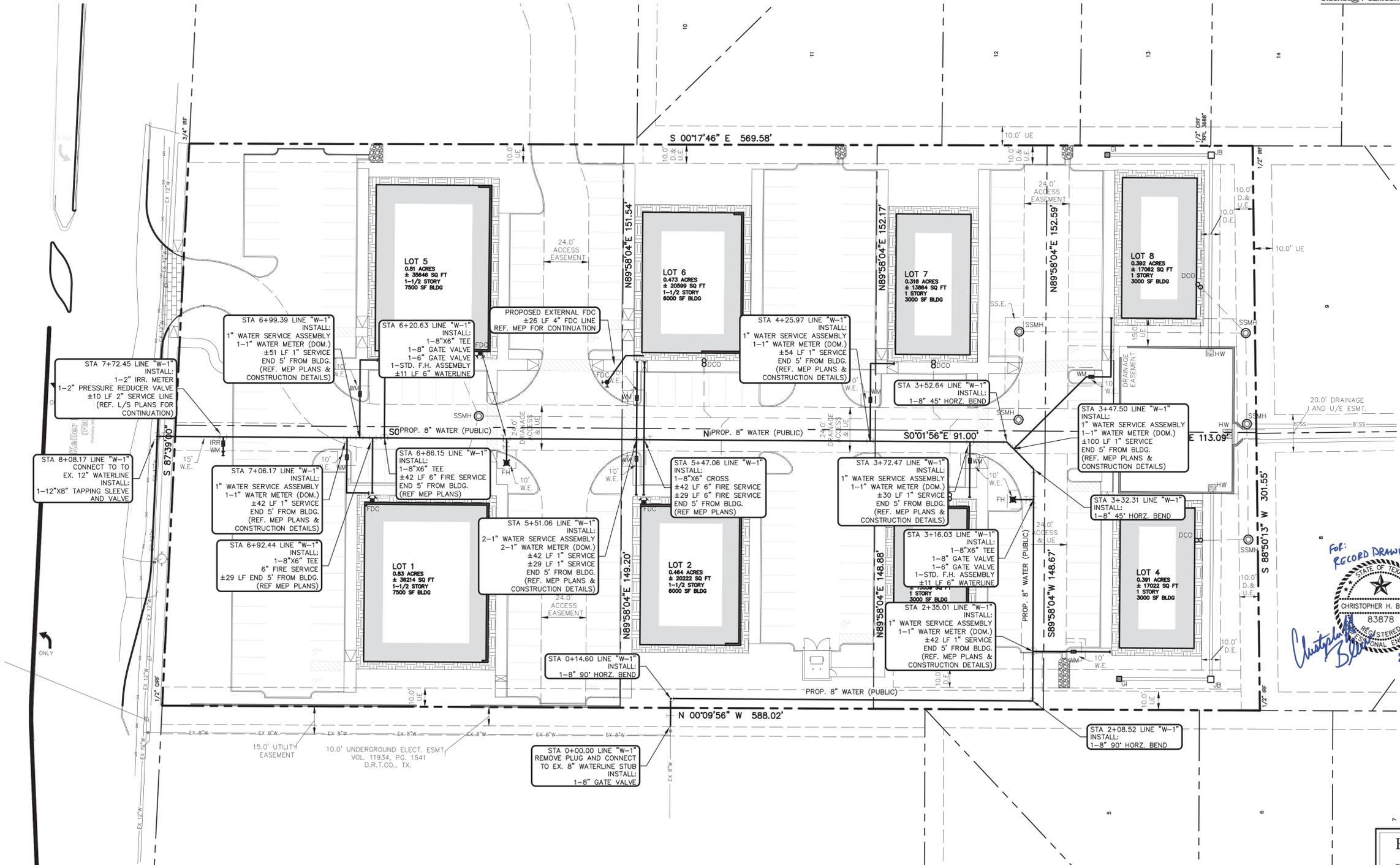
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FILE: X:\Projects\2017\17-323 TX-Keller-Montage-Bloomfield Office Park\AutoCAD\Working Drawings\C5 WTR 17-323.dwg  
 USER: ssatron DATE/TIME: Feb 06, 2018 - 2:30pm



Engineer of Record:	JTP	
Drawn by:	SNS	
Date Plotted:	2/6/2018	
Issue for Pricing / Bidding:		
Issue for Permit Application:		
Issue for Construction:		
REVISIONS		
#	DATE	COMMENTS



UTILITY LEGEND	
□	PROP. LIGHT POLE 1-FIXTURE
□	PROP. LIGHT POLE 2-FIXTURES
□	PROP. TRANSFORMER PAD
⊕	PROP. FIRE HYDRANT
⊕	PROP. FIRE DEPT. CONNECTION
⊕	PROP. WATER METER AND VAULT
⊕	PROP. WATER METER
⊕	PROP. WATER VALVE
⊕	PROP. SEWER DOUBLE CLEANOUT
⊕	PROP. SEWER SINGLE CLEANOUT
⊕	PROP. SEWER MANHOLE
⊕	PROP. SIGN
G.I.	PROP. GRATE INLET
J.B.	PROP. JUNCTION BOX
C.I.	CURB INLET

**NOTES**  
 BUILDING FIRE SPRINKLER SYSTEM IS ONLY REQUIRED FOR BUILDINGS 6,000 SQ FT OR GREATER IN GROSS FLOOR AREA.

**RECORD DRAWINGS**  
 These record documents have been prepared based on information provided by Montage Development LLC. HP Civil Engineering, LLC (HPCE) has not verified the accuracy and/or completeness of this information. HPCE shall not be responsible for any errors or omissions that may be incorporated as a result of erroneous information provided by others.  
 SIGNED: *Christopher H. Blewins*  
 DATE: 8-29-20



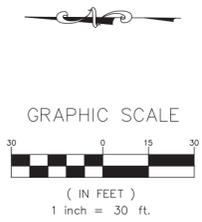
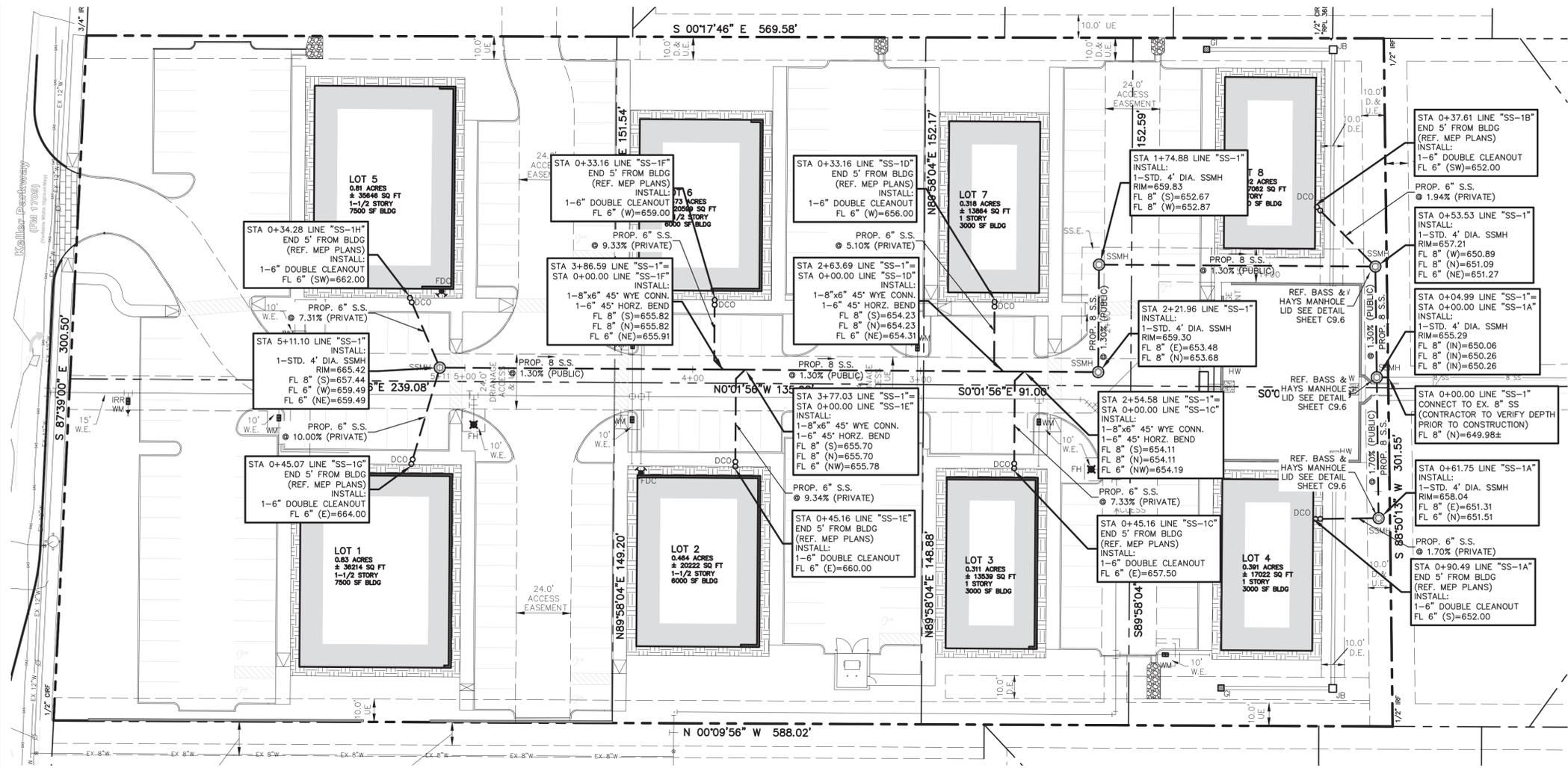
**BENCHMARKS**  
 CITY OF KELLER MONUMENT #6:  
 BERTNSEN TOP SECURITY MONUMENT WITH ACCESS COVER LOCATION IN THE MEDIAN OF BEAR CREEK PARKWAY APPROXIMATELY 16' EAST OF THE EAST SIDE OF THE BRIDGE OVER BEAR CREEK AND APPROXIMATELY 41' WEST OF A LIGHT POLE  
 (ELEVATION=634.72')  
 CITY OF KELLER MONUMENT #9:  
 BERTNSEN TOP SECURITY MONUMENT WITH ACCESS COVER LOCATED APPROXIMATELY 625' EAST OF THE CENTERLINE INTERSECTION OF TOWN CENTER LANE AND BEAR CREEK PARKWAY AND APPROXIMATELY 8' WEST OF THE WEST END OF A BRICK WALL AND 5' EAST OF A CONCRETE WALK  
 (ELEVATION=652.54')

**BLOOMFIELD OFFICE PARK  
 LOTS 1-8, BLOCK A  
 BLOOMFIELD ADDITION  
 CITY OF KELLER, TARRANT COUNTY, TEXAS**

**HP civil engineering, LLC.**  
 5339 ALPHA ROAD, SUITE 300 DALLAS, TEXAS 75240  
 972.701.9636 • 972.701.9639 FAX  
 TX REGISTERED ENGINEERING FIRM F-12600  
 www.hpceinc.com



SHEET TITLE  
**WATER PLAN**  
 SHEET NO.  
**C5.1**  
 HPCE #17-323

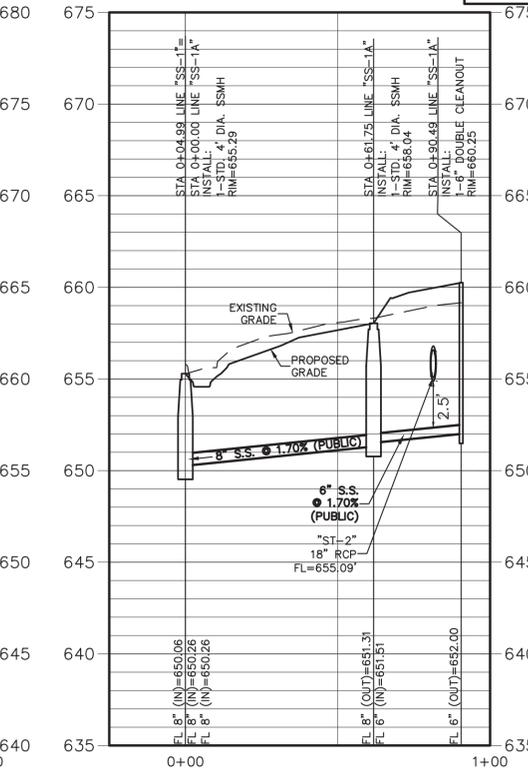
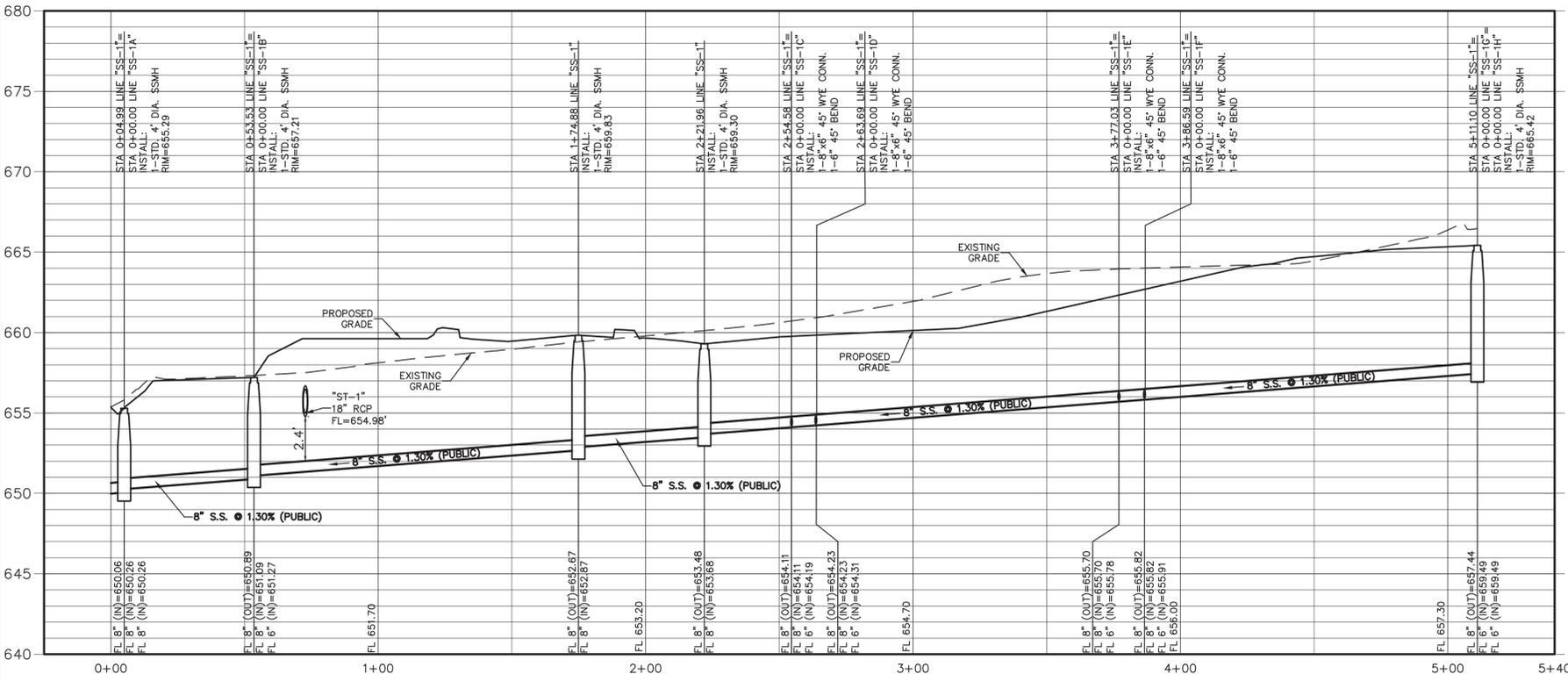


UTILITY LEGEND	
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SHEET TITLE  
**SANITARY SEWER PLAN & PROFILE**

SHEET NO.  
**C6.1**

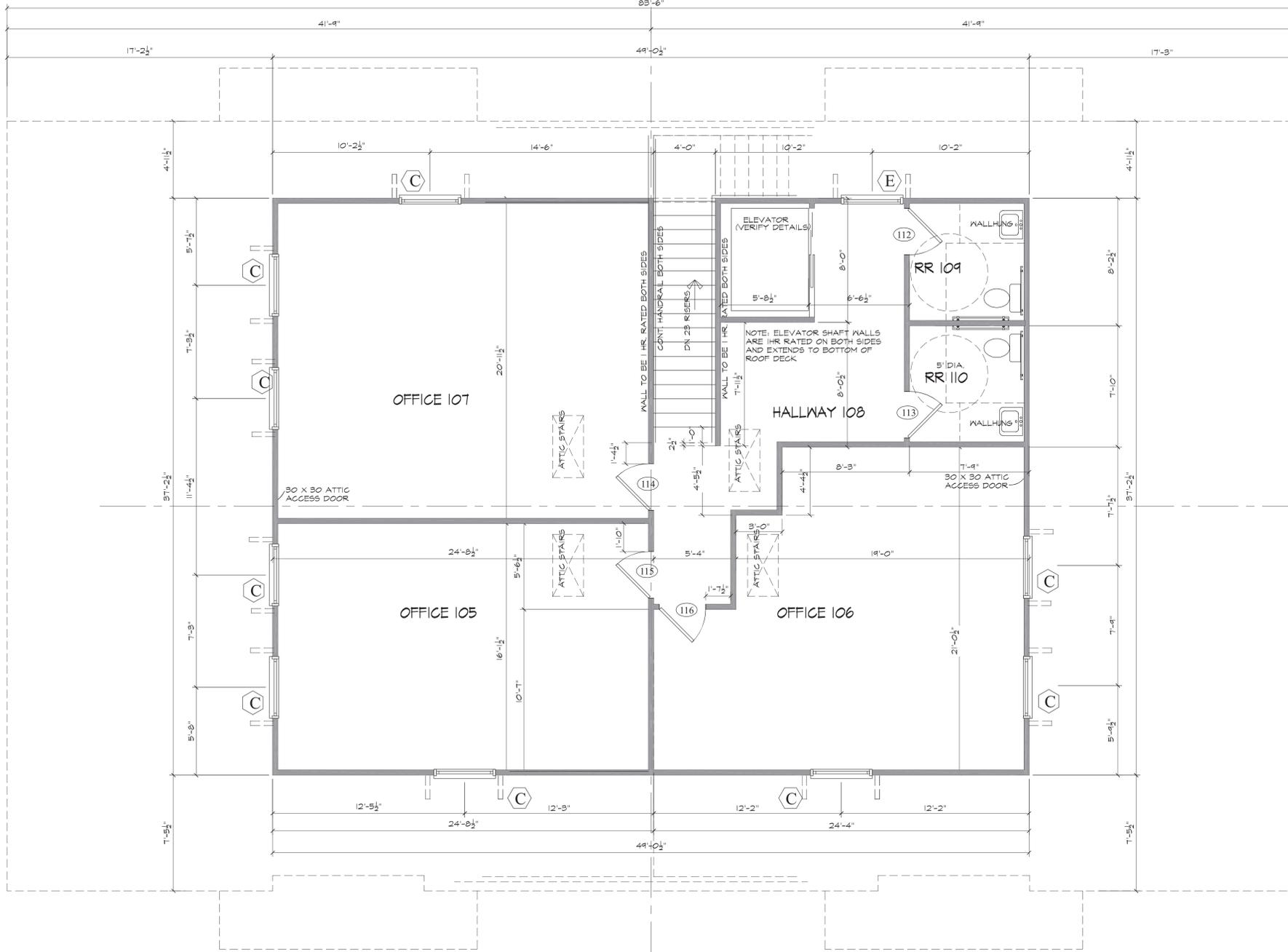
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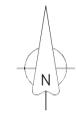
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DATE REV.:	12-14-2023
DATE REV.:	1-15-2024

EXIT DOORS SHALL OPEN FROM THE INSIDE WITHOUT THE USED OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT



**SECOND FLOOR PLAN**

SCALE 1/4" = 1'-0"



**APPROVED**

CODE SOLUTIONS INC.

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**CONSTRUCTION PLANS**

OFFICE BUILDING  
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KELLER, TEXAS 76248



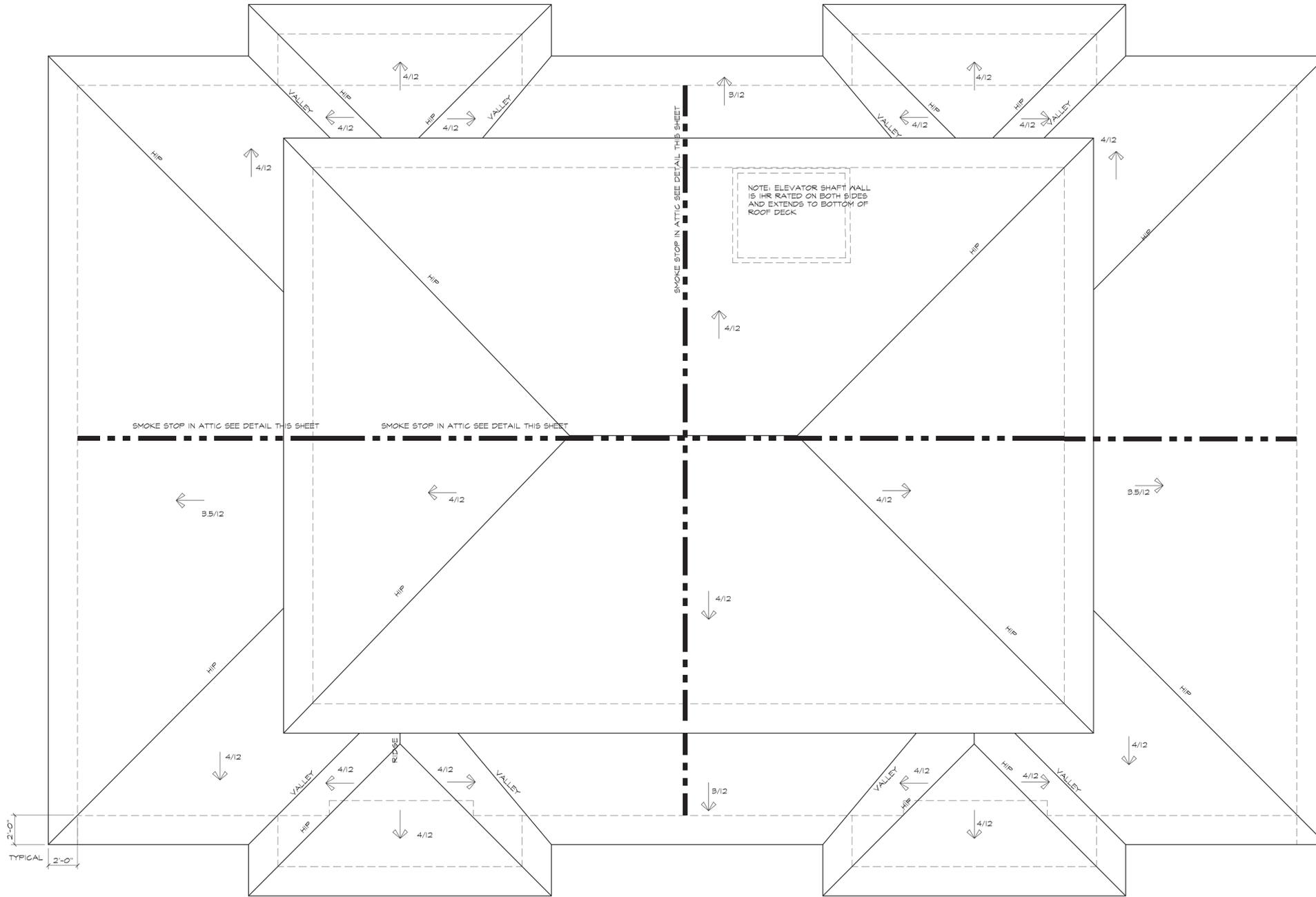
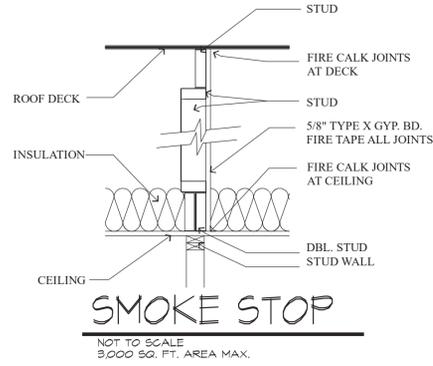
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**ROOF PLAN**

SCALE 1/4" = 1'-0"  
 ATTIC DIVIDED INTO SPACES OF APPROX 800 SQ. FT. EACH  
 ALL ROOFING TO BE METAL

**APPROVED**

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OFFICE BUILDING  
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 1716 KELLER PARKWAY  
 KELLER, TEXAS 76248

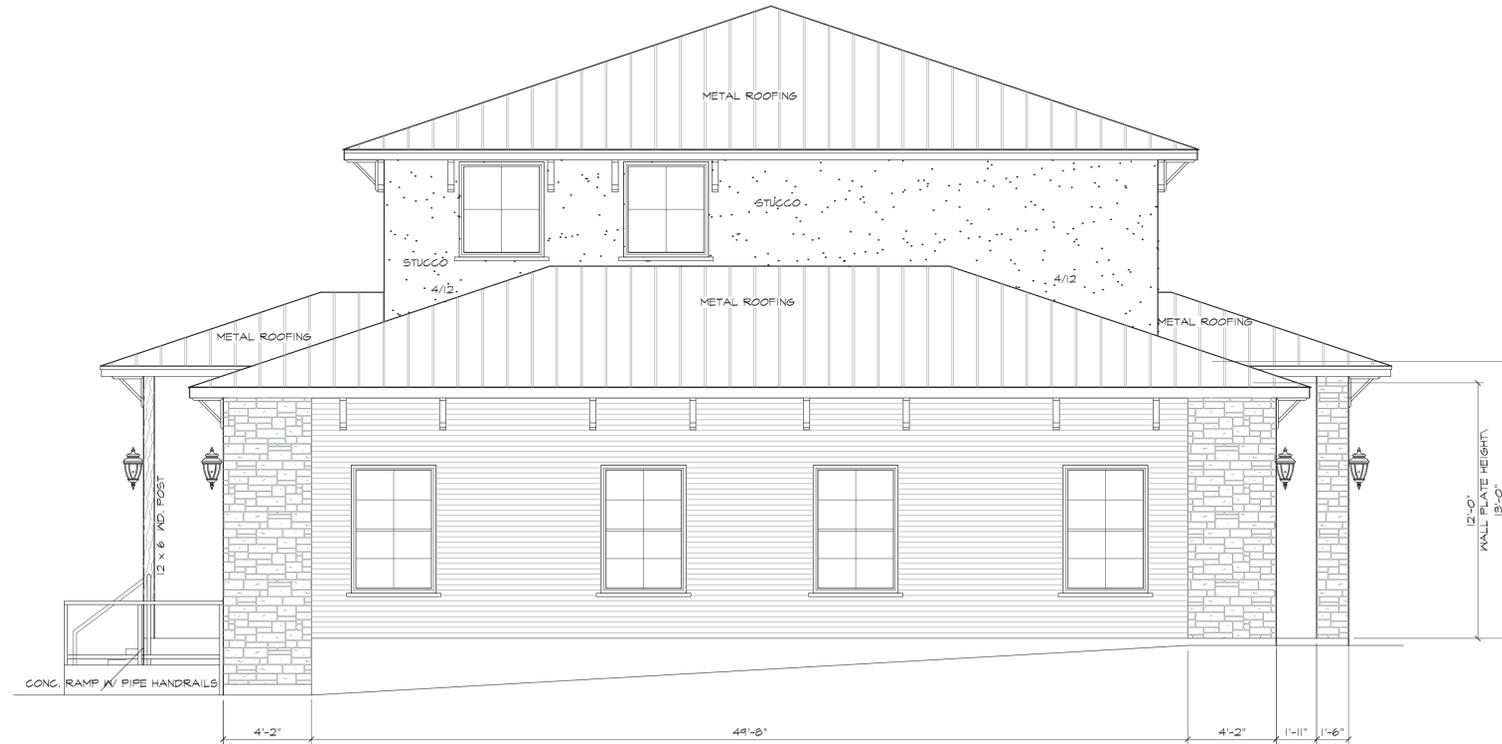


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DATE REV.:	12-14-2023
DATE REV.:	1-19-2024



**EAST ELEVATION**

SCALE 1/4" = 1'-0"

COLOR AND MATERIAL WILL BE COMPATIBLE WITH THE OTHER BUILDINGS WITHIN THE PLANNED DEVELOPMENT.  
FIRST FLOOR ELEVATION IS 100% MASONRY



**NORTH ELEVATION**

SCALE 1/4" = 1'-0"

COLOR AND MATERIAL WILL BE COMPATIBLE WITH THE OTHER BUILDINGS WITHIN THE PLANNED DEVELOPMENT.  
FIRST FLOOR ELEVATION IS 100% MASONRY

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**CONSTRUCTION PLANS**

**OFFICE BUILDING**  
**LOT #6**  
**1716 KELLER PARKWAY**  
**KELLER, TEXAS 76248**



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**A3.1**

#22-041-2

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**Stair Tread Rise and Run**

Stair riser heights shall be 7 inches maximum and 4 inches (102 mm) minimum. Tread depths shall be 11 inches minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing. IBC section 1011.5.2

**WEST ELEVATION**

SCALE 1/4" = 1'-0"

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**SOUTH ELEVATION**

SCALE 1/4" = 1'-0"

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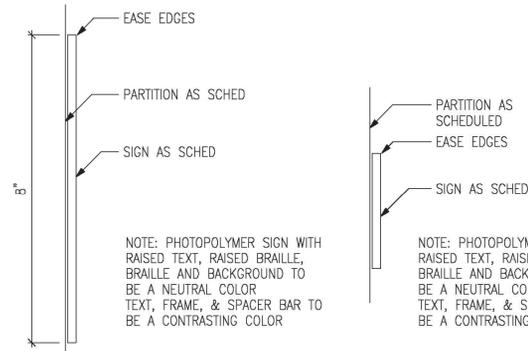
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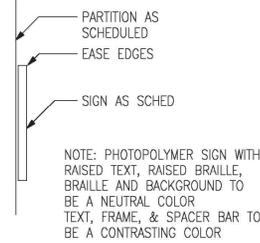
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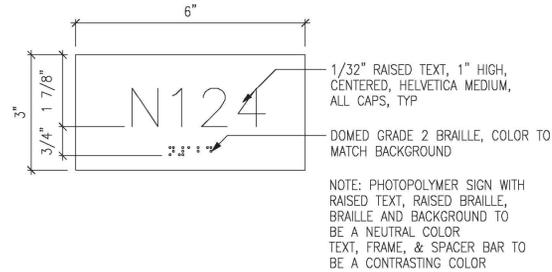
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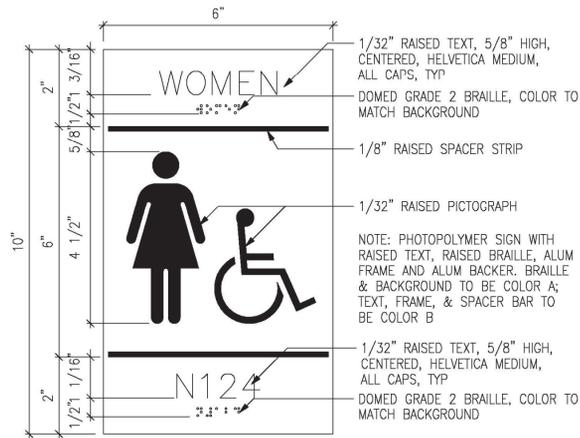
**16 SIGN TYPE B**  
HALF SCALE



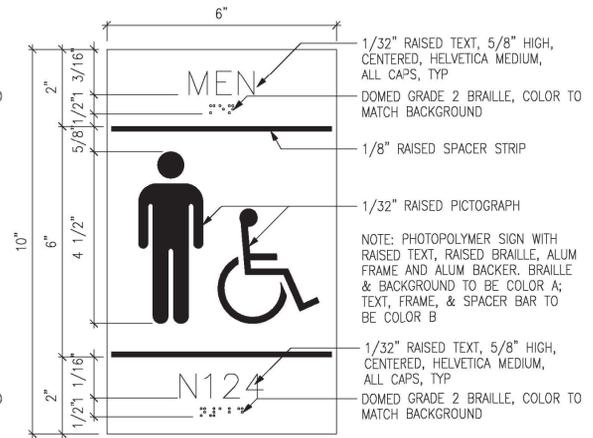
**15 SIGN TYPE A**  
HALF SCALE



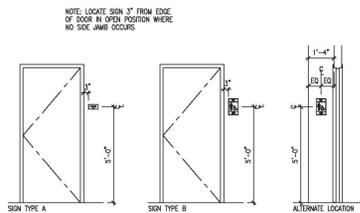
**14 SIGN TYPE A**  
HALF SCALE



**13 SIGN TYPE B**  
HALF SCALE

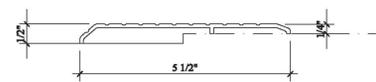


**12 SIGN TYPE B**  
HALF SCALE

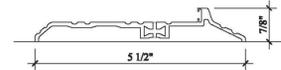


**11 TYPICAL MOUNTING LOCATIONS**  
1/4" = 1'-0"

- GENERAL NOTES:
1. ALL SIGN TYPES: PHOTOPOLYMER FACEPLATE WITH RAISED GRAPHICS LAMINATED TO AN ALUMINUM BACKER OR OTHER PRODUCT APPROVED EQUAL MATERIAL. OBTAIN APPROVAL PRIOR TO BID. SAMPLE REQUIRED FOR APPROVAL OF EQUAL PRODUCTS.
  2. ALL SIGN LOCATIONS SHALL BE VERIFIED PRIOR TO FABRICATION AND INSTALLATION.
  3. MOUNT SIGNS ON STRIKE SIDE OF DOOR. TYP. NO SIGNS SHALL BE MOUNTED ON DOOR, PER ADA REGULATIONS.

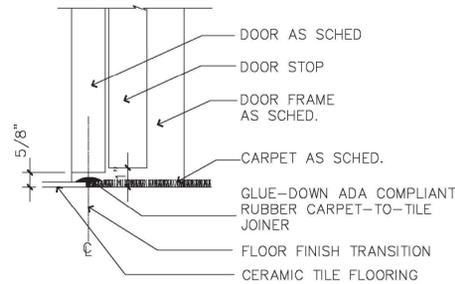


**10 EXTERIOR THRESHOLD**  
3" = 1'-0"

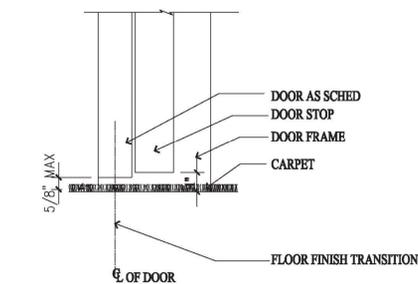


**09 UTILITY THRESHOLD**  
3" = 1'-0"

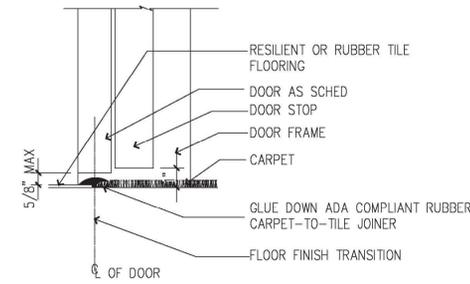
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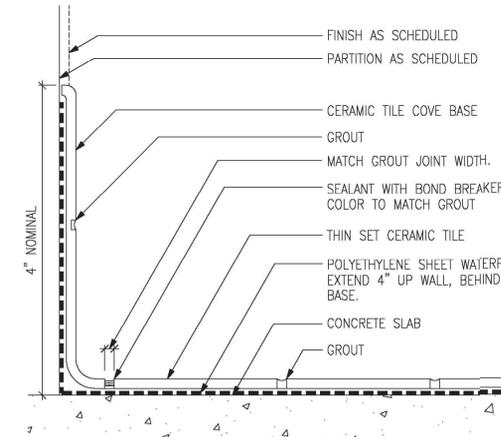
**09 CPT TO TILE TRANSITION**  
3" = 1'-0"



**08 CPT TRANSITION**  
3" = 1'-0"



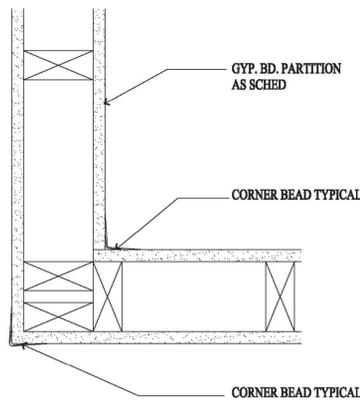
**07 CPT TO VCT TRANSITION**  
3" = 1'-0"



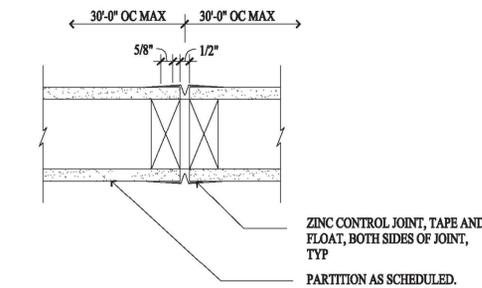
**06 TILE BASE DETAIL**  
3" = 1'-0"

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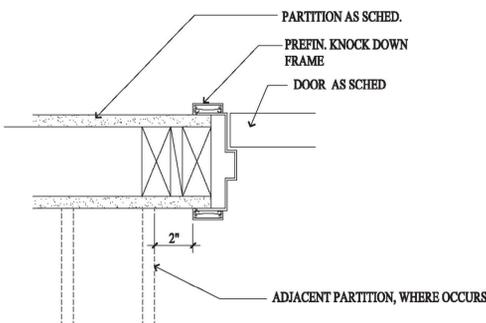
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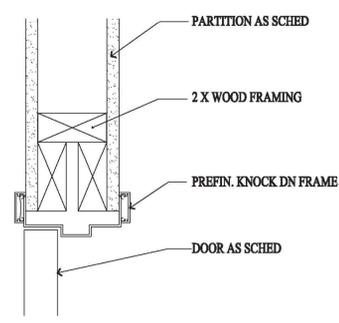
**05 TYP. CORNER DETAIL**  
3" = 1'-0"



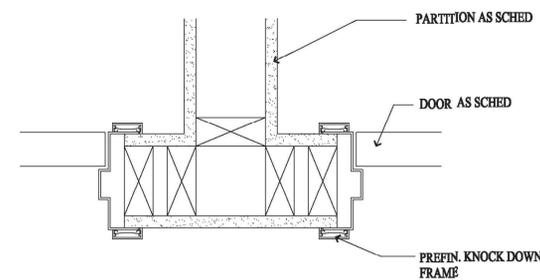
**04 VERT. CONTROL JOINT**  
3" = 1'-0"



**03 TYP. JAMB DETAIL**  
3" = 1'-0"



**02 TYP. DOOR HEAD DETAIL**  
3" = 1'-0"



**01 TYP. JAMB @ PARTITION**  
3" = 1'-0"

CONSTRUCTION PLANS

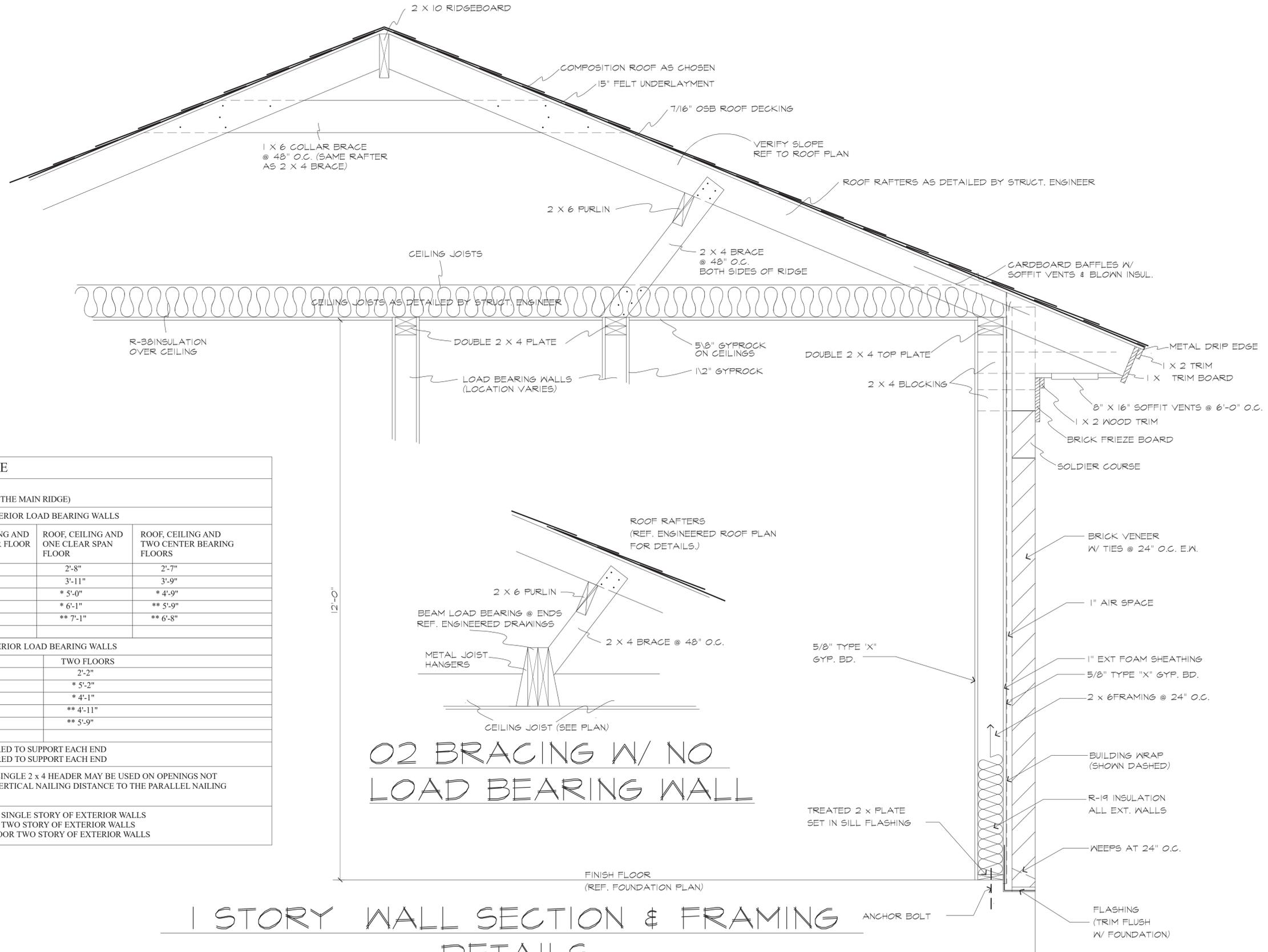
OFFICE BUILDING  
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**03 HEADER SCHEDULE**

BUILDING WIDTH OF 20' OR LESS  
(MEASURED PERPENDICULAR TO THE MAIN RIDGE)

EXTERIOR LOAD BEARING WALLS				
FRAMING	ROOF AND CEILING	ROOF, CEILING AND ONE CENTER FLOOR BEARING	ROOF, CEILING AND ONE CLEAR SPAN FLOOR	ROOF, CEILING AND TWO CENTER BEARING FLOORS
(2) 2 x 4	3'-6"	3'-1"	2'-8"	2'-7"
(2) 2 x 6	5'-5"	4'-6"	3'-11"	3'-9"
(2) 2 x 8	6'-10"	* 5'-9"	* 5'-0"	* 4'-9"
(2) 2 x 10	* 8'-5"	* 7'-0"	* 6'-1"	** 5'-9"
(2) 2 x 12	** 9'-9"	** 8'-1"	** 7'-1"	** 6'-8"

INTERIOR LOAD BEARING WALLS		
	ONE FLOOR ONLY	TWO FLOORS
(2) 2 x 4	5'-1"	2'-2"
(2) 2 x 6	4'-6"	* 5'-2"
(2) 2 x 8	5'-9"	* 4'-1"
(2) 2 x 10	* 7'-0"	** 4'-11"
(2) 2 x 12	** 8'-1"	** 5'-9"

\* DENOTES (2) JACK STUDS REQUIRED TO SUPPORT EACH END  
\*\* DENOTES (3) JACK STUDS REQUIRED TO SUPPORT EACH END

FOR NON-LOAD BEARING WALLS A SINGLE 2 x 4 HEADER MAY BE USED ON OPENINGS NOT EXCEEDING 8'-0" IN WIDTH IF THE VERTICAL NAILING DISTANCE TO THE PARALLEL NAILING SURFACE DOES NOT EXCEED 24"

MIN. 2 x 6 HEADER ON FIRST FLOOR SINGLE STORY OF EXTERIOR WALLS  
MIN. 2 x 8 HEADER ON FIRST FLOOR TWO STORY OF EXTERIOR WALLS  
MIN. 2 x 12 HEADER ON SECOND FLOOR TWO STORY OF EXTERIOR WALLS

**02 BRACING W/ NO LOAD BEARING WALL**

**1 STORY WALL SECTION & FRAMING DETAILS**

SCALE 1/4" = 1'-0"

NOTE: FRAMING DETAILS FOR REFERENCE ONLY. REF. TO ENGINEERED STRUCTURAL PLANS FOR MATERIAL, SIZES AND METHODS OF CONSTRUCTION.

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**CONSTRUCTION PLANS**

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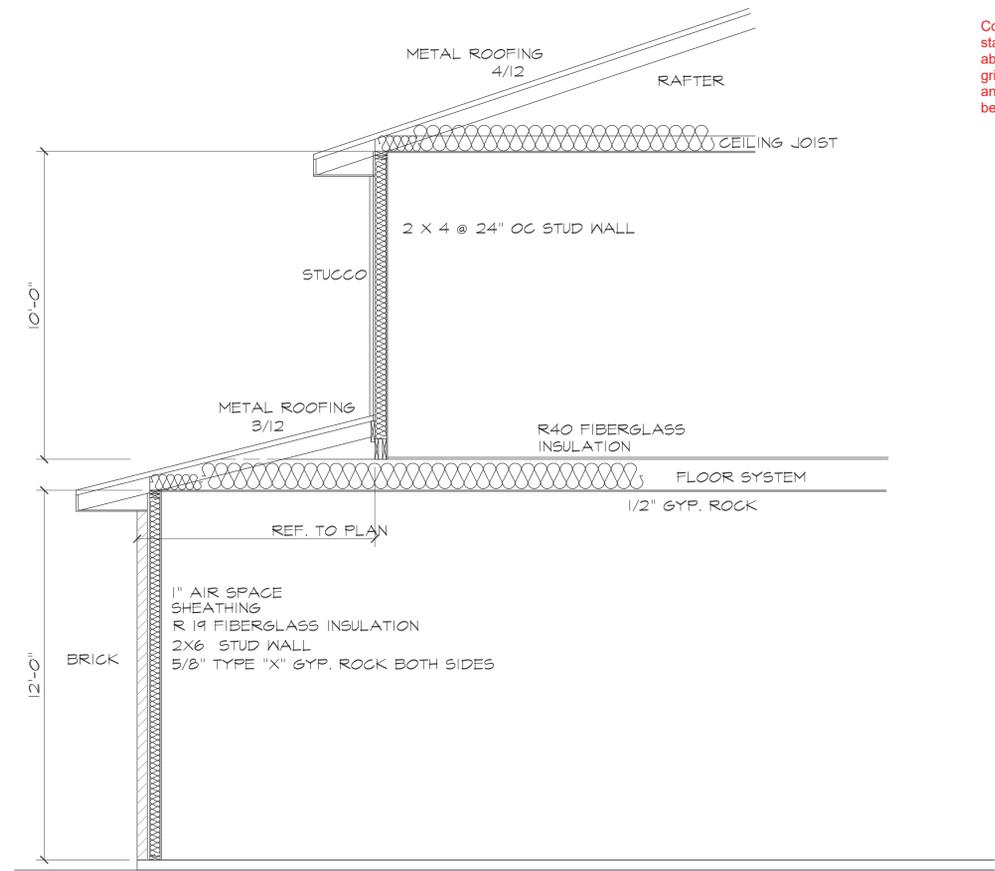
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CONSTRUCTION PLANS

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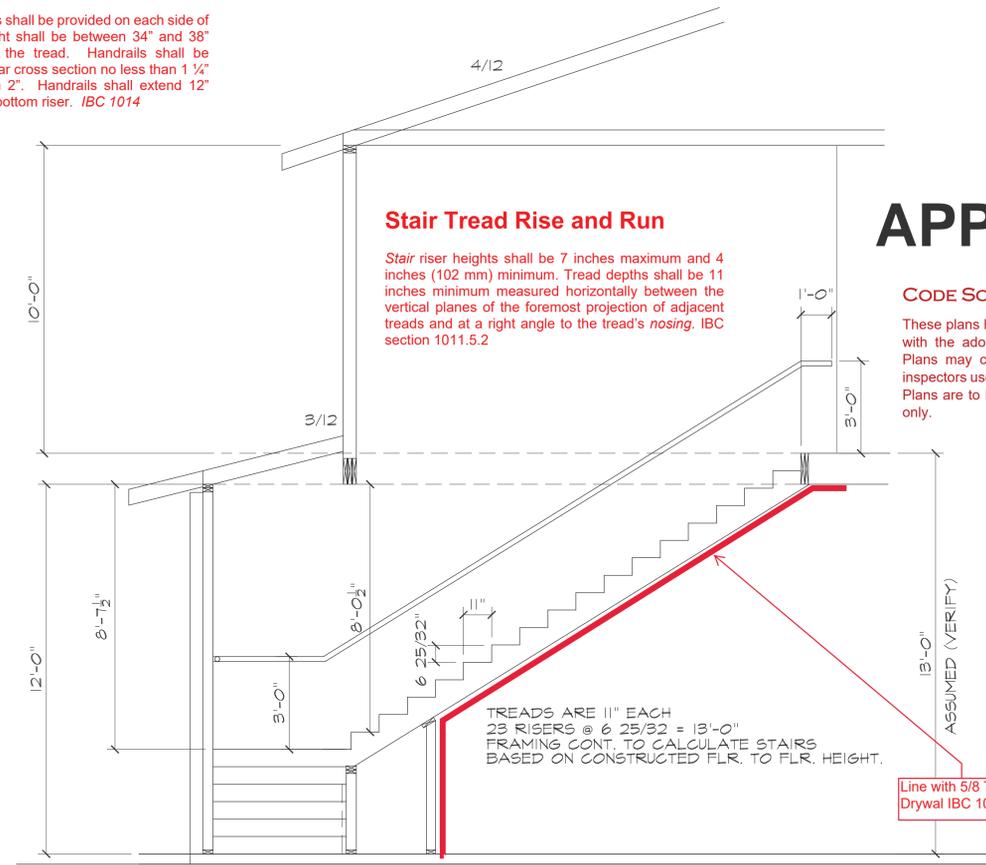


2 STORY WALL DETAIL

SCALE 1/4" = 1'-0"  
 REF. TO A 6.1 FOR MORE DETAIL  
 REF. TO STRUCTURAL FOR FRAMING SIZE ETC.

Handrails Required

Continuous handrails shall be provided on each side of stair. Handrail height shall be between 34" and 38" above the nose of the tread. Handrails shall be graspable with a circular cross section no less than 1 1/4" and no greater than 2". Handrails shall extend 12" beyond the top and bottom riser. IBC 1014



STAIR SECTION

SCALE 1/4" = 1'-0"  
 REF. TO STRUCTURAL FOR FRAMING SIZES ETC.  
 NOTE: WALL AROUND STAIRCASE AND BOTTOM OF STAIRS TO BE 1 HR. CONSTRUCTION W/ 5/8" TYPE X GYPROCK BOTH SIDES  
 REF. TO A 6.1 FOR HANDRAIL DIMENSIONS AND HEIGHTS

Stair Tread Rise and Run

Stair riser heights shall be 7 inches maximum and 4 inches (102 mm) minimum. Tread depths shall be 11 inches minimum measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's nosing. IBC section 1011.5.2

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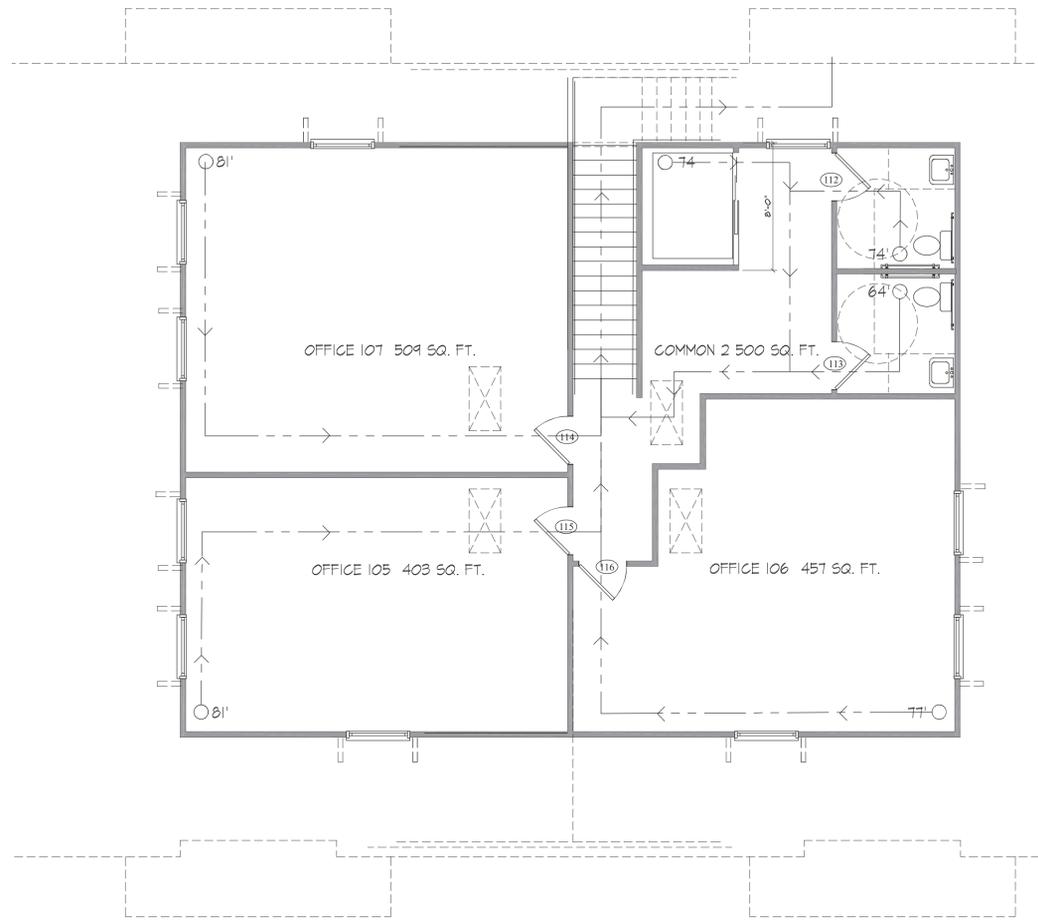
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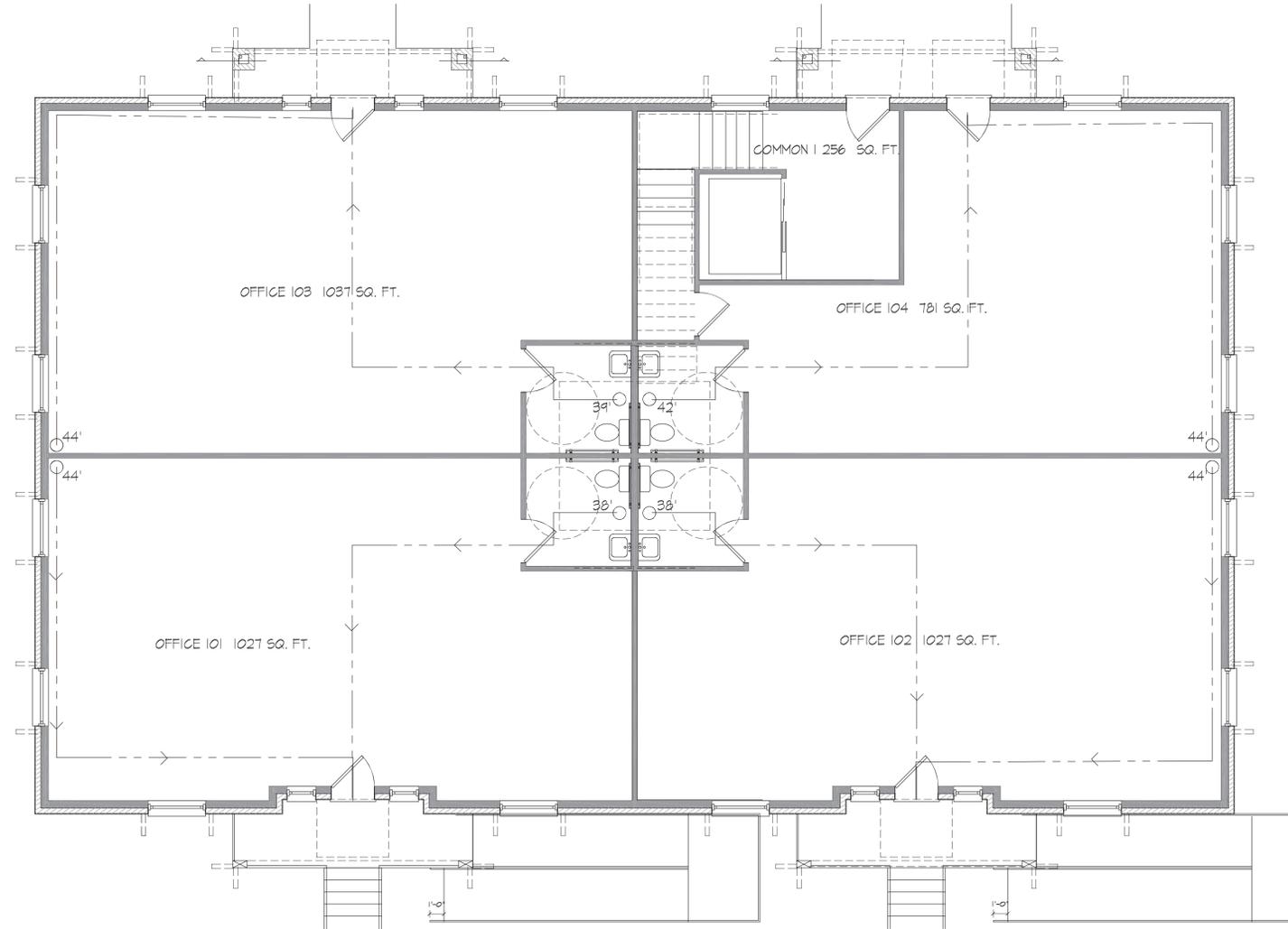
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**SECOND FLOOR LIFE SAFETY PLAN**

SCALE 1/4" = 1'-0"



**FIRST FLOOR LIFE SAFETY PLAN**

FIRST FLR. AREA 1069 SQ. FT.  
 SEC. FLR. 1069 SQ. FT.  
 TOTAL AREA 5997 SQ. FT.

RM. #	RM. NAME	AREA	OCCUPANCY
101	OFFICE LEASE SP.	1027 / 150 = 6.85	7
102	OFFICE LEASE SP.	1027 / 150 = 6.85	7
103	OFFICE LEASE SP.	1037 / 150 = 6.91	7
104	OFFICE LEASE SP.	781 / 150 = 5.26	6
105	OFFICE LEASE SP.	403 / 150 = 2.69	3
106	OFFICE LEASE SP.	457 / 150 = 3.05	4
107	OFFICE LEASE SP.	509 / 150 = 3.39	4
TOTAL OCCUPANCY			38

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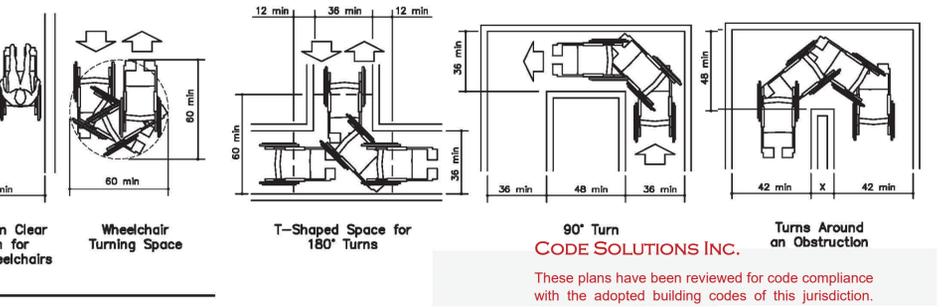
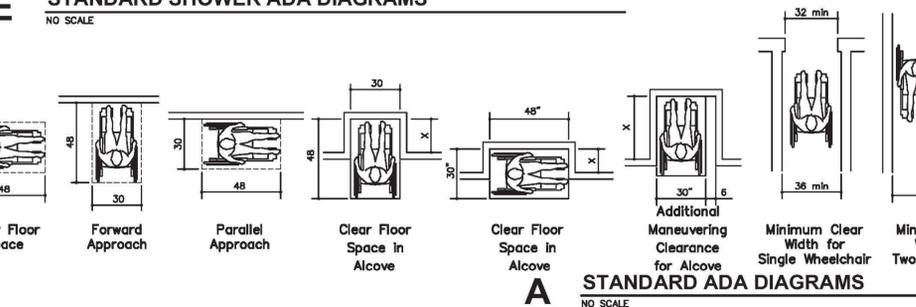
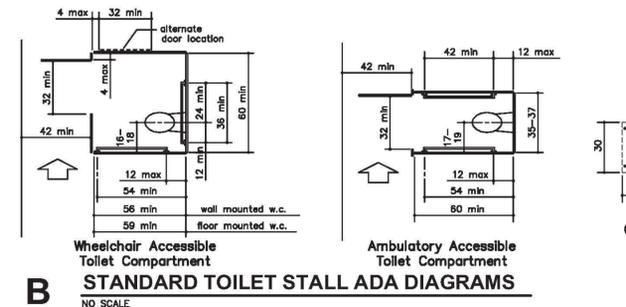
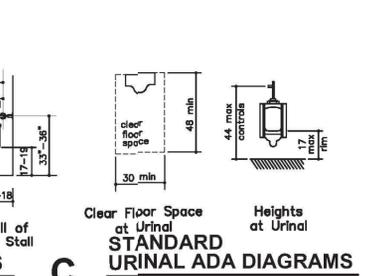
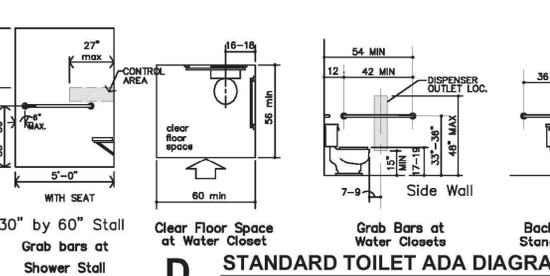
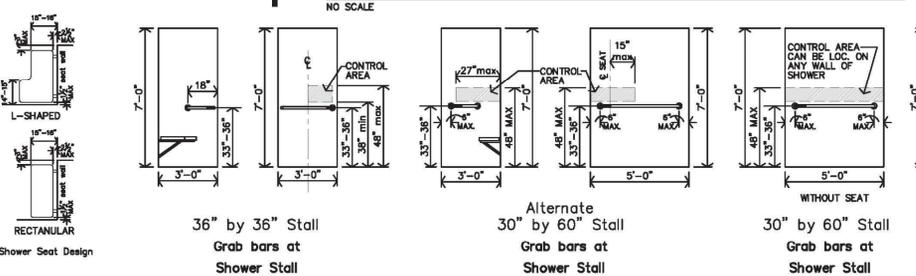
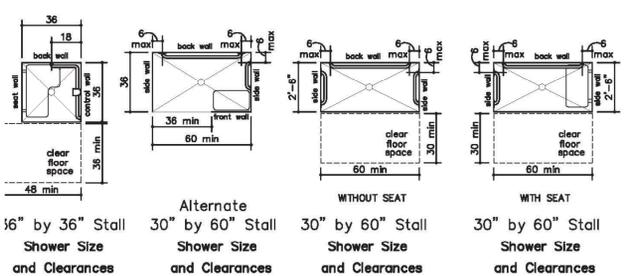
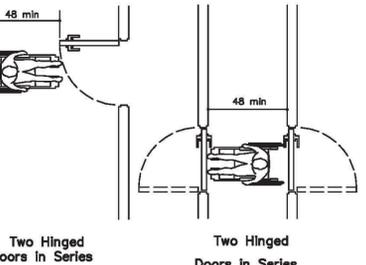
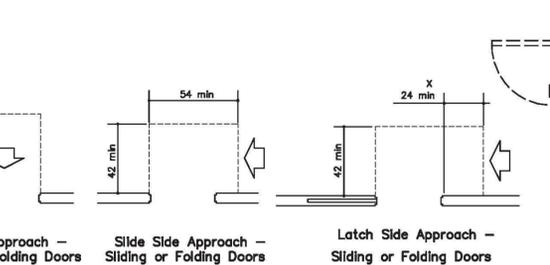
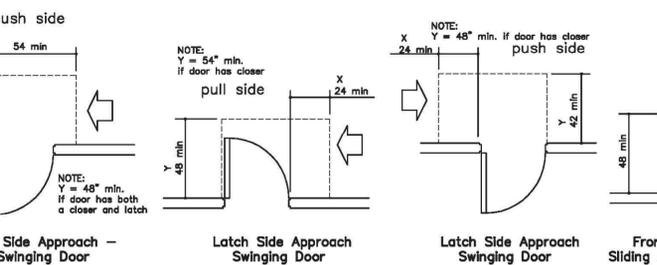
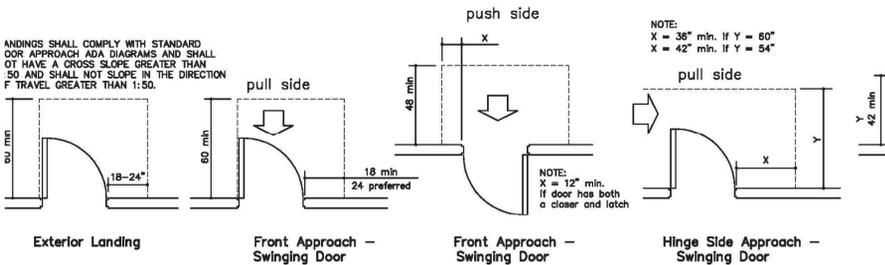
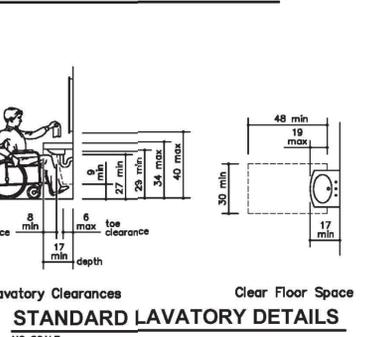
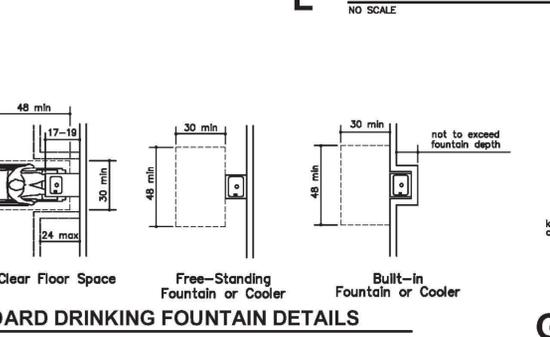
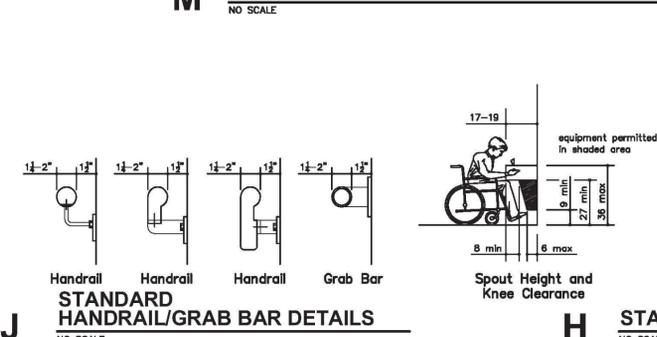
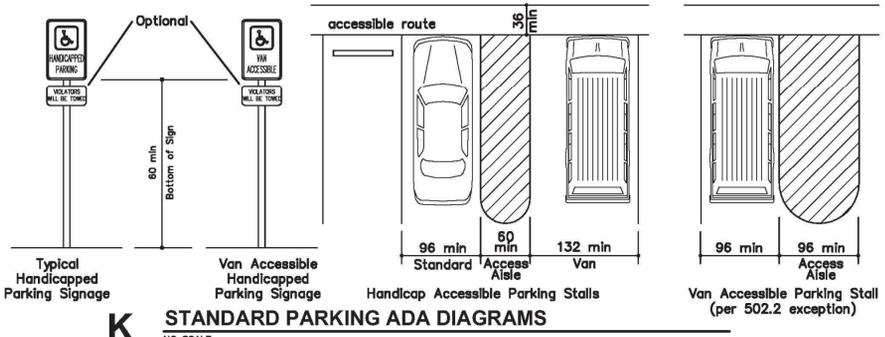
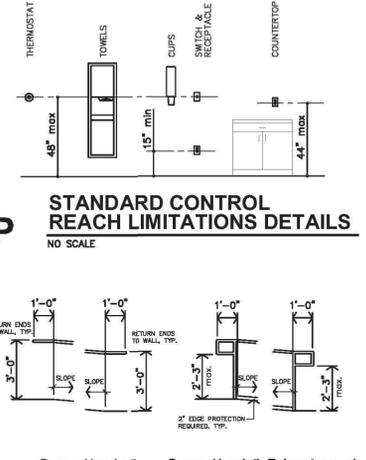
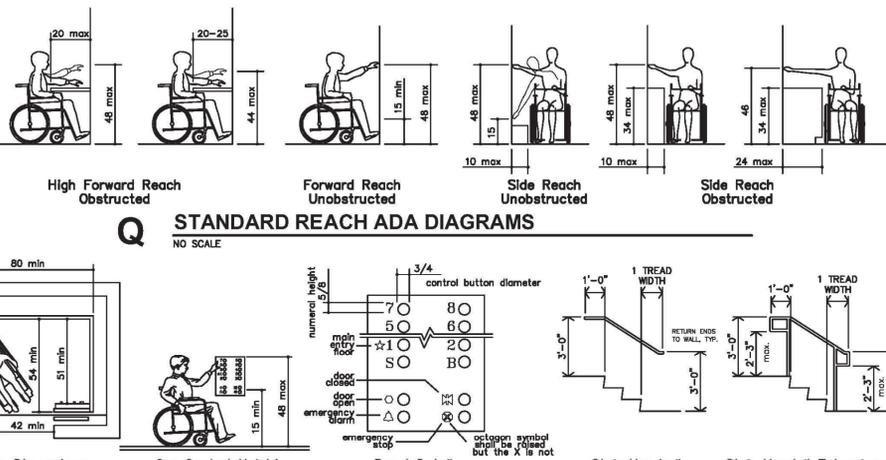
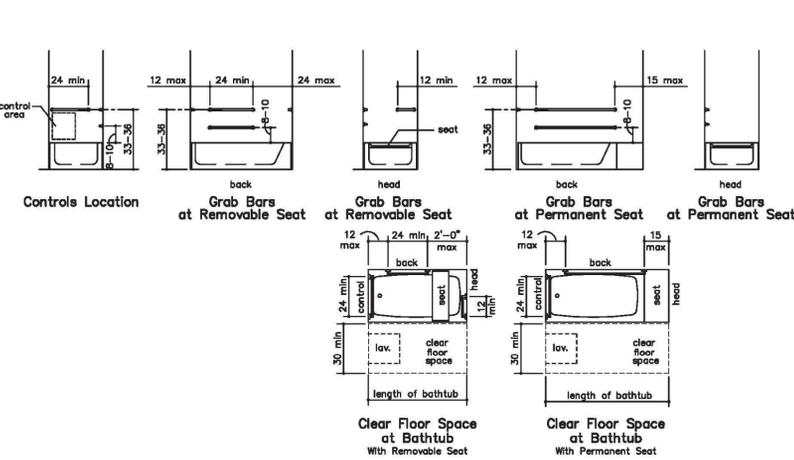
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THESE DRAWINGS FOR THIS DESIGN HAVE BEEN DEVELOPED AND DESIGNED WITHOUT SPECIFIC KNOWLEDGE OF GEOGRAPHIC LOCATION. THEREFORE SUPPLEMENTAL TO THESE DOCUMENTS IT IS THE RESPONSIBILITY OF THE OWNER OR THE OWNER'S GENERAL CONTRACTOR TO PROVIDE ENGINEERING AND SPECIFIC SHOP DRAWINGS TO COMPLY WITH THESE DRAWINGS. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNING CODE COMMISSION. COMPLIANCE WITH THESE DRAWINGS WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. IT IS THE OWNER'S, GENERAL CONTRACTOR'S, SUB CONTRACTOR'S RESPONSIBILITY TO VERIFY THE ACCURACY, COMPLETENESS, AND APPLICABILITY OF THESE DRAWINGS AND TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE LOCAL GOVERNING CODE COMMISSION. THE USER SHALL NOT BE HELD RESPONSIBLE FOR THESE PLANS.

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APPROVED

DATE ISSUED:	FREL 4-1-2023
DATE REV.:	10-11-2023
DATE REV.:	11-19-2023
DATE REV.:	12-14-2023
DATE REV.:	1-19-2024

**CONSTRUCTION PLANS**  
**OFFICE BUILDING**  
**LOT #6**  
**1716 KELLER PARKWAY**  
**KELLER, TEXAS 76248**

**COMcheck Software Version 4.1.5.5**  
**Envelope Compliance Certificate**

**Project Information**

Energy Code: 2018 IECC  
Project Title: OFFICE BUILDING LOT 6 BLK 1  
Location: Keller, Texas  
Climate Zone: 3a  
Project Type: New Construction  
Vertical Glazing / Wall Area: 14%

Construction Site:  
1716 KELLER PARKWAY  
KELLER, TX 76248

Owner/Agent:  
GARLAND BELL  
EMPIRE BUILDERS  
3477 VISTA HIGHLANDS LANE  
FORT WORTH, TX 76135  
4054145575  
gb@xempiregroup.com

Designer/Contractor:  
WAYNE LAMBDIN  
LAMBDIN ARCHITECTS  
1340 TWISTING WIND DR.  
HASLET, TX 76052  
817 691 6621  
WLAMBDIN@SBCGLOBAL.NET

**Additional Efficiency Package(s)**  
Credits: 1.0 Required 1.0 Proposed  
Enhanced Interior Lighting Controls, 1.0 credit

Building Area	Floor Area
1-Office : Nonresidential	5997

**Envelope Assemblies**

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor <sub>min</sub>
Roof 1: Attic Roof with Wood Joists, (Bldg. Use 1 - Office)	4138	35.0	0.0	0.029	0.027
<b>NORTH</b>					
Exterior Wall 1: Wood-Framed, 16" o.c., (Bldg. Use 1 - Office)	1476	19.0	0.0	0.067	0.064
Window 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID NA, SHGC 0.33, (Bldg. Use 1 - Office) (b)	180	---	---	0.450	0.460
Door 1: Insulated Metal, Swinging, (Bldg. Use 1 - Office)	48	---	---	0.400	0.610
<b>EAST</b>					
Exterior Wall 1 copy 1: Wood-Framed, 16" o.c., (Bldg. Use 1 - Office)	909	19.0	0.0	0.067	0.064
Window 1 copy 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID NA, SHGC 0.25, (Bldg. Use 1 - Office) (b)	132	---	---	0.450	0.460
<b>SOUTH</b>					
Exterior Wall 1 copy 1: Wood-Framed, 16" o.c., (Bldg. Use 1 - Office)	1476	19.0	0.0	0.067	0.064
Window 1 copy 1: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID NA, SHGC 0.25, (Bldg. Use 1 - Office) (b)	180	---	---	0.450	0.460
Door 1 copy 1: Insulated Metal, Swinging, (Bldg. Use 1 - Office)	48	---	---	0.400	0.610
<b>WEST</b>					
Exterior Wall 1 copy 2: Wood-Framed, 16" o.c., (Bldg. Use 1 - Office)	909	19.0	0.0	0.067	0.064
Window 1 copy 2: Vinyl/Fiberglass Frame:Fixed, Perf. Specs.: Product ID NA, SHGC 0.25, (Bldg. Use 1 - Office) (b)	168	---	---	0.450	0.460

Project Title: OFFICE BUILDING LOT 6 BLK 1 Report date: 11/16/23  
Data filename: C:\Users\maste\Desktop\OPEN PROJECTS\22-031-4 LOT 6 BELL 11-12-23\lot 6 comcheck.cck Page 1 of 10

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.  
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.

**Envelope PASSES: Design 1% better than code**

**Envelope Compliance Statement**

**Compliance Statement:** The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2018 IECC requirements in COMcheck Version 4.1.5.5 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

DENNIS C. HILBORN  
Name - Title DRAFTSMAN  
Signature  
Date 11/16/2023

**APPROVED**

CODE SOLUTIONS INC.

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Project Title: OFFICE BUILDING LOT 6 BLK 1 Report date: 11/16/23  
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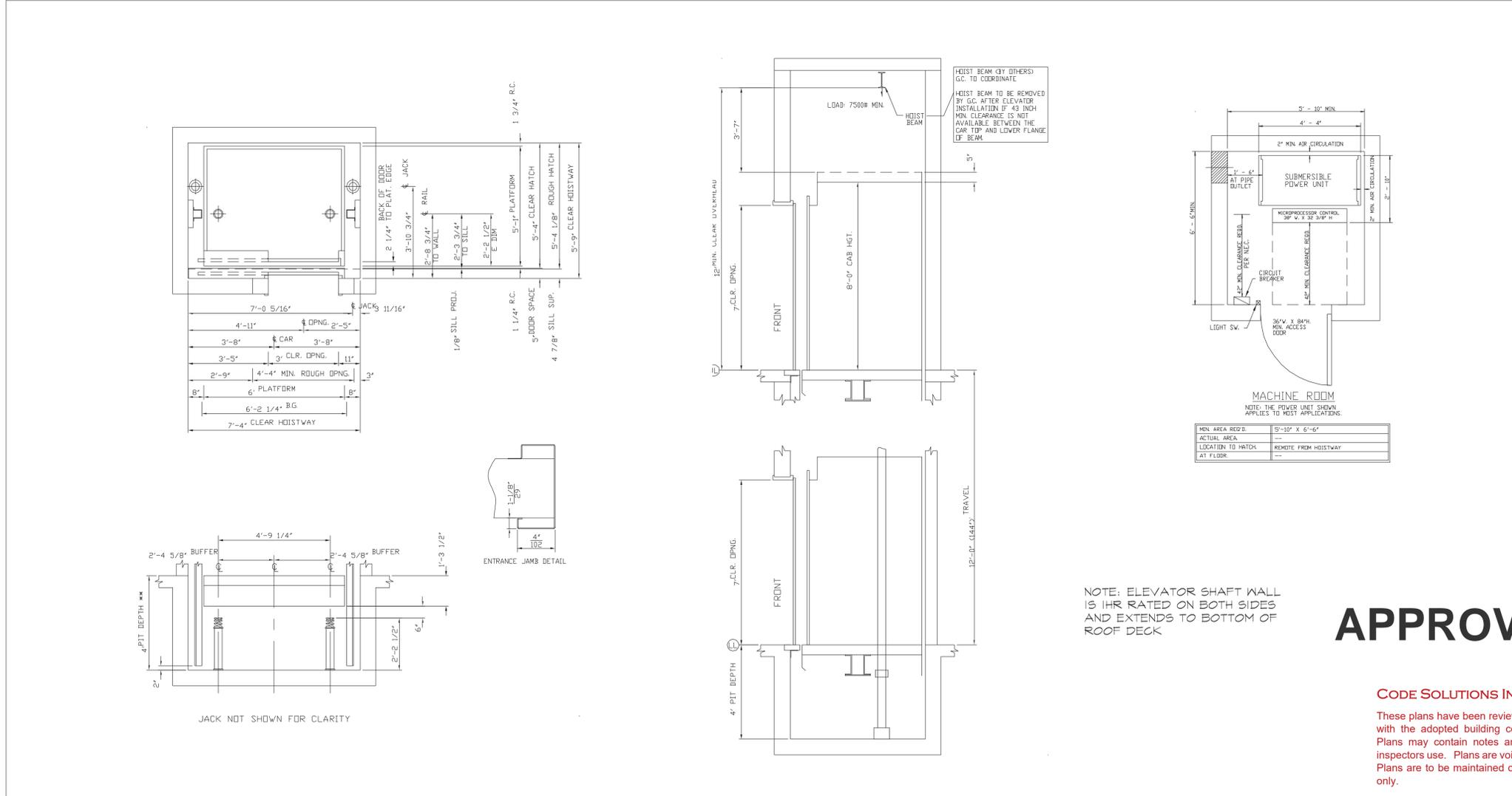
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**A8.1**  
#22-041-2

DATE ISSUED:	FREL
DATE REV.:	4-1-2023
DATE REV.:	10-11-2023
DATE REV.:	11-19-2023
DATE REV.:	12-14-2023
DATE REV.:	1-19-2024

OFFICE BUILDING  
LOT #6  
1716 KELLER PARKWAY  
KELLER, TEXAS 76248

CONSTRUCTION PLANS



**APPROVED**

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COMPLIES WITH HANDICAPPED CODE REQUIREMENT; MEETS CAN/CSA-B44-94 CODE

- PURCHASER NOTES: **THE FOLLOWING NOTES SHOULD BE CONSIDERED BY THE PURCHASER BEFORE APPROVING THIS DRAWING**  
THE PURCHASER SHALL PROVIDE THE FOLLOWING REQUIREMENTS: RULES REFERENCED ARE FROM THE AMERICAN NATIONAL STANDARD ELEVATOR SAFETY CODE ASME A17.1; WHEN THE APPLICABLE LOCAL CODES INCLUDE OTHER REQUIREMENTS OR CONFLICT WITH ASME A17.1, THE LOCAL CODES SHALL PREVAIL.
- CLEAR, PLUMB HOISTWAY, WITH VARIATIONS NOT TO EXCEED 1.00" AT ANY POINT.
  - HOISTWAY ENCLOSURE TO BE FIRE RATED, (RULE 100.1)
  - 75% BEVEL GUARDS ON ALL PROJECTIONS, RECESSES OR SETBACKS OVER 2" EXCEPT ON SIDE USED FOR LOADING/UNLOADING. (RULE 100.6)
  - VENTING OF THE HOISTWAY. (RULE 100.4)
  - ADEQUATE SUPPORT FOR RAIL BRACKETS, INCLUDING DIVIDER BEAMS FOR MULTIPLE ELEVATORS IN A COMMON HOISTWAY, AT EACH FLOOR, 10'-0" ABOVE TOP LANDING AND/OR INTERMEDIATE LOCATIONS. SEE SPECIFICATIONS AND DATA FOR MAXIMUM BRACKET SPACING.
  - BLOCKOUT/CUTOUT THRU WALL AS REQUIRED TO ACCOMMODATE HALL BUTTON BOXES, SIGNAL FIXTURES, AND THEIR PATCHING.
  - ALL BARRICADES EITHER OUTSIDE OF ELEVATOR HOISTWAY OR BETWEEN ELEVATORS INSIDE OF HOISTWAYS AS REQUIRED.
  - DRY PIT REINFORCED TO SUSTAIN VERTICAL FORCES FROM RAILS & BUFFERS. (RULES 106.1B, 100.2A & 130B.2)
  - CONVENIENCE OUTLET AND LIGHT FIXTURE IN PIT. (RULE 106.1E)
  - PIT LADDER FOR EACH ELEVATOR EXTENDING NOT LESS 3'-6" ABOVE BOTTOM LANDING AND ALL WALK-IN PITS. (RULE 106.1D)
  - FOR REMOTE PUMP ROOMS, PROVIDE CLEAR ACCESS ABOVE CEILING OR FURNISH TRENCH IN FLOOR FOR OIL LINE AND WIRING DUCT FROM PUMP ROOM TO ELEVATOR HATCH.
  - PROVIDE 8" X 16" CUTOUT THROUGH HOISTWAY WALL FOR OIL LINE & WIRING DUCT. FOR ACTUAL LOCATION, COORDINATE WITH SCHINDLER FIELD SUPERINTENDENT AT JOB SITE.
  - ACCESS TO MACHINE ROOM AND MACHINERY SPACE. (RULE 101.3)
  - LIGHTING, VENTILATION & HEATING OF MACHINE ROOM & MACHINERY SPACE (RULE 101.3). MACHINE ROOM TEMPERATURE TO BE MAINTAINED BETWEEN 55°F AND 90°F. SEE SCHINDLER POWER SUPPLY DATA SHEET.
  - A FUSED DISCONNECT SWITCH OR CIRCUIT BREAKER FOR EACH ELEVATOR, LOCATED PER THE NATIONAL ELECTRICAL CODE (NFPA NO. 70 RULE 620-51A AND 620-51B1) SEE SCHINDLER POWER SUPPLY DATA SHEET. WHERE PRACTICABLE, LOCATE INSIDE MACHINE ROOM ADJACENT TO THE DOOR.
  - SUITABLE FEEDER AND BRANCH WIRING CIRCUITS, AS REQUIRED FOR SIGNAL SYSTEM AND POWER OPERATED DOOR, INCLUDING MAIN LINE SWITCH. SEE SCHINDLER POWER SUPPLY DATA SHEET.
  - FEEDER AND BRANCH WIRING CIRCUITS FOR CAR LIGHT AND FAN, INCLUDING MAIN LINE SWITCH. SEE SCHINDLER POWER SUPPLY DATA SHEET.
  - CONVENIENCE OUTLET ON EACH CONTROL PANEL IN MACHINE ROOM.
  - TELEPHONE OUTLET ON ONE OF THE CONTROL PANELS IN MACHINE ROOM.
  - CLASS "C" FIRE EXTINGUISHERS IN ELECTRICAL MACHINERY AND CONTROL SPACES. EXTINGUISHERS SHALL BE LOCATED CONVENIENT TO THE ACCESS DOOR.

**SCHINDLER ELEVATOR CORPORATION**  
HANOVER, PENNSYLVANIA

HYDRAULIC ELEVATOR - PLANS AND DETAILS

**SPECIFICATIONS**

TYPE: HOLESLESS DUAL PISTON  
CAPACITY: 2100 LBS  
RATED SPEED: 100  
TRAVEL: 12'-0" (144")

BUILDING: \_\_\_\_\_ DATE: 11/11/2023 SHEET: \_\_\_\_\_ OF \_\_\_\_\_  
OWNER: \_\_\_\_\_ DRAWING NUMBER: \_\_\_\_\_  
ARCHITECT: \_\_\_\_\_ ENGR: \_\_\_\_\_  
DWN BY: \_\_\_\_\_ SCALE: \_\_\_\_\_

TYPICAL ELEVATOR DETAILS - VERIFY ALL DETAILS WITH SCHINDLER BEFORE CONSTRUCTION.



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A9.1  
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# GENERAL CONDITIONS

1. CODE: 2021 INTERNATIONAL BUILDING CODE
2. BUILDING GRAVITY LOADS:
  - A. LIVE LOAD: ROOF 20 PSF
  - B. SNOW LOAD: GROUND SNOW LOAD  $P_g$  5 PSF
3. BUILDING LATERAL LOADS:
  - A. WIND LOADS:
    - 1. BASIC WIND SPEED (3-SECOND GUST): 106 MPH
    - 2. WIND EXPOSURE CATEGORY: C
    - 3. RISK CATEGORY: II
    - 4. INTERNAL PRESSURE COEFFICIENT ( $G_c p_i$ ):  $\pm 0.18$
  - B. SEISMIC LOADS:
    - 1. RISK CATEGORY: II
    - 2. SEISMIC IMPORTANCE FACTOR ( $I_e$ ): 1.0
    - 3. MAPPED SPECTRAL RESPONSE COEFFICIENT ( $S_s$ ): 0.102
    - 4. MAPPED SPECTRAL RESPONSE COEFFICIENT ( $S_1$ ): 0.053
    - 5. SITE CLASS: D
    - 6. SPECTRAL RESPONSE COEFFICIENT ( $S_{ds}$ ): 0.108
    - 7. SPECTRAL RESPONSE COEFFICIENT ( $S_{d1}$ ): 0.085
    - 8. SEISMIC DESIGN CATEGORY: B
    - 9. BASIC SEISMIC FORCE RESISTING SYSTEM: LIGHT-FRAME (WOOD) WALLS SHEATHED W/ WOOD STRUCTURAL PANELS
    - 10. DESIGN BASE SHEAR ( $V$ ): 0.0165W
    - 11. SEISMIC RESPONSE COEFFICIENT ( $C_s$ ): 0.0166
    - 12. RESPONSE MODIFICATION COEFFICIENT ( $R$ ): 6.5
    - 13. ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE
4. STRUCTURE WAS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2021 EDITION (IBC 2021).
5. CONSULT STRUCTURAL ENGINEER IF LOCATIONS OR DESIGN WEIGHTS OF ROOF TOP UNITS DIFFER FROM THOSE ON PLANS.
6. FIELD VERIFY ALL RELEVANT DIMENSIONS AND CONDITIONS AT EXISTING STRUCTURES PRIOR TO STARTING SHOP DRAWINGS AND THE CONSTRUCTION PROCESS IN THOSE AREAS. SUBMIT APPROPRIATE PLANS AND DETAILS REFLECTING THE FIELD VERIFIED EXISTING CONDITIONS FOR THE ARCHITECTS USE.
7. EXISTING CONDITIONS WHICH REQUIRE MODIFICATIONS TO THE DESIGN OF THE PROPOSED CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE SADLER GROUP.
8. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO START OF CONSTRUCTION.
9. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF OTHER TRADES (MECHANICAL, ELECTRICAL, & ETC.) PRIOR TO FABRICATION AND INSTALLATION OF MATERIALS.
10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO FABRICATION, FORMING, OR PLACEMENT OF MATERIALS. GENERAL CONTRACTOR SHALL REPORT DISCREPANCIES IMMEDIATELY TO ARCHITECT AND SHALL PROCEED WITH CONSTRUCTION ONLY AFTER DISCREPANCY HAS BEEN RESOLVED.
11. THE DETAILS DESIGNATED AS "TYPICAL DETAILS" APPLY GENERALLY TO THE DRAWINGS IN ALL AREAS WHERE CONDITIONS ARE SIMILAR TO THOSE SHOWN IN THE DETAILS.
12. IF A CONFLICT EXIST BETWEEN PLANS AND SPECIFICATION, OR BETWEEN STRUCTURAL AND ARCHITECTURAL DRAWINGS THE CONTRACTOR SHALL REQUEST WRITTEN CONFORMANCE. IF IT IS NOT RESOLVED PRIOR TO SUBMITTING BIDS, THE CONTRACTOR SHALL PRICE THE MOST EXPENSIVE OPTION.
13. MATERIALS OR PRODUCTS SUBMITTED FOR APPROVAL WHICH ARE NOT AS SPECIFIED IN THE DOCUMENT SHALL BE ACCOMPANIED BY A CURRENT I.C.B.O. (INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS) REPORT. MATERIALS OR PRODUCTS THAT DO NOT HAVE I.C.B.O. REPORTS INDICATING THE SUBSTITUTED MATERIAL OR PRODUCT TO BE EQUAL TO THAT SPECIFIED, WILL NOT BE CONSIDERED.

# CODES & DESIGN SPECIFICATIONS

1. 2021 INTERNATIONAL BUILDING CODE (IBC 2021).
2. STRUCTURAL STEEL: "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, 2005.
3. STRUCTURAL WOOD: "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION," THE AMERICAN FOREST AND PAPER ASSOCIATION, 2005.
4. STRUCTURAL CONCRETE: "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-08)," THE AMERICAN CONCRETE INSTITUTE, 2008.
5. WHERE THERE IS A CONFLICT BETWEEN THE BUILDING CODE AND THE MATERIAL CODES, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN.

# SITE NOTES

1. THE FOUNDATION DESIGN IS BASED ON THE SOILS REPORTS PREPARED BY CRI LABS, PROJECT NUMBER 18-4667, DATED JULY 31, 2018.
2. ALL GRADE BEAMS SHALL BE FOUNDED A MINIMUM OF 2 FEET BELOW FINAL EXTERIOR GRADE.
3. THE GRADE BEAM EXCAVATIONS SHALL BE MADE TO NEAT LINES AND SHALL BE FREE OF LOOSE OR WET MATERIALS. CONCRETE SHALL BE PLACED DIRECTLY AGAINST THE SOIL WITHOUT FORMING.
4. PLACEMENT OF FILL SHALL BE IN ACCORDANCE WITH GEOTECHNICAL REPORT.
5. BUILDING PAD SHALL BE AS FOLLOWS:
  - A. THE BUILDING SITE AND AREAS TO BE PAVED SHALL BE STRIPPED OF ALL TOPSOIL, VEGETATION, ROOTS, OLD CONSTRUCTION DEBRIS, OR OTHER ORGANIC MATERIAL.
  - B. CONTRACTOR SHALL OVER EXCAVATE ONE AND A HALF (1.5) FEET OF EXISTING SOILS AND REPLACE WITH ONE (1) FOOT OF SELECT FILL.
  - C. THE SUB GRADE SHALL BE FIRM AND ABLE TO SUPPORT THE CONSTRUCTION EQUIPMENT WITHOUT DISPLACEMENT AND BE COMPACTED AS RECOMMENDED HEREIN. SOFT OR YIELDING SUB GRADE SHALL BE CORRECTED AND MADE STABLE BEFORE CONSTRUCTION PROCEEDS. ANY OLD TIE FOUND ON THE SITE SHALL BE WORKED TO PROVIDE ADEQUATE SUPPORT FOR FOUNDATIONS AND PAVEMENTS OR SHALL BE REMOVED. THE SUB GRADE SHALL BE PROOF ROLLED TO DETECT ANY SOFT SPOTS, WHICH IF EXIST, SHALL BE REWORKED, COMPACTED AND TESTED. PRIOR TO FILL PLACEMENT THE SUB GRADE SHALL BE SCARIFIED TO A DEPTH OF APPROXIMATELY EIGHT (8) INCHES AND RECOMPACTED TO THE DENSITY SET FORTH HEREIN.
  - D. ALL FILL REQUIRED IN BUILDING AREAS SHALL BE SELECT FILL HAVING A MAXIMUM PLASTICITY INDEX OF FIFTEEN (15) AND A LIQUID LIMIT LESS THAN THIRTY (30).
  - E. ALL FILL SHALL BE PLACED IN LOOSE LIFTS NOT EXCEEDING EIGHT (8) INCHES IN UNCOMPACTED THICKNESS, AND BE COMPACTED TO A DENSITY BETWEEN NINETY-FIVE (95) AND ONE HUNDRED (100) PERCENT OF STANDARD PROCTOR (ASTM D 698), AT A MOISTURE CONTENT RANGING FROM THREE (3) PERCENTAGE POINTS BELOW OPTIMUM TO THREE (3) PERCENTAGE POINTS ABOVE OPTIMUM (-3 TO +3).
  - F. COMPACTION TESTS SHALL BE TAKEN AS FOLLOWS: ONE FIELD DENSITY TEST PER LIFT. FOR EACH 2,500 SQUARE FEET FOR BUILDING AREAS. EACH LIFT SHALL BE COMPACTED, TESTED AND APPROVED BEFORE ANOTHER LIFT IS ADDED.
6. CONTRACTOR SHALL BRACE WALL OR GRADE BEAM WHILE PLACING BACKFILL OR FILL MATERIAL.

# LAMINATED VENEER LUMBER (LVL)

1. LAMINATED VENEER LUMBER SHALL BE SOUTHERN PINE OR DOUGLAS FIR HAVING A MINIMUM ALLOWABLE EXTREME FIBER BENDING STRESS  $F_b = 2600$  PSI AND A HORIZONTAL SHEAR STRESS  $F_v = 285$  PSI.
2. QUALITY ASSURANCES: MATERIALS, MANUFACTURE AND QUALITY CONTROL SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARD ANSI A190.1 (LATEST EDITION) AND BEAR APA-EWS (OR AITC) TRADEMARKS.
3. PROVIDE SIZES AND SHAPES SHOWN ON PLANS. FINAL DESIGN SIZES ARE SUBJECT TO THE MANUFACTURER. MANUFACTURER TO PROVIDE DESIGN CALCULATIONS AND TO DESIGN LAMINATED TIMBER MEMBERS IN ACCORDANCE WITH APPLICABLE PROVISIONS OF AITC 117, "DESIGN, STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES".
4. LAMINATED VENEER MANUFACTURER TO DESIGN AND FURNISH STEEL CONNECTIONS TO JOIN LAMINATED TO LAMINATED, AND LAMINATED TO SUPPORTS EXCLUSIVE OF ITEMS EMBEDDED IN CONCRETE OR WELDED TO STRUCTURAL STEEL OR CONNECTED TO STUD WALLS.
5. EXPOSED MEMBERS SHALL BE ARCHITECTURAL APPEARANCE GRADE 6. PROVIDE STANDARD WASHERS FOR MACHINE BOLTS AND LAG SCREWS WITH HEADS OR NUTS BEARING ON WOOD, UNLESS NOTED OTHERWISE.
6. MEMBERS NOT EXPOSED SHALL BE INDUSTRIAL GRADE. ARCHITECTURAL APPEARANCE GRADE BEAMS SHALL BE FINISHED WITH A FACTORY APPLIED PENETRATING SEALER AND INDIVIDUALLY WRAPPED. DO NOT REMOVE WRAPPING ON INDIVIDUALLY WRAPPED MEMBERS UNTIL IT WILL SERVE NO USEFUL PURPOSE, INCLUDING PROTECTION FROM THE WEATHER, SOILING AND DAMAGE FROM WORK OF OTHER TRADES.

# CONCRETE NOTES

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
2. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
3. LAP SPLICES SHALL BE IN ACCORDANCE WITH THE FOLLOWING TABLE, UNLESS NOTED OTHERWISE. WHERE CLASSES ARE NOT SPECIFIED ON DRAWINGS, USE CLASS "B" SPLICES.

MINIMUM LAP FOR SPLICES IN CONCRETE					
BAR SIZE	TENSION SPLICES				COMPRESSION SPLICES
	TOP BARS		OTHER BARS		
	A	B	A	B	
#3	1'-10"	2'-4"	1'-5"	1'-10"	1'-0"
#4	2'-5"	3'-1"	1'-10"	2'-5"	1'-5"
#5	3'-0"	3'-11"	2'-4"	3'-0"	1'-7"
#6	3'-7"	4'-8"	2'-9"	3'-7"	1'-11"

COMPRESSION DOWEL EMBEDMENT: 22 BAR DIAMETERS  
LAP WELDED WIRE FABRIC ONE SPACING OF CROSS WIRES PLUS 2".

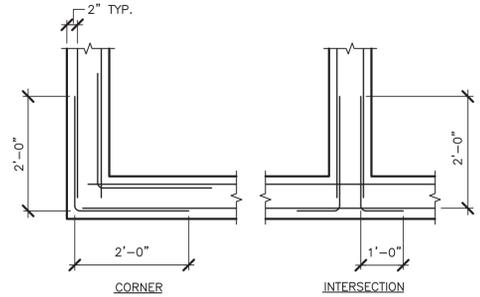
4. NON-SCHEDULED HORIZONTAL GRADE BEAM REINFORCEMENT SHALL BE CONTINUOUS AND PLACED AS FOLLOWS:
  - TOP BARS - SHALL BE SPLICED, 30 BAR DIAMETERS, AT THE MID-POINT BETWEEN SUPPORTS. PROVIDE STANDARD ACI HOOKS AT ENDS OF BEAMS.
  - BOTTOM BARS - SHALL BE SPLICED OVER EACH INTERIOR SUPPORT AND SHALL EXTEND 12" INTO ADJACENT SPAN.
5. STIRRUPS SHALL BE SPACED AS SPECIFIED, STARTING FROM THE FACE OF EACH SUPPORT, WHERE THE FIRST STIRRUP IS SPACED AT "S/2" FROM THE FACE OF THE SUPPORT, WHERE "S" IS THE FIRST SPECIFIED STIRRUP SPACING.
6. PROVIDE CORNER BAR REINFORCEMENT AT ALL CORNERS AND INTERSECTIONS OF GRADE BEAMS OR WALLS. REFER TO TYPICAL DETAIL ON SHEET S1 FOR PLACEMENT AND ADDITIONAL NOTES.
7. ALL REINFORCEMENT SHALL BE DETAILED IN ACCORDANCE WITH THE LATEST ACI DETAILING MANUAL. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS, CONDUIT, CHAMFERS AND EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT.

# WOOD NOTES

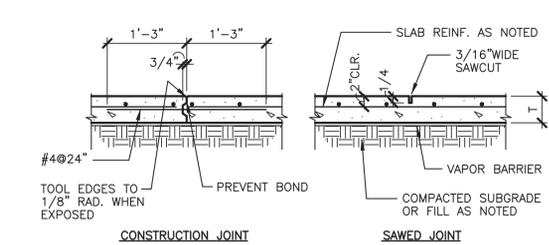
1. DIMENSION LUMBER FOR ROOF JOISTS, RAFTERS OR EXTERIOR LOAD BEARING STUDS SHALL BE SOUTHERN PINE #2 OR BETTER, 19% KD. DESIGN VALUES ARE AS FOLLOWS:
  - 2X4's  $F_b = 1500/1725$  PSI FOR SINGLE/REPETITIVE USE, AND  $F_v = 90$  PSI.
  - 2X6's  $F_b = 1250/1440$  PSI FOR SINGLE/REPETITIVE USE, AND  $F_v = 90$  PSI.
  - 2X8's  $F_b = 1200/1380$  PSI FOR SINGLE/REPETITIVE USE, AND  $F_v = 90$  PSI.
  - 2X10's  $F_b = 1050/1200$  PSI FOR SINGLE/REPETITIVE USE, AND  $F_v = 90$  PSI.
  - 2X12's  $F_b = 975/1120$  PSI FOR SINGLE/REPETITIVE USE, AND  $F_v = 90$  PSI.
2. PLYWOOD ROOF DECK SHALL BE 19/32" THICK APA RATED SHEATHING, EXPOSURE 1 (PLYWOOD OR OSB). FOR UNBLOCKED DIAPHRAGMS NAIL DECK TO SUPPORTS WITH 10d COMMON NAILS AT 6" ON CENTER AT DIAPHRAGM BOUNDARIES AND SUPPORTING MEMBERS. FOR BLOCKED DIAPHRAGMS THE DECK SHALL BE NAILED WITH 10d COMMON NAILS AT 4" ON CENTER AT DIAPHRAGM BOUNDARIES, 6" ON CENTER AT OTHER PANEL EDGES AND AT 12" ON CENTER ALONG INTERMEDIATE FRAMING MEMBERS. FASTENERS SHALL BE LOCATED A MINIMUM OF 3/8" FROM PANEL EDGES.
3. EXTERIOR SHEATHING ON PLYWOOD SHEAR WALLS SHALL BE 15/32" THICK APA RATED SHEATHING, EXPOSURE 1 (PLYWOOD OR OSB). NAIL PANELS TO VERTICAL STUDS WITH 8d COMMON NAILS, REFER TO DETAILS FOR SPACING. FASTENERS SHALL BE LOCATED A MINIMUM OF 3/8" FROM PANEL EDGES.
4. WOOD CONNECTORS SHALL BE SIMPSON OR BETTER.
5. SILL ON CONCRETE SHALL BE FOUNDATION GRADE REDWOOD OR PRESSURE TREATED SOUTHERN PINE OR FIR, ANCHORED WITH 5/8 INCH DIAMETER X 10" ANCHOR BOLTS AT 48 INCHES O.C., UNLESS NOTED OTHERWISE ON SHEAR WALL SCHEDULE. MINIMUM OF 2 BOLTS PER PIECE WITH ONE BOLT WITHIN 9 INCHES OF EACH END.
6. PROVIDE STANDARD WASHERS FOR MACHINE BOLTS AND LAG SCREWS WITH HEADS OR NUTS BEARING ON WOOD, UNLESS NOTED OTHERWISE.
7. NAILING SCHEDULE - ALL MEMBERS THROUGHOUT THIS PROJECT SHALL BE CONNECTED TOGETHER WITH NAILS LISTED IN THIS SCHEDULE UNLESS A GREATER NUMBER OR SIZE IS INDICATED ON DRAWINGS. ALL NAILS SHALL BE A COMMON WIRE AND STANDARD LENGTH EXCEPT AS OTHERWISE NOTED.
  - JOISTS OR RAFTERS TO ALL BEARING STUDS TO BEARING:
    - 2-8d TOENAILS EA. SIDE
    - 4-8d TOENAILS EA. SIDE
    - OR 2-16d END NAILS
    - 2-8d TOENAILS EA. SIDE
    - 2-8d NAILS EACH END
    - 16d @ 12" O.C. MAX.
    - 2-16d TO EA. BEARING
    - 10d TOENAILS @ 6" O.C.
  - BLOCKING BETWEEN JOISTS OVER TOP PLATE:
    - HERRINGBONE AND STUD BLOCKING
    - MULTIPLE STUDS AND BUILT-UP BEAMS
    - 2X CEILING STRIPPING (FURRING)
    - BLOCKING BETWEEN RAFTERS OVER TOP PLATE
  - DOUBLE TOP PLATES:
    - LOWER PLATE TO TOP STUD: 2-16d NAILS
    - UPPER PLATE TO LOWER PLATE: 16d @ 6" O.C. (MIN. 8" LAP)
    - PLYWOOD OR OSB SHEATHING (U.N.O.): 8d COMMON @ 6" O.C. PLY EDGES, 8d COMMON @ 12" O.C. FIELD
8. PREFABRICATED WOOD TRUSSES SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN ACCORDANCE WITH THE LATEST EDITION OF THE "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AS RECOMMENDED BY THE AMERICAN FOREST AND PAPER ASSOCIATION.
9. ROOF TRUSSES SHALL BE DESIGNED FOR THE FOLLOWING UNIFORM LOADS:
  - FLAT ROOF:
    - DESIGN LIVE LOADS: 20 PSF
    - DESIGN DEAD LOADS: 20 PSF
  - PITCHED ROOF: (5/12 SLOPE)
    - DESIGN LIVE LOAD: 16 PSF
    - DESIGN DEAD LOAD: 20 PSF
10. TRUSSES SHALL ALSO BE DESIGNED TO SUPPORT THE CONCENTRATED LOADS AS SHOWN ON THE STRUCTURAL DRAWINGS.
11. DEFLECTION DUE TO LIVE LOAD SHALL BE LIMITED TO L/360 AND DEFLECTION DUE TO LIVE LOAD + DEAD LOAD + CREEP SHALL BE LIMITED TO L/240.

# STRUCTURAL STEEL

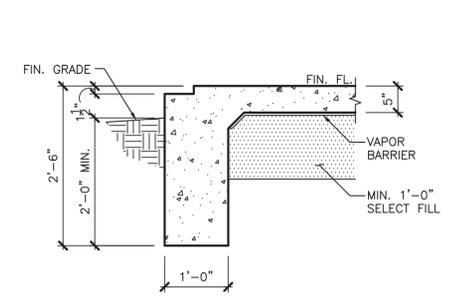
1. ALL STEEL PIPES SHALL BE ASTM A53 GRADE B ( $F_y=35$  KSI) STEEL, ALL TUBES (HSS SECTIONS) SHALL BE ASTM A500 GRADE B ( $F_y=46$  KSI) STEEL, AND ALL WIDE FLANGE SECTIONS SHALL BE ASTM A992 ( $F_y=50$  KSI) STEEL.
2. ALL OTHER STRUCTURAL STEEL SHALL BE ASTM A36 STEEL.
3. STEEL JOISTS SHALL MEET ALL SPECIFICATIONS OF THE LATEST S.J.I. EDITION,  $F_y=50$  KSI.
4. STEEL JOISTS AND BRIDGING SHALL BE DESIGNED BY MANUFACTURERS FOR NET UPLIFT FORCES DUE TO WIND OF 10 P.S.F.
5. CONNECTIONS SHALL BE DESIGNED AND FABRICATED ACCORDING TO THE FOLLOWING NOTES:
  - A. ALL CONNECTIONS SHALL BE TYPE 2 CONSTRUCTION, FRAMED BEAM CONNECTIONS CONFORMING TO PART 4 TABLES II AND III, OF AISC MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN, NINTH EDITION.
  - B. ALL TYPE 2 BEAM CONNECTIONS SHALL BE STANDARD DOUBLE ANGLE TYPE UNLESS DETAILED OTHERWISE. CONNECTIONS MAY BE 100% BOLTED IN ACCORDANCE WITH TABLE II OR A COMBINATION OF WELDS AND BOLTS PER TABLE III.
  - C. ALL BOLTED CONNECTIONS SHALL USE A325-N BOLTS (LAJUENE IS ACCEPTABLE) UNLESS NOTED OTHERWISE. MINIMUM NUMBER AND SIZE OF BOLTS PER CONNECTION SHALL BE TWO (2) 3/4 INCH DIAMETER BOLTS. ALL CONNECTIONS SHALL DEVELOP A MINIMUM SHEAR CAPACITY OF 6 KIPS.
  - D. CONNECTIONS SHALL BE SELECTED TO CARRY THE END REACTIONS AS SHOWN OR SCHEDULED ON THE DRAWINGS. STEEL FABRICATOR TO SELECT ANGLE SIZES, WELD SIZES, AND NUMBER AND SIZE OF BOLTS IN CONFORMANCE WITH AISC STEEL MANUAL INCLUDING TABLE, SPECIFICALLY TABLES II AND/OR III.
  - E. WHEN THE END REACTIONS ARE NOT SHOWN OR SCHEDULED ON THE DRAWINGS, FABRICATE CONNECTIONS WITH 1/4 INCH THICK DOUBLE ANGLES, USING 3/4" DIA. A325-N BOLTS. THE NUMBER OF HORIZONTAL ROWS OF BOLTS SHALL BE DETERMINED BY DIVIDING THE NOMINAL BEAM DEPTH BY 5.5 AND ROUNDING ANY FRACTION UP TO THE NEXT HIGHEST NUMBER.
6. ALL WELDS SHALL BE MADE USING E70 ELECTRODES.



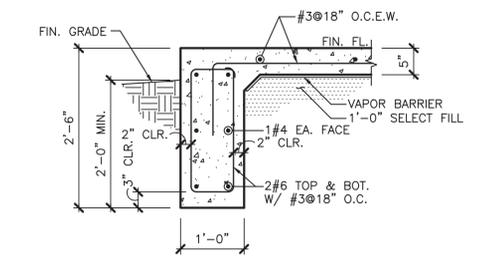
1 TYPICAL DETAIL  
SCALE: 3/4"=1'-0"



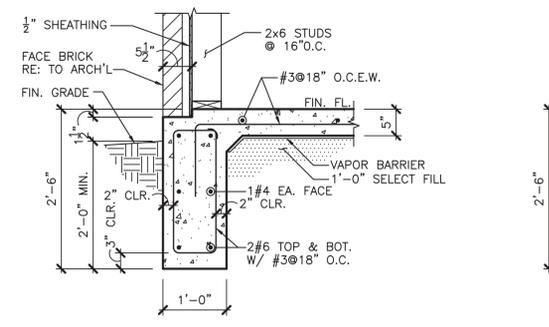
2 CONTROL JOINT DETAILS  
SCALE: 3/4"=1'-0"



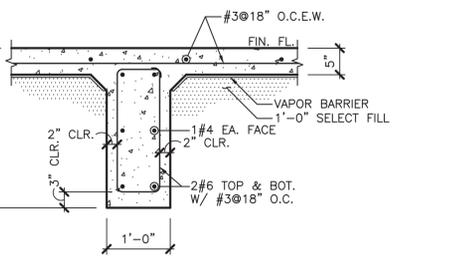
3 SECTION  
SCALE: 3/4"=1'-0"



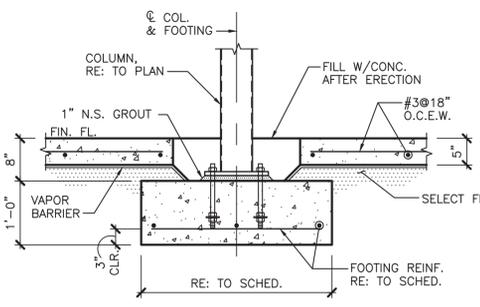
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SCALE: 3/4"=1'-0"



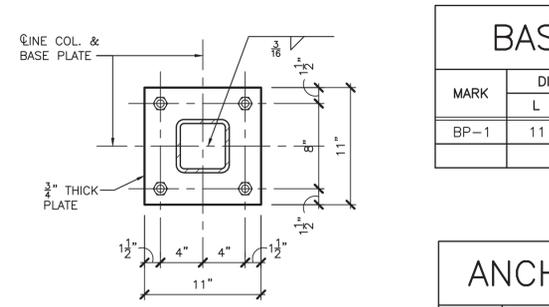
5 SECTION  
SCALE: 3/4"=1'-0"



6 SECTION  
SCALE: 3/4"=1'-0"



7 SECTION  
SCALE: 3/4"=1'-0"



8 B.P. DETAIL  
SCALE: 1-1/2"=1'-0"

# FOOTING SCHEDULE

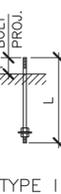
MARK	DIMENSIONS			DETAIL	REINFORCEMENT
	L	W	D		
F1	3'-0"	3'-0"	1'-0"	7/S1	#5@12" O.C.E.W. BOT.
F2	5'-0"	5'-0"	1'-0"	7/S1	#5@12" O.C.E.W. BOT.
F3	6'-0"	3'-0"	1'-0"	7/S1	#5@12" O.C.E.W. BOT.

# BASE PLATE SCHEDULE

MARK	DIMENSIONS (IN.)			THICK (IN.)	ANCHOR BOLTS	DETAIL
	L	W	X			
BP-1	11	11		3/4	(4)AB-1	8/S1

# ANCHOR BOLT SCHEDULE

TYPE	MARK	DIA. (IN.)	DIMENSIONS (IN.)			MATERIAL
			L	H	P	
I	AB-1	3/4	12	--	3	F1554 GRADE 55



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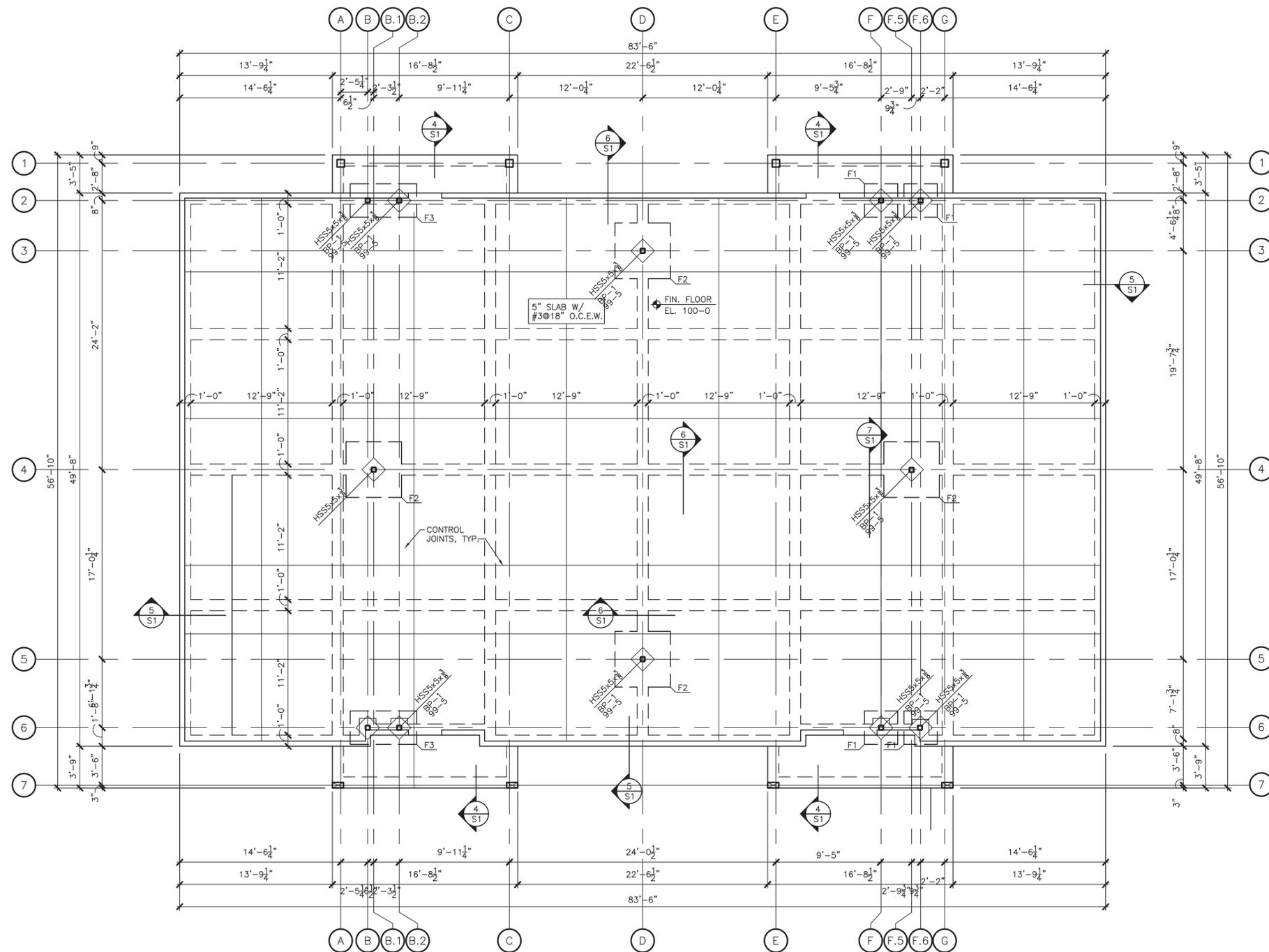
Thomas R. Sadler  
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FAX (817) 338-0335  
EMAIL: tsadler@swbell.net

DATE: 11/21/2023	SCALE: AS NOTED	DRAWN BY: GTS	CHECKED BY: TRS
JOB NAME: SHELL BUILDING 1716 KELLER PARKWAY KELLER, TEXAS 76248		JOB NUMBER: 23-282	
		SHEET: S1	

# APPROVED



# APPROVED

## 1 FOUNDATION PLAN

SCALE: 3/16"=1'-0"

### TYPICAL FOUNDATION PLAN NOTES

- REFER TO SHEET S1 FOR GENERAL NOTES AND TYPICAL DETAILS NOT NOTED ON PLAN.
- FIN. FL. = DATUM EL. 100'-0", ACTUAL EL. =
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
- FLOOR SLAB SHALL BE 5" THICK SLAB-ON-GRADE, REINFORCED WITH #3@18" O.C.E.W. CENTERED IN SLAB.
- PROVIDE 2#4 X 3'-0" ADDITIONAL SLAB REINFORCING, CENTERED IN SLAB AT ALL INTERIOR CORNERS WHERE A CONSTRUCTION OR SAWN JOINT DOES NOT OCCUR.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT OF ALL LEDGES, POCKETS OR DEPRESSIONS.
- REFER TO ARCHITECTURAL DRAWINGS AND SPECS FOR FINISH AND JOINT PATTERNS ON CONCRETE WALKS AND SLABS.
- COLUMNS ARE NOTED ON PLAN THUS:  
HSS5x5x1/8 COLUMN SIZE  
BP-1 BASE PLATE MARK  
99-5 BASE PLATE ELEVATION

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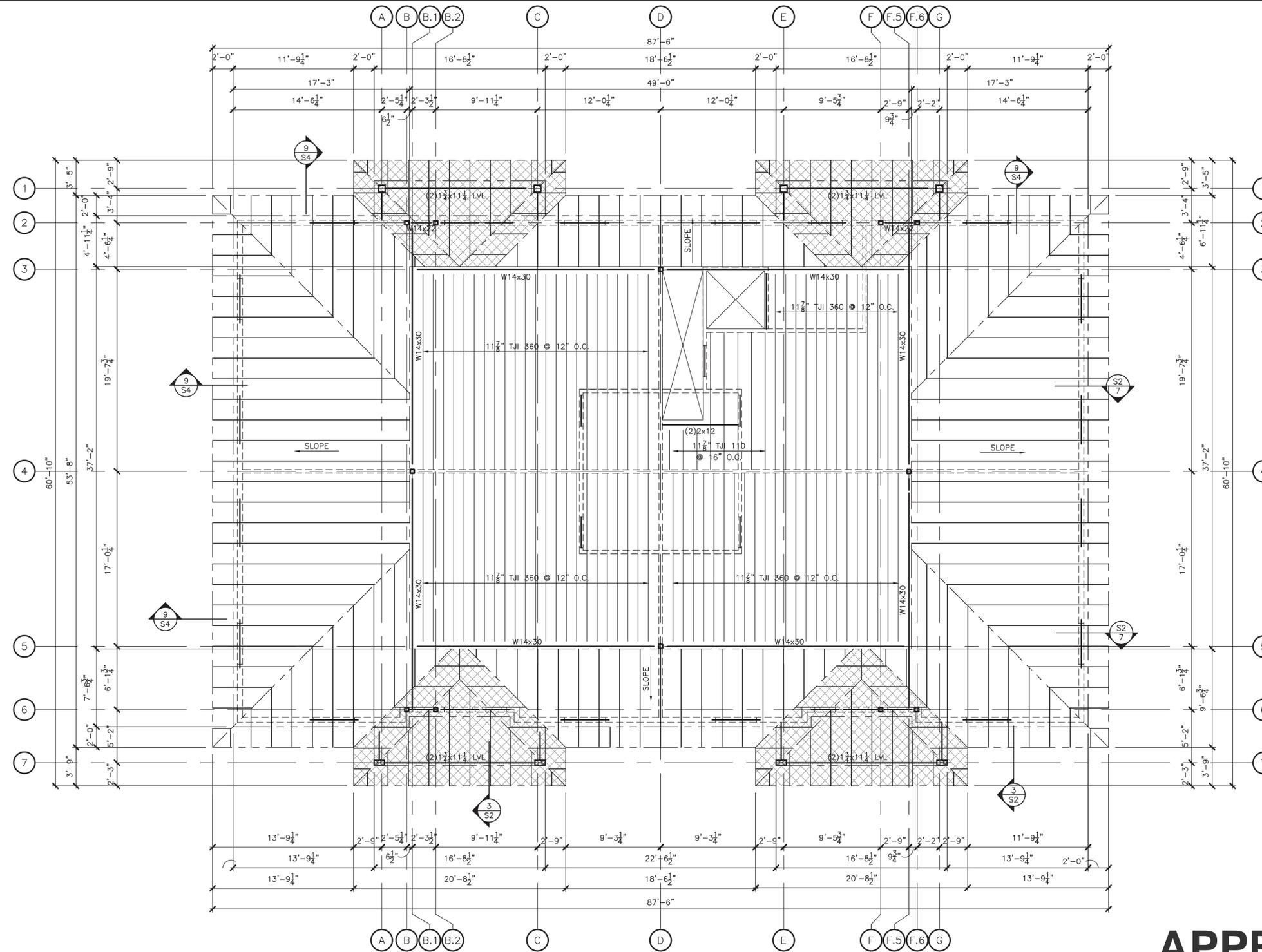


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			SHEET
			S2



**1 ROOF FRAMING PLAN**  
 SCALE: 3/16"=1'-0"  
 NORTH

**ROOF FRAMING PLAN NOTES**

- REFER TO SHEET S1 FOR GENERAL NOTES & SPECIFIC NOTES COVERING ROOF FRAMING.
- ROOF DECK SHALL BE A 1/2" THICK PLYWOOD DECK, APA C-D PLUGGED INTERIOR GRADE WITH EXTERIOR GLUE. NAIL TO FRAMING MEMBERS WITH 10d NAILS SPACED AT 6 INCHES ON CENTER AT PANEL EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS. DIAPHRAGM VALUES BASED ON UN-BLOCKED PANEL EDGES.
- ROOF TRUSSES TO BE OPEN WEB PRE-ENGINEERED WOOD JOISTS OR TRUSSES SPACED AT 24 INCHES ON CENTER.
- SHEATHE ALL EXTERIOR SHEAR WALLS WITH 1/2" THICK, APA EXTERIOR, STRUCTURAL GRADE 1 PLYWOOD. REFER TO THE SHEAR WALL DETAIL ON SHEET S5 FOR NAIL SIZE, SPACING, AND HOLD-DOWN REQUIREMENTS.
- INTERIOR FRAMING TO BE 2x6, #2 SOUTHERN PINE, 19% KD WOOD STUDS SPACED AT 16" ON CENTER. USE TRIPLE STUDS AT ALL GLULAM BEARING POINTS AND DOUBLE STUDS AT ALL CONVENTIONALLY FRAMED BEARING POINTS.
- WOOD TRUSSES SHALL BE ERECTED AND BRACED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE'S (TPI) PUBLICATION "COMMENTARY AND RECOMMENDATIONS FOR HANDLING AND ERECTING WOOD TRUSSES" AND THE TRUSS MANUFACTURER'S RECOMMENDATIONS.
- EQUIPMENT SHALL NOT BE HUNG FROM THE BOTTOM CHORD OF THE ROOF TRUSSES. ONLY HANG EQUIPMENT FROM THE TOP CHORD.
- ALL WINDOW LINTELS (L1) SHALL BE 2-2x10s UNLESS NOTED OTHERWISE ON PLAN.
- COORDINATE ATTIC ACCESS PRIOR TO PLACING TRUSSES.
- ON PLAN DENOTES 2x OVERBUILD.

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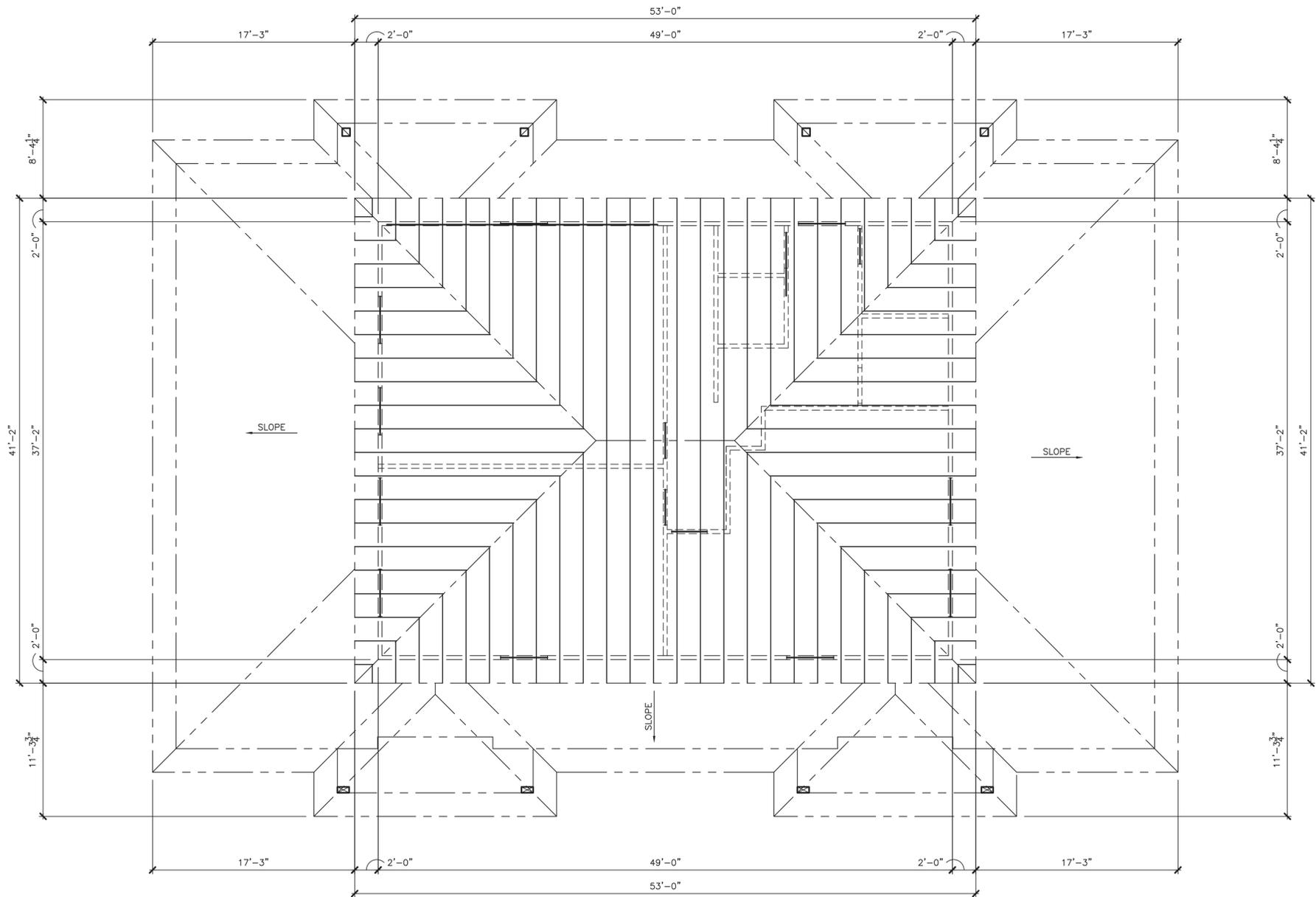


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		SHEET: S3	



**1 ROOF FRAMING PLAN**  
 SCALE: 3/16"=1'-0"  
 NORTH

**ROOF FRAMING PLAN NOTES**

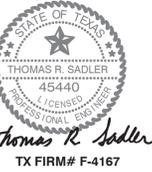
- REFER TO SHEET S1 FOR GENERAL NOTES & SPECIFIC NOTES COVERING ROOF FRAMING.
- ROOF DECK SHALL BE A  $\frac{3}{8}$ " THICK PLYWOOD DECK, APA C-D PLUGGED INTERIOR GRADE WITH EXTERIOR GLUE. NAIL TO FRAMING MEMBERS WITH 10d NAILS SPACED AT 6 INCHES ON CENTER AT PANEL EDGES AND 12 INCHES ON CENTER AT INTERMEDIATE FRAMING MEMBERS. DIAPHRAGM VALUES BASED ON UN-BLOCKED PANEL EDGES.
- ROOF TRUSSES TO BE OPEN WEB PRE-ENGINEERED WOOD JOISTS OR TRUSSES SPACED AT 24 INCHES ON CENTER.
- SHEATH ALL EXTERIOR SHEAR WALLS WITH  $\frac{3}{8}$ " THICK, APA EXTERIOR, STRUCTURAL GRADE 1 PLYWOOD. REFER TO THE SHEAR WALL DETAIL ON SHEET S5 FOR NAIL SIZE, SPACING, AND HOLD-DOWN REQUIREMENTS.
- INTERIOR FRAMING TO BE 2x6, #2 SOUTHERN PINE, 19% KD WOOD STUDS SPACED AT 16" ON CENTER. USE TRIPLE STUDS AT ALL GLULAM BEARING POINTS AND DOUBLE STUDS AT ALL CONVENTIONALLY FRAMED BEARING POINTS.
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- EQUIPMENT SHALL NOT BE HUNG FROM THE BOTTOM CHORD OF THE ROOF TRUSSES. ONLY HANG EQUIPMENT FROM THE TOP CHORD.
- ALL WINDOW LINTELS (L1) SHALL BE 2-2x10s UNLESS NOTED OTHERWISE ON PLAN.
- COORDINATE ATTIC ACCESS PRIOR TO PLACING TRUSSES.

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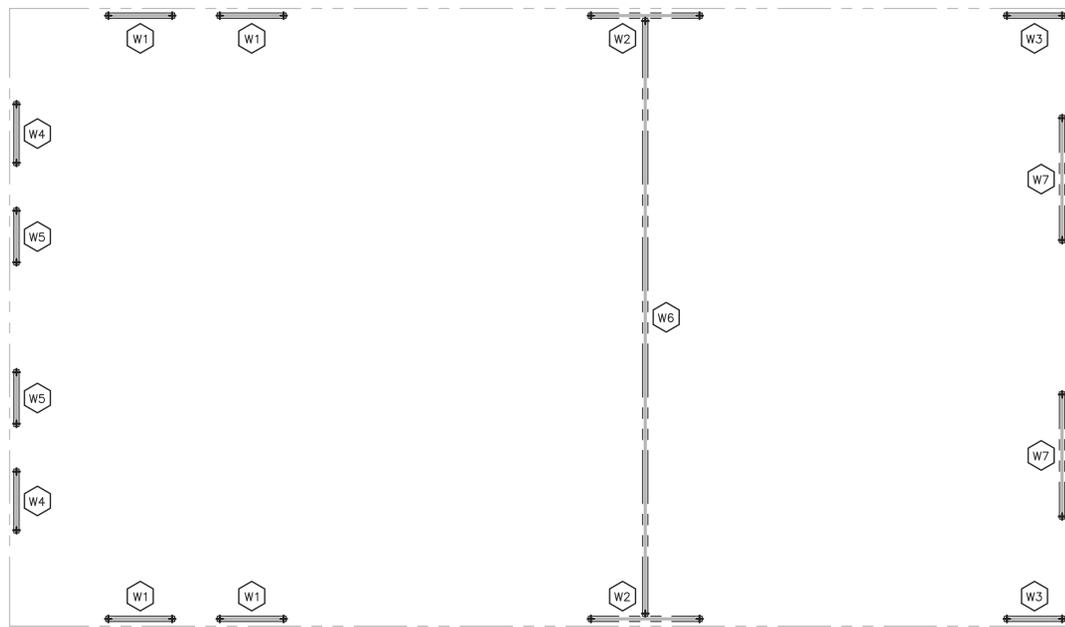


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							SHEET:	S4

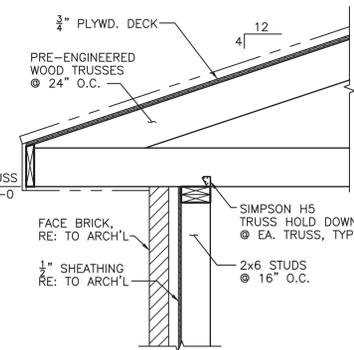


**1 SHEAR WALL KEY PLAN**  
SCALE: N.T.S.

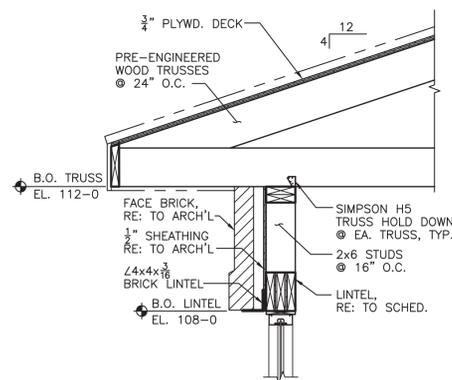
SHEAR WALL SCHEDULE									
MARK	PANEL SHEATHING	FACES OF SHEATHING	EDGE NAILING	FIELD NAILING	END POST	HOLD DOWN EA. END	HOLD DOWN BOLTS	HOLD DOWN POST FASTENERS	TENSION LOADS
W1	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	1,417 LBS
W2	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	1,372 LBS
W3	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	1,434 LBS
W4	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	2,134 LBS
W5	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	2,158 LBS
W6	5/8" GYP. SHEATHING @ 7" O.C.	TWO	6d COOLER @ 7" O.C.	8d @ 12"	(2)-2X4	DTT2Z	1/2" F1554 GRADE 55 ANCHOR BOLTS	(8) 1/4"x1 1/2" SDS	848 LBS
W7	15/32" OSB SHEATHING	ONE	8d @ 6"	8d @ 12"	(2)-2X6	HDU2-SDS2.5	5/8" F1554 GRADE 55 ANCHOR BOLTS	(6) 1/4"x2 1/2" SDS	1,252 LBS

**NOTES:**

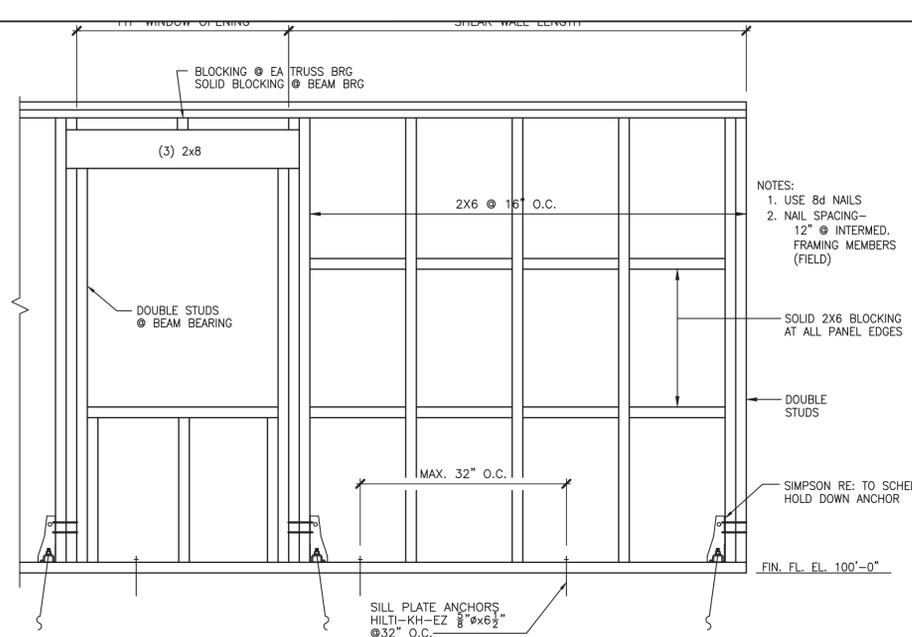
- W1 - INDICATES SHEAR WALL - WALL 1  
 W2 - INDICATES WALL NUMBER - REFER TO KEY PLAN  
 + - INDICATES SHEAR WALL HOLD-DOWNS (HDU2-SDS2.5 TYP.)
- FRAMING AT ADJOINING PANEL EDGES SHALL BE 3" NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED WHERE NAILS ARE SPACED 2" O.C.
- FRAMING AT ADJOINING PANEL EDGES SHALL BE 3" NOMINAL OR WIDER AND NAILS SHALL BE STAGGERED WHERE BOTH OF THE FOLLOWING CONDITIONS ARE MET: (1) 10d (3"x0.148") NAILS HAVING PENETRATION INTO FRAMING OF MORE THAN 1 1/2" AND (2) NAILS ARE SPACED 3" O.C.



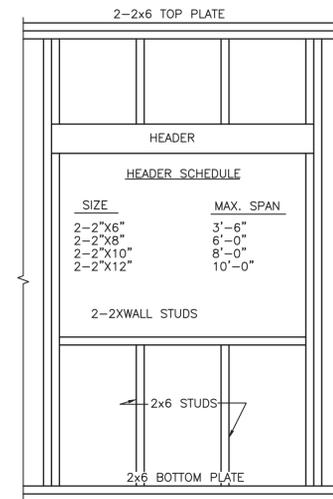
**8 SECTION**  
SCALE: 3/4"=1'-0"



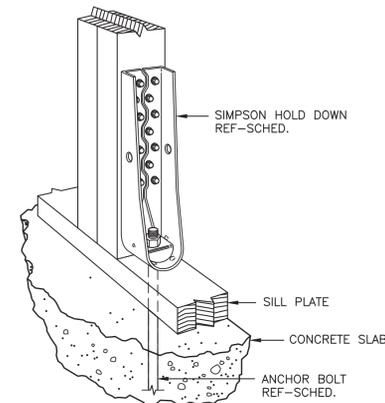
**9 SECTION**  
SCALE: 3/4"=1'-0"



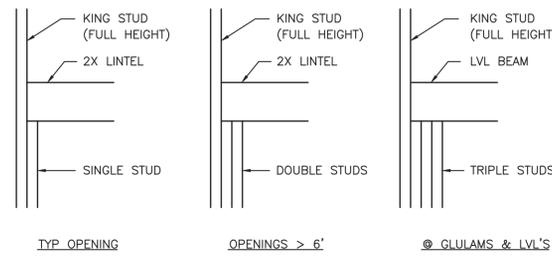
**2 TYP. SHEAR WALL ELEV.**  
SCALE 3/4"=1'-0"



**3 TYPICAL HEADER DETAIL**  
SCALE 3/4"=1'-0"



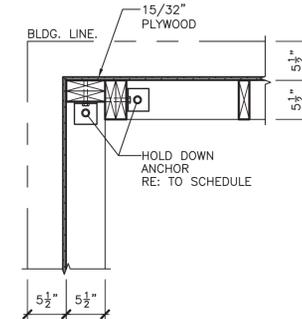
**4 DETAIL**  
SCALE: N.T.S.



NOTE: REFER TO PLAN FOR LINTEL, OPENING, AND STUD SIZES

LINTEL SCHEDULE		
MARK	SIZE	MAX SPAN
L1	(3)2x8	6'-0"
L2	(3)2x12	10'-0"

**5 TYP. LINTEL SUPPORT**  
SCALE 3/4"=1'-0"



SHEAR WALL CORNER DETAIL

**6 DETAIL**  
SCALE: 3/4"=1'-0"

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			SHEET: S5

## NOTES TO MECHANICAL CONTRACTOR

### I. HVAC GENERAL REQUIREMENTS

A. GENERAL CONDITIONS  
ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE CONDITIONS OF THE BID PROPOSAL AND THE AMERICAN INSTITUTE OF ARCHITECTS.

B. CODES  
ALL WORK SHALL BE IN ACCORDANCE WITH THE RULES AND REGULATIONS OF LOCAL CODES AND ORDINANCES AND OTHER AUTHORITIES HAVING JURISDICTION (AHJ). ALL REQUIRED PERMITS AND CERTIFICATES OF INSPECTION SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR AND PERTINENT CERTIFICATES SHALL BE DELIVERED TO THE OWNERS REPRESENTATIVE BEFORE FINAL ACCEPTANCE.

C. INSPECTION OF SITE  
THE CONTRACTOR SHALL VISIT THE PREMISES OF HIS PROPOSED WORK AND SHALL CAREFULLY EXAMINE THE EXISTING CONDITIONS AND LIMITATIONS THEREOF. VERIFICATION SHALL BE MADE AS TO THE ACTUAL LOCATIONS WHERE NEW DUCT RUNS AND PIPE RUNS WILL TIE IN TO STRUCTURAL MEMBERS. THE DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL DUCTWORK AND EQUIPMENT AND INDICATE REQUIRED SIZE AND POINTS OF TERMINATION OF DUCTS AND PIPES AND SUGGEST ROUTES OF DUCTS AND PIPES. HOWEVER, IT IS NOT THE INTENTION OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS OR STRUCTURAL CONDITIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL HIS WORK IN SUCH A MANNER THAT IT WILL CONFORM TO THE STRUCTURE. AVOID OBSTRUCTION, PRESERVE HEADROOM AND KEEP OPENING AND PASSAGEWAYS CLEAR WITHOUT FURTHER INSTRUCTIONS OR COST.

D. SHOP DRAWINGS AND SAMPLE SUBMITTALS  
SUBMIT "SHOP DRAWINGS AND SAMPLES" FOR APPROVAL. SHOP DRAWINGS SUBMITTAL SHALL INCLUDE DIMENSIONS, THICKNESS, PROFILES, TYPE OF MATERIAL, METHOD OF FASTENING, RELATION TO ADJACENT WORK AND ALL OTHER NECESSARY DETAILS TO FULLY DESCRIBE THE ITEM SUBMITTED. SHEET METAL SHOP DRAWINGS SHALL BE DRAWN TO 3/8" SCALE. ALL SHOP DRAWINGS AND CUTS WILL BE REVIEWED FOR ALL DESIGN APPEARANCE ONLY. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ERRORS ON THEIR DRAWINGS. IF THE CONTRACTOR PROPOSES TO SUBSTITUTE WORK HE MUST ADHERE TO THE INTENT THAT MATERIALS TO BE SUBSTITUTED MUST BE OF GREATER QUALITY AND THAT THE ENGINEER APPROVES THE SUBSTITUTIONS. CHANGES IN MECHANICAL EQUIPMENT, DUCTWORK OR ELECTRICAL EQUIPMENT TO SUIT THE SUBSTITUTION SHALL BE MADE WITH NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL SUBMIT THREE (3) COPIES EACH OF SHOP DRAWINGS FOR ALL EQUIPMENT AND MATERIAL INDICATED ON THE DRAWING. SHOP DRAWINGS SHALL BE SUBMITTED WITH COMPLETE BROCHURES GIVING NAMES OF MANUFACTURERS AND CATALOG FIGURE NUMBERS, TRADE NAMES, TECHNICAL DATA, PERFORMANCE DATA AND REQUESTED INFORMATION OF EACH ITEM TO BE FURNISHED. SUBMITTAL DATA SHALL BE REFERRED TO THE SECTION AND PARAGRAPH NUMBERS OF THE SPECIFICATIONS AND TO THE FIXTURE AND EQUIPMENT NUMBERS LISTED OR SHOWN ON THE DRAWINGS.

E. SYSTEM BALANCING  
HVAC SYSTEM TO BE BALANCED BY TDLR CERTIFIED MECHANICAL CONTRACTOR.

F. OPERATING INSTRUCTIONS  
THREE SETS OF OPERATING INSTRUCTIONS AND RECOMMENDED MAINTENANCE PROCEDURES FOR THE HVAC SYSTEMS SHALL BE DELIVERED TO THE OWNER BEFORE FINAL COMPLETION OF HIS WORK. AT THE COMPLETION OF THE JOB, THE CONTRACTOR SHALL DELIVER TO THE DESIGNER A COMPLETE SET OF DRAWINGS AS TO EXACT LOCATION AND SIZES OF ALL EQUIPMENT AND DUCTWORK INSTALLED.

G. AS-BUILT DRAWINGS  
THE HVAC CONTRACTOR SHALL PROVIDE AT HIS COST A SET OF "AS-BUILT" DRAWINGS. ALL CHANGES SHALL BE CORRECTED ON THE "AS-BUILT DRAWINGS". IF NO CHANGES WERE MADE IN THE INSTALLATION, THE DRAWINGS SHALL BE STAMPED "AS BUILT DRAWINGS" WITH THE DATE AND THE CONTRACTORS' SIGNATURE. TWO PRINTS AND TWO SEPIAS SHALL BE DELIVERED TO THE OWNER.

H. CLEANING  
UPON COMPLETION OF HIS WORK AND PERIODICALLY DURING CONSTRUCTION THE CONTRACTOR SHALL REMOVE ALL RUBBISH AND EXCESS MATERIAL, ACCUMULATED AS A RESULT OF HIS OPERATION. ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT SHALL BE THOROUGHLY CLEAN OF DUST AND DEBRIS BEFORE FINAL ACCEPTANCE BY THE OWNER.

I. ACCESS  
LEAVE WORK READILY ACCESSIBLE FOR OPERATION, MAINTENANCE AND REPAIR. PROVIDE ACCESS DOORS IN DUCTWORK AS REQUIRED.

J. CUTTING AND PATCHING  
ALL CUTTING THROUGH THE WALLS REQUIRED FOR OR IN CONNECTION WITH THE HVAC SYSTEMS SHALL BE BY THIS CONTRACTOR. PATCHING SHALL BE BY THE GENERAL CONTRACTOR.

K. SUPERVISION  
MAINTAIN A FIELD REPRESENTATIVE ON THE PREMISES AT ALL TIMES DURING THE COURSE OF THE CONSTRUCTION WORK.

L. VIBRATION CONTROL  
FREEDOM FROM VIBRATION AND NOISE IS ESSENTIAL. TAKE PARTICULAR CARE IN INSTALLING VIBRATION ISOLATION MOUNTS AND HANGERS IN ACCORDANCE WITH VIBRATION MANUFACTURERS' REQUIREMENTS SO THAT VIBRATION FROM OPERATING EQUIPMENT IS NOT TRANSMITTED TO THE STRUCTURE OR OTHER WORK.

M. SMOKE DETECTORS  
PROVIDE SMOKE DETECTORS IN THE DISCHARGE DUCT FROM A.C. UNITS 2000 CFM AND GREATER. SMOKE DETECTORS SHALL SHUT DOWN FANS. WIRING OF SMOKE DETECTORS SHALL BE BY FIRE ALARM INSTALLER.

N. GUARANTEES  
ALL WORK DONE AND EQUIPMENT FURNISHED UNDER THE HVAC CONTRACT SHALL BE GUARANTEED FREE FROM MECHANICAL OR ELECTRICAL DEFECTS FOR A PERIOD OF A MINIMUM OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE OF THE WORK. THE GUARANTEE SHALL BE IN WRITING.

### 2. SCOPE OF WORK

PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES FOR THE PROPER INSTALLATION AND OPERATION OF THE FOLLOWING, BUT NOT LIMITED TO.

A. ALL ROOF TOP PACKAGE UNITS, SPLIT SYSTEMS AND UNIT HEATER SYSTEMS.

B. DUCTWORK AND ALL ACCESSORIES

C. VIBRATION CONTROL DEVICES AS NECESSARY.

D. DUCT INSULATION ON ALL DUCTWORK AS SPECIFIED BELOW OR WHERE SHOWN ON DRAWINGS.

E. FANS AND CONTROLS. (ALL POWER WIRING TO BE INSTALLED BY ELECTRICAL CONTRACTOR)

F. AUTOMATIC CONTROLS (TO BE WIRED BY ELECTRICAL CONTRACTOR).

G. IDENTIFICATION TAGS ON ALL ROOFTOP EQUIPMENT.

### 3. DUCTWORK

A. METAL DUCTWORK SHALL BE CONSTRUCTED OF GALVANIZED STEEL PER ASHRAE GUIDE (LATEST EDITION). DUCT JOINTS SHALL BE SEALED AIRTIGHT WITH APPROVED TYPE CAULKING SEALANT. INSTALL DUCTWORK PER LOCAL CODE. SUBMIT SHOP FABRICATION DETAILS FOR APPROVAL.

B. SEE THIS SHEET FOR SPECIFICATIONS ON FLEXIBLE DUCTING. REFER TO HVAC PLAN FOR DESIGN SPECIFICATIONS.

C. DUCT SIZES ARE NET INSIDE DIMENSIONS OF SHEET METAL AND/OR ACOUSTIC LINING. ACOUSTICAL LINED DUCTS TO BE 2" LARGER IN EACH DIMENSION.

D. PROVIDE A FLEXIBLE COLLAR CONNECTION AT THE INLET AND OUTLET CONNECTION OF EACH AIR HANDLING UNIT CONNECTED TO DUCTWORK.

E. PROVIDE BALANCING DAMPER ON EACH AIR OUTLET AT TAP AS NECESSARY

### 4. ACOUSTIC LINING

A. WHERE INSTALLED, ACOUSTIC LINING SHALL BE 1/2", 1/2" LB. DENSITIES, FIBROUS GLASS DUCT LINING MEETING THE REQUIREMENTS OF NFPA 90A. LINER SHALL BE ADHERED TO ALL INTERIOR SIDES OF DUCT WITH MINIMUM 100% COVERAGE OF FIRE-RETARDING ADHESIVE SIMILAR TO BENJAMIN FOSTER AND WITH WELD PINS AND WASHERS OR

EQUIVALENT MECHANICAL FASTENING ON NOT MORE THAN 16" CENTERS AT TOP SECTION AND ON SIDES (WHEN HEIGHT EXCEEDS 12"), NEOPRENE COATED SURFACE SHALL BE TOWARD AIR STREAM. BEFORE INSTALLING LINER, CAULK ALL BUTTING EDGES. FINAL EDGES OF LINING SHALL BE INSTALLED WITH SHEET METAL NOSINGS.

B. LINE DUCTWORK FOR A MINIMUM DISTANCE OF 15 FEET FOR EACH AIR HANDLING UNIT. SEE DRAWING FOR ADDITIONAL LINING REQUIREMENTS.

### 5. DUCT INSULATION

A. ALL DUCTS LOCATED IN CONDITIONED OR UNCONDITIONED PLENUM SPACES SHALL REQUIRE INSULATION COVERING PER ADOPTED IMC EXCEPT WHERE NOTED ON DRAWINGS.

### 6. SHOP DRAWINGS

A. FURNISH THREE (3) OF EACH, BUT NOT LIMITED TO, ALL MATERIALS AND EQUIPMENT LISTED UNDER SCOPE OF WORK INCLUDING ELECTRIC DIAGRAMS.

### 7. AIR CONDITIONING SYSTEMS

A. HVAC ROOFTOP OR SPLIT SYSTEMS SHALL BE MANUFACTURED BY LENOX OR OTHER APPROVED MANUFACTURER, AS APPLICABLE.

B. REFER TO EQUIPMENT SCHEDULES FOR EQUIPMENT REQUIREMENT AND OPTIONAL EQUIPMENT.

### 8. ELECTRICAL

A. ALL POWER AND CONTROL WIRING SHALL BE INSTALLED BY THE ELECTRICAL CONTRACTOR UNDER HIS CONTRACT. THE ELECTRICAL CONTRACTOR SHALL INSTALL ALL CONTROLS, TRANSFORMERS, STARTERS AND DISCONNECT SWITCHES.

B. WHERE THE MECHANICAL CONTROLS REQUIRE OTHER THAN 120 VOLTS, THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL REQUIRED CONTROL POWER TRANSFORMERS. (PROVIDED BY MECHANICAL CONTRACTOR)

### 9. FUEL AND ELECTRIC POWER SHUTOFF FOR COOKING HOODS - USE OF SHUNT TRIP BREAKERS

A. NFPA 96 10.4.1 UPON ACTIVATION OF ANY FIRE-EXTINGUISHING SYSTEM FOR A COOKING OPERATION, ALL SOURCES OF FUEL AND ELECTRICAL POWER THAT PRODUCE HEAT TO ALL EQUIPMENT REQUIRING PROTECTION BY THAT SYSTEM SHALL AUTOMATICALLY SHUT OFF. (INSTALLATION OF SHUNT TRIP BREAKERS IS A STANDARD SOLUTION)

B. NFPA 96 10.4.3 ANY GAS APPLIANCE NOT REQUIRING PROTECTION BUT LOCATED UNDER VENTILATING EQUIPMENT WHERE PROTECTED APPLIANCES ARE LOCATED SHALL BE AUTOMATICALLY SHUT OFF UPON ACTIVATION OF THE EXTINGUISHING SYSTEM. (INSTALLATION OF SHUNT TRIP BREAKERS IS A STANDARD SOLUTION)

C. NFPA 96 10.4.4 SHUTOFF DEVICES SHALL REQUIRE A MANUAL RESET.

### 10. EQUIPMENT IDENTIFICATION

PROVIDE EQUIPMENT IDENTIFICATION LABELS ON ALL MECHANICAL EQUIPMENT. LABELING MUST LEGIBLY DISPLAY ALL REQUIRED MECHANICAL DEVICE INFORMATION PER IMC 301.9.

### 11. FLEXIBLE DUCT

- A. FLEXIBLE DUCT SHALL BE A FACTORY FABRICATED ASSEMBLY CONSISTING OF AN INNER SLEEVE, INSULATION AND AN OUTER MOISTURE BARRIER. THE INNER SLEEVE SHALL PROVIDE AN AIR SEAL AND SHALL BE CONSTRUCTED OF AN ELASTOMERIC COMPOUND REINFORCED WITH WOVEN FIBERGLASS BONDED PERMANENTLY TO A VINYL COATED SPRING STEEL WIRE SUPPORTING HELIX. A THICK INSULATING BLANKET OF FIBERGLASS, PROVIDING A THERMAL CONDUCTANCE (C FACTOR) OF 0.23 BTUHR.SQ. FT./DEGREE F. AT 75 DEGREES FAHRENHEIT SHALL ENCASE THE INNER SLEEVE AND BE SHEATHED WITH AN OUTER MOISTURE BARRIER OF A REINFORCED METALIZED MYLAR/NEOPRENE LAMINATED OF LOW PERMEABILITY WITH INTEGRAL ATTACHING DEVICES (GROMMETS) FOR A SUSPENSION SYSTEM AS LISTED BY UNDERWRITERS LABORATORIES, INC. UNDER THEIR UL-181 STANDARDS AS A CLASS 1 AIR DUCT AND SHALL COMPLY WITH NFPA STANDARD 90A. THE FLEXIBLE DUCT SHALL BE EQUAL TO THERMAFLEX MAKE.
- B. FLEXIBLE DUCT CONNECTIONS TO BRANCH OF PLENUM DUCTS AIR TERMINAL DEVICES SHALL BE FACTORY FABRICATED BELL-MOUTH CONNECTOR WITH A MINIMUM 1/2" BELL-MOUTH RADIIUS. THE CONNECTOR SHALL BE EQUAL TO THERMALAIR TYPE T TWIST-IN WITH VOLUME DAMPER AT PLENUM LOCATION. ALL DUCTWORK MUST MEET SMACNA LOW VELOCITY DUCT STANDARDS.

### FLEX DUCT INSTALLATION BEST PRACTICE REQUIREMENTS

- PULL TAUGHT AND FULLY EXTEND FLEX DUCT PRIOR TO INSTALLATION
- DO NOT INSTALL IN COMPRESSED STATE
- USE MINIMUM LENGTH OF FLEX DUCT TO MAKE CONNECTIONS
- EXCESS LENGTH SHALL NOT BE INSTALLED TO ALLOW FOR POSSIBLE FUTURE RELOCATIONS OF AIR TERMINAL DEVICES. CUT OFF EXCESS LENGTHS OF FLEX DUCT PRIOR TO MAKING CONNECTION.
- PREVENT SAG (LESS THAN 2" OF SAG PER 48") BY SUPPORTING DUCT DIRECTLY ON BUILDING STRUCTURE OR WITH WOVEN VINYL SUPPORT STRAPS EVERY 48" MAX.
- DUCT TO EXTEND STRAIGHT FOR AT LEAST 1 DUCT DIAMETER BEFORE MAKING A BEND.
- THE BEND RADIUS AT THE CENTER LINE OF DUCTS SHALL BE EQUAL TO OR GREATER THAN ONE DUCT DIAMETER (e.g. - 18"Ø DUCT REQUIRES MINIMUM 18" RADIUS ON TURNS)
- NEVER BEND FLEX DUCT BACK OVER ITSELF IN A U-TURN SHAPE
- PREVENT KINKS AND MINIMIZE "SNAKING" AND TURNS. DUCTS SHALL NOT BE CRIMPED AGAINST JOIST OR TRUSS MEMBERS, PIPES, WIRES, ETC.
- AVOID INCIDENTAL CONTACT WITH METAL FIXTURES, WATER LINES, PIPES, OR CONDUITS.
- REPAIR TORN OR DAMAGED VAPOR BARRIER/JACKET WITH UL 181B DUCT TAPE. IF INTERNAL CORE IS PENETRATED, REPLACE FLEXIBLE DUCT OR TREAT AS A CONNECTION.

• ALL MASTICS, TAPES AND NONMETALLIC CLAMPS USED SHALL BE PRINTED WITH THE UL-LISTED MARK 181B.

• INSULATION IN UNCONDITIONED SPACE MINIMUM R-6

• AIR TERMINAL DEVICES ARE TO BE SUPPORTED INDEPENDENTLY OF FLEX DUCT

### FLEX DUCT SEALING INSTRUCTIONS

- SEAL TO SMACNA CLASS A
  - SHEET METAL FITTING TO HAVE BEADS OR LANCES
- APPLY UL 181B MASTIC OVER SHEET METAL FITTING AND BEADS/LANCES.
  - PULL BACK FLEX DUCT JACKET AND INSULATION.
  - STRETCH INNER LINING OVER FITTINGS MASTIC WITH 1/2" OVERLAP
  - SECURE INNER LINING WITH DRAW BAND
  - COVER DRAW BAND WITH ADDITIONAL MASTIC
  - PULL JACKET AND INSULATION TO COMPLETELY COVER INNER LINING AND FITTING BY 1/2"
  - FASTEN DRAW BAND AROUND JACKET. DRAW BAND TO BE LOCATED ON THE SHEET METAL SIDE OF THE DRAW BAND FROM STEP 4

MAKE SURE YOU LEGIBLY MARK ALL CIRCUITS, AND CIRCUIT MODIFICATIONS, AS TO THEIR CLEAR, EVIDENT, AND SPECIFIC PURPOSE (NEC 408.4) THAT INCLUDES SPARE POSITIONS THAT CONTAIN UNUSED OVERCURRENT DEVICES.

IDENTIFICATION MUST INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. THE IDENTIFICATION MUST BE ON A CIRCUIT DIRECTORY ON THE FACE OR INSIDE OF THE DOOR OF THE PANELBOARD AND MUST NOT BE BASED ON TRANSIENT CONDITIONS OF OCCUPANCY.

NEC 110.12 MECHANICAL EXECUTION OF WORK:  
ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMAN-LIKE MANNER

ELECTRICAL CONTRACTOR'S RESPONSIBILITY  
IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL REQUIREMENTS FOR GROUNDING AND BONDING OF ELECTRICAL INSTALLATIONS WHOLLY COMPLY WITH ARTICLE 250 FROM THE NATIONAL ELECTRICAL CODE (NEC) ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ), INCLUDING AMENDMENTS.

## NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

## NOTES TO ELECTRICAL CONTRACTOR

1. THESE PLANS ARE SCHEMATIC. VERIFY EQUIPMENT LOCATION, CONDUIT ROUTING, ETC. PRIOR TO BID.

ALL ELECTRICAL WORK IS REQUIRED TO BE PERFORMED BY A CERTIFIED ELECTRICAL CONTRACTOR. ALL WIRING, EQUIPMENT, DEVICES AND INSTALLATIONS SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES.

PROVIDE ALL WIRING, CONDUIT, LABOR AND MATERIALS NOT SHOWN ON PLAN, BUT NECESSARY FOR COMPLETE AND PROPER OPERATION OF THE ELECTRICAL SYSTEM.

CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES AND PERMITS AS NECESSARY TO COMPLETE THIS JOB THROUGH CITY OCCUPANCY APPROVAL. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO ENSURE A COMPLETE WORKING AND CODE COMPLIANT SYSTEM.

ALL ELECTRICAL WORK MUST COMPLY WITH THE REQUIREMENTS OF NFPA 70 (NATIONAL ELECTRICAL CODE), NFPA 70B, NFPA 70E, IECC, OSHA IN ADDITION TO OTHER REFERENCES REQUIRED BY CONTRACT.

INSTALLATION OF SWITCHES, OUTLETS, AND CONTROL DEVICES SHALL COMPLY WITH LOCAL CODES AND STATE ADA REQUIREMENTS.

COORDINATE FINAL LOCATIONS OF ALL NON-GENERAL OUTLETS AND LIGHT FIXTURES WITH OWNER OR ARCHITECT.

REFER TO MECHANICAL AND PLUMBING SHEETS FOR EXACT LOCATION OF ALL MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE ALL LABOR AND MATERIALS REQUIRED TO CONNECT ELECTRICAL POWER TO ALL MECHANICAL AND PLUMBING EQUIPMENT.

ALL ELECTRICAL EQUIPMENT, DEVICES, AND CIRCUITS SHALL CONTAIN A GROUNDING CONDUCTOR. CONDUIT SYSTEM SHALL NOT BE USED AS GROUNDING NETWORK. ALL GROUNDING SHALL BE IN STRICT COMPLIANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.

COORDINATE LOCATION AND VERIFY REQUIREMENTS OF ALL EXTERIOR EQUIPMENT AND METER BASE WITH OWNER AND UTILITY COMPANY.

ALL PANELBOARDS, DISCONNECT SWITCHES, AND OTHER ELECTRICAL DEVICES AND EQUIPMENT SHALL HAVE ENGRAVED NAMEPLATES INDICATING EQUIPMENT IDENTIFICATION TAG AND VOLTAGE, AS WELL AS WHERE DEVICE IS FED FROM. ALL SWITCHBOARDS AND PANELBOARDS SHALL HAVE TYPED DIRECTORIES INDICATING DISTRIBUTION AND BRANCH CIRCUIT FEEDERS.

CONTRACTOR IS RESPONSIBLE FOR NATIONAL ELECTRICAL CODE REQUIRED CLEARANCES AROUND AND ABOVE ALL ELECTRICAL EQUIPMENT AND DEVICES.

SHORT CIRCUIT AMPERE INTERRUPTING CAPACITY (A.I.C) RATING OF ALL ELECTRICAL PRODUCTS SHALL BE GREATER THAN THE MAXIMUM AVAILABLE SHORT CIRCUIT CURRENT.

DO NOT RUN RACEWAYS ON BUILDING EXTERIOR WALLS.

WIRE AND CONDUIT SIZES SHALL BE INSTALLED AND SIZED TO COMPENSATE FOR VOLTAGE DROP PER THE NATIONAL ELECTRICAL CODE.

FLEXIBLE CONDUIT MAY BE USED ONLY FOR FINAL CONNECTION TO EQUIPMENT (MAXIMUM LENGTH 6'-0")

ALL CONDUCTORS TO BE THINW, THHN.

ALL CONDUCTORS SHALL BE 98% COPPER UNLESS NOTED OTHERWISE. ALUMINUM CONDUCTORS ALLOWED ONLY WITH UNDERSIGNED ENGINEERS AND AHJ ACCEPTANCE.

ALL ELECTRICAL WIRING, VOICE/COMMUNICATION WIRING, AND COAXIAL CABLES SHALL BE INSTALLED IN CONDUIT, WIRE WAY OR OTHER PROTECTIVE COVER AS REQUIRED TO COMPLY WITH GOVERNING CODE.

WALL RECEPTACLE CONDUIT SHALL RUN VERTICALLY TO JUNCTION BOX ABOVE CEILING AND NOT HORIZONTALLY THROUGH STUD WALLS, IN ORDER TO FACILITATE FUTURE ACCESS.

CONDUCTORS IN UNINSULATED CEILING SPACE AND OUTDOORS SHALL BE DERATED USING A 122 DEGREE (FAHRENHEIT) TEMPERATURE. CONTRACTOR IS RESPONSIBLE FOR REVISING CONDUCTOR SIZES BASED ON CONDUIT RATING.

ALL OUTDOOR EQUIPMENT SHALL BE WEATHER PROTECTED, NEMA 3R UNLESS OTHERWISE NOTED.

CONTRACTOR SHALL PROVIDE FIRE PROOFING FOR ANY PIPES OR CONDUITS THAT PENETRATE THROUGH ANY FIRESMOKE RATED FLOORS, WALLS, CEILING, ROOFS, OR RUNS INSIDE OF CHASES. FIRE PROOFING METHODS AND MATERIALS SHALL BE AS REQUIRED TO MAINTAIN FIRE-SMOKE RATING OF PARTITION.

IF A PROTECTIVE DEVICE RATING IS MARKED ON AN APPLIANCE OR EQUIPMENT, THE BRANCH-CIRCUIT OVERCURRENT DEVICE RATING SHALL NOT EXCEED THE PROTECTIVE DEVICE RATING MARKED ON THE APPLIANCE OR EQUIPMENT.

ALL NIGHT LIGHTS AND EXIT LIGHTS ARE UNSWITCHED.

ALL SWITCHES SHALL BE 3' AWAY FROM DOOR TRIM. ALL OCCUPANCY SENSORS SHALL BE PASSIVE INFRARED AND ULTRASONIC TECHNOLOGY TO SENSE OCCUPANCY.

CONTRACTOR TO COMPLY WITH INTERNATIONAL BUILDING CODE AND INTERNATIONAL ENERGY CONSERVATION CODE REQUIREMENTS FOR ALL ELECTRICAL POWER & LIGHTING SYSTEMS PER IECC SECTION 405. CONTRACTOR TO PROVIDE AND INSTALL ADDITIONAL LIGHT SWITCHES TO THE SWITCHES SHOWN ON THE DRAWINGS IF REQUIRED BY CODE.

PROVIDE 3/4" CONDUIT WITH 200LB TEST NYLON PULL WIRE FROM DATA/TELEPHONE OUTLET BOXES TO 6' ABOVE ACCESSIBLE CEILING.

ALL MECHANICAL EQUIPMENT CONTROLS SHALL BE POWERED FROM UNIT.

CONTRACTOR SHALL PROVIDE APPROPRIATE RECEPTACLE TYPE OR DISCONNECTING MEANS FOR UNDER COUNTER TANKLESS WATER HEATERS. COORDINATE WITH EQUIPMENT INSTALLER FOR REQUIREMENTS.

MAKE SURE YOU LEGIBLY MARK ALL CIRCUITS, AND CIRCUIT MODIFICATIONS, AS TO THEIR CLEAR, EVIDENT, AND SPECIFIC PURPOSE (NEC 408.4) THAT INCLUDES SPARE POSITIONS THAT CONTAIN UNUSED OVERCURRENT DEVICES.

IDENTIFICATION MUST INCLUDE SUFFICIENT DETAIL TO ALLOW EACH CIRCUIT TO BE DISTINGUISHED FROM ALL OTHERS. THE IDENTIFICATION MUST BE ON A CIRCUIT DIRECTORY ON THE FACE OR INSIDE OF THE DOOR OF THE PANELBOARD AND MUST NOT BE BASED ON TRANSIENT CONDITIONS OF OCCUPANCY.

NEC 110.12 MECHANICAL EXECUTION OF WORK:  
ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN A NEAT AND WORKMAN-LIKE MANNER

ELECTRICAL CONTRACTOR'S RESPONSIBILITY  
IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL REQUIREMENTS FOR GROUNDING AND BONDING OF ELECTRICAL INSTALLATIONS WHOLLY COMPLY WITH ARTICLE 250 FROM THE NATIONAL ELECTRICAL CODE (NEC) ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ), INCLUDING AMENDMENTS.

## CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

## NOTES TO PLUMBING CONTRACTOR

1. GENERAL  
1.1 THE GENERAL PROVISIONS OF THE CONTRACT, INCLUDING THE CONDITIONS OF THE CONTRACT (GENERAL, SUPPLEMENTARY, AND OTHER CONDITIONS) AND DIVISION 1 - GENERAL REQUIREMENTS AS APPROPRIATE, APPLY TO THE WORK SPECIFIED IN THIS SECTION.

2. SCOPE OF WORK  
2.1 THE WORK INCLUDED UNDER THIS SECTION CONSISTS OF FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND THE PERFORMING OF ALL FUNCTIONS EXCEPT AS OTHERWISE SPECIFIED HEREIN OR SHOWN ON THE DRAWINGS TO BE PERFORMED BY OTHERS FOR THE INSTALLATION AND PLACING INTO OPERATION A COMPLETE PLUMBING AND PIPING SYSTEM AS SPECIFIED AND SHOWN ON THE DRAWINGS.

3. GENERAL DESCRIPTION  
3.1 THE WORK IN GENERAL SHALL CONSIST OF, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING:  
3.2 COMPLETE SANITARY PLUMBING SYSTEM FROM THE PLUMBING FIXTURES OR EQUIPMENT AS INDICATED ON THE DRAWINGS TO PUBLIC SANITARY SEWER OR PRIVATE DISPOSAL SYSTEM, INCLUDING TAP, AND MANHOLES IF NECESSARY.  
3.3 INSTALLATION OF ALL WATER AND GAS PIPING AND EQUIPMENT CONNECTIONS INCLUDING WATER SERVICE LINES AND METER IF REQUIRED.  
3.4 FURNISH AND INSTALL ALL PLUMBING FIXTURES AS SHOWN ON THE DRAWINGS.

3.5 BEFORE STARTING WORK, EACH SUBCONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE EQUIPMENT LISTED TO THE ARCHITECT FOR APPROVAL. FIVE COMPLETE SETS OF SHOP DRAWINGS SHALL BE SUBMITTED. IN CHECKING SHOP DRAWINGS, THE ARCHITECT AND ENGINEER WILL MAKE EVERY EFFORT TO DETECT ERRORS AND OMISSIONS, BUT NEITHER THE FAILURE OF THE ARCHITECT OR ENGINEER TO DETECT ERRORS OR OMISSIONS NOR THE APPROVAL OF SHOP DRAWINGS SHALL RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLY WITH THE PLANS AND SPECIFICATIONS.  
3.6 WORK EXCLUDED: NOTED ON DRAWINGS.

4. REGULATIONS AND CODES  
4.1 THE CONTRACTOR MUST COMPLY WITH ALL STATE, MUNICIPAL, AND FEDERAL SAFETY LAWS, CONSTRUCTION CODES, ORDINANCES AND REGULATIONS RELATING TO BUILDING AND PUBLIC HEALTH SAFETY.

5. GENERAL REQUIREMENTS  
5.1 THE CONTRACTOR SHALL EXAMINE THE PREMISES PRIOR TO THE COMMENCEMENT OF ANY WORK AND SATISFY HIMSELF OF EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGATED TO OPERATE IN PERFORMING HIS PART OF THE WORK OR THAT WILL IN ANY MANNER AFFECT THE WORK UNDER THE CONTRACT. THE CONTRACTOR SHALL COOPERATE WITH THE OTHER TRADES SO THAT THE INSTALLATION OF ALL EQUIPMENT MAY BE PROPERLY COORDINATED.  
5.2 ALL EQUIPMENT FURNISHED SHALL FIT THE SPACE AVAILABLE, WITH CONNECTION, ETC., IN THE REQUIRED LOCATIONS AND WITH ADEQUATE SPACE FOR OPERATING AND SERVICING. THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATE THE MANNER AND METHOD OF THE INSTALLATION, WHILE THE SPECIFICATIONS AND FIXTURE LIST DENOTE THE TYPE AND QUALITY OF MATERIAL AND WORKMANSHIP TO BE USED. WHERE A CONFLICT EXISTS BETWEEN THE DRAWINGS AND THE SPECIFICATIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT WHOSE DECISION SHALL BE FINAL. NO ALLOWANCE WILL BE MADE SUBSEQUENTLY IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR AFTER AWARD OF THE CONTRACT.

6. EQUIPMENT AND MATERIAL  
6.1 SELECTION OF EQUIPMENT BRANDS, OTHER THAN AS NOTED ON THE DRAWINGS, IS TO BE ON AN APPROVED EQUAL BASIS.  
6.2 THE PLUMBING CONTRACTOR SHALL PROVIDE ALL NECESSARY TAILPIECES, P-TRAPS, TRAP ARMS, WALL HANGERS, CARRIERS, SHUTOFF VALVES, ANGLE VALVES, ETC., REQUIRED FOR THE INSTALLATION OF A CODE APPROVED PLUMBING SYSTEM.

7. PIPING  
7.1 BUILDING DRAIN  
7.1.1 NO-HUB CAST IRON CONFORMING TO CISPI NO. 301.  
7.1.2 GALVANIZED STEEL PIPE CONFORMING TO ASTM A-120  
7.1.3 SCH. 40 PVC.

7.2 BUILDING SEWER  
7.2.1 SCH. 40 PVC.

7.3 FITTINGS  
7.3.1 NO-HUB CAST IRON DRAINAGE PATTERN FITTINGS CONFORMING TO CISPI NO. 301  
7.3.2 THREAD CAST IRON FITTINGS SHALL CONFORM TO ANSI-B16.4  
7.3.3 THREADED MALLEABLE IRON FITTINGS CONFORMING TO ANSI-B16.3  
7.3.4 SOLVENT WELD SCH. 40 PVC FITTINGS  
7.3.6 NO-HUB COUPLINGS:

7.3.6.1 (DOUBLE BAND STAINLESS STEEL COUPLINGS WITH NEOPRENE LINER CONFORMING TO CISPI NO. 301 SPECIFICATIONS. FOR ABOVE GROUND USE ONLY.) (TYPE 304 STAINLESS STEEL COUPLING EQUAL TO "HUSKEY" OR "CLAMP-ALL" FOR BELOW GRADE.)  
7.3.7 PITCH 3" AND SMALLER PIPE AT 1/4" PER FOOT, 4" AND LARGER @ 1/8" PER 1 FT. WHERE APPROVED BY LOCAL JURISDICTION.

7.3.8 TEMPORARILY CLOSE ENDS OF PIPE WITH WOOD BLOCKS AT END OF EACH WORKING DAY.

7.4 DOMESTIC WATER  
7.4.1 WATER DISTRIBUTION PIPING SHALL CONFORM TO NSF 61 AND ONE OF THE STANDARDS LISTED IN TABLE 605.4 OF THE INTERNATIONAL PLUMBING CODE (AS ADOPTED BY THE A.H.J.)

7.5 FITTINGS  
7.5.1 PROVIDE WROUGHT COPPER TYPE FITTINGS CONFORMING TO ANSI B16.22 FOR ALL CONNECTIONS TO COPPER PIPING.  
7.5.2 PROVIDE PVC FITTINGS CONFORMING TO ASTM D2466 WITH SOLVENT CEMENT CONFORMING TO ASTM D2564 AND PRIMER CONFORMING TO ASTM F656.

7.6 SOLDER  
7.6.1 PIPES 1/2" THROUGH 2" USE LEAD FREE SOLDER WITH SUITABLE FLUX. 7.6.2 PIPES 2 1/2" AND LARGER USE AIRCOSIL 45, OR EQUAL SILVER BRAZING ALLOY OF MELTING POINT AND PHYSICAL PROPERTIES. USE AIRCOSIL FLUX OR EQUAL, SUITABLE TO BRAZING ALLOY.

7.7 INSTALLATION  
7.7.1 FITTINGS TO DRAIN AND PROVIDE ALL NECESSARY DRAIN VALVES. BURY A MINIMUM OF 24" BELOW GRADE OR NATURAL FROST LINE. PROVIDE DI-ELECTRIC UNIONS IN ALL MATERIAL CHANGES IN SYSTEM.  
7.7.2 COPPER PIPE INSTALLED BELOW CONCRETE FLOORS SHALL BE WITHOUT JOINTS AND WRAPPED WITH 20 MILS OF POLYETHYLENE TAPE WITH A MINIMUM OF 50% OVERLAP.

7.8 PIPE HANGERS AND SUPPORTS  
7.8.1 ADEQUATELY SUPPORT PIPING AGAINST SAGGING, POKETING, SWAYING, AND DISPLACEMENT. ALL PIPING AND EQUIPMENT SHALL BE SUPPORTED BY STRUCTURAL MEMBERS ADEQUATELY ABLE TO BEAR THEIR WEIGHT. PROPERLY SPACE AND APPLY HANGERS IN ACCORDANCE WITH THE FOLLOWING.  
7.8.2 SPACING  
7.8.2.1 STEEL PIPE:  
3/4" AND SMALLER 5' ON CENTER  
1" AND 1 1/4" 6' ON CENTER  
1 1/2" TO 2 1/2" 10' ON CENTER  
3" AND LARGER 12' ON CENTER

7.8.2.2 COPPER PIPE:  
3/4" AND SMALLER 5' ON CENTER  
1" TO 1 1/2" 6' ON CENTER  
1" TO 2" ARMAFLEX 10' ON CENTER

7.8.2.3 CAST IRON 5' ON CENTER AND ALL BRANCHES IN EXCESS OF 30' LONG.  
7.8.3 ALL PIPING SHALL BE INSTALLED WITH ADEQUATE PROVISION FOR EXPANSION AND CONTRACTING USING SWING JOINTS, PIPE CLAMPS, ANCHORS, AND EXPANSION JOINTS. FITTINGS SHALL BE SO SPACED THAT THEY WILL NOT INTERFERE WITH SLIDING OF PIPE ON SUPPORTS.

7.9 PROVIDE SHOCK ARRESTATORS FOR EACH GROUP OF FIXTURES PER MFG. REQ. MINIMUM 1 FT SIZE.

8. CONDENSATE PIPING  
8.1 REFER TO PLANS FOR LAYOUT AND ROUTING. OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS, OR STRUCTURE. USE CODE APPROVED TYPE "M" COPPER. PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT. SLOPE TO LOCATION SHOWN ON PLANS.  
8.2 CONDENSATE PIPING SHALL BE INSULATED WHEN RUNNING INSIDE AN UNCONDITIONED SPACE. INSULATION SHALL BE EQUAL TO 1/2" ARMAFLEX.  
8.3 CONDENSATE FROM DRAIN PAN OUTLET TO BE ROUTED TO AN AHJ APPROVED LOCATION. CONDENSATE SHALL NOT DISCHARGE TO AREAS THAT MAY CAUSE A NUISANCE.

8.4 CONDENSATE PIPING: REFER TO PLANS FOR LAYOUT AND ROUTING. OFFSET PIPING AS REQUIRED TO AVOID CONFLICT WITH DUCTWORK, OTHER PIPING SYSTEMS, OR STRUCTURE. USE CODE APPROVED TYPE "M" COPPER.

PROVIDE TRAP AND VENT AT MECHANICAL EQUIPMENT. SLOPE TO LOCATION SHOWN ON PLANS.

CONDENSATE PIPING SHALL BE INSULATED WHEN RUNNING INSIDE AN UNCONDITIONED SPACE. INSULATION SHALL BE EQUAL TO 1/2" ARMAFLEX.

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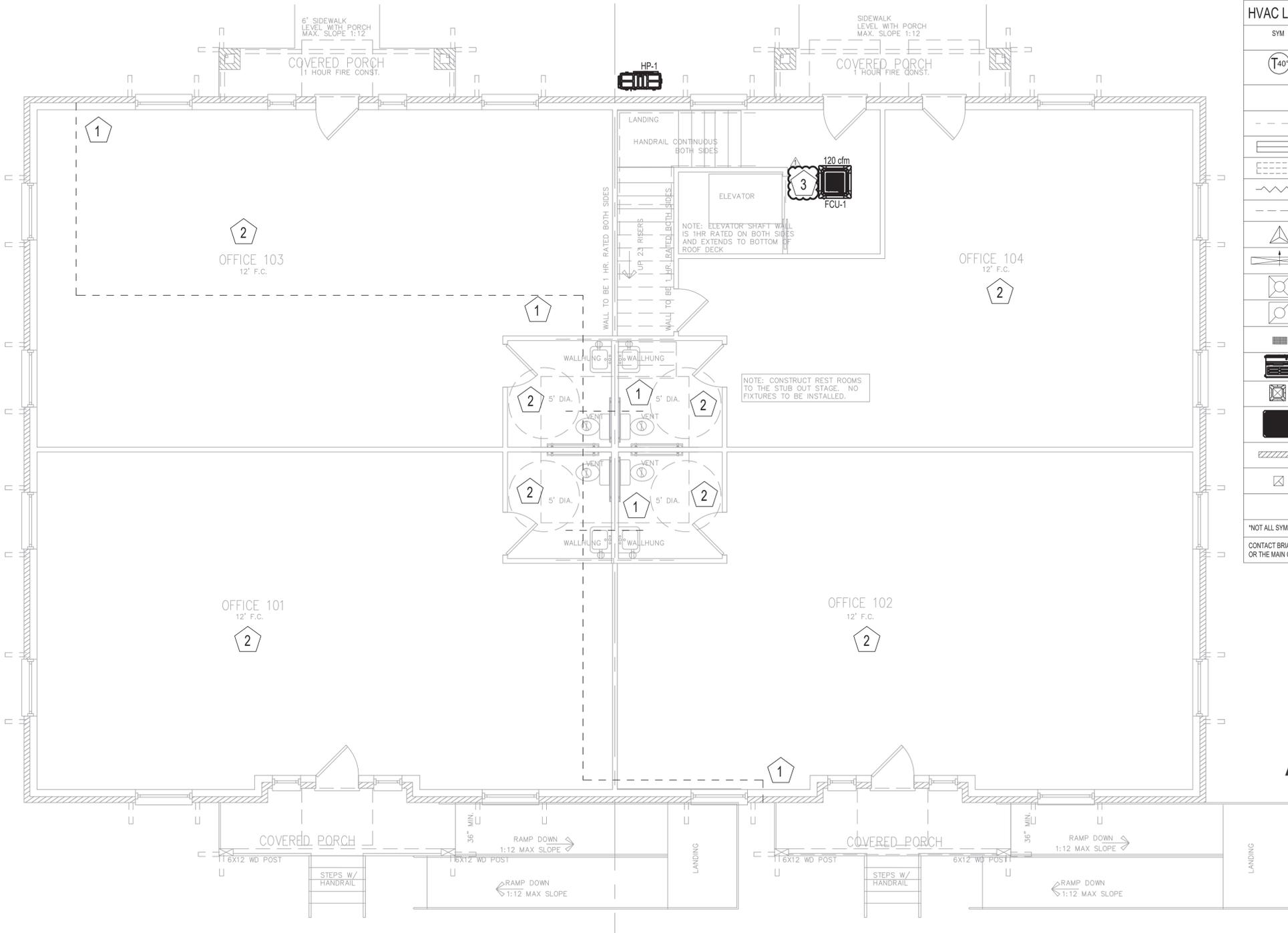
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CONDENSATE PIPING SHALL BE INSULATED WHEN RUNNING INSIDE AN UNCONDITIONED SPACE. INSULATION SHALL BE EQUAL TO 1/2" ARMAFLEX.



### HVAC LEGEND

SYM	DESCRIPTION
(T40°)	THERMOSTAT SET FOR FROST PROTECTION PER CURRENT IPC, SECTION 305.4 TO BE ACTUATED TO MECHANICAL HEATING EQUIPMENT.
	THERMOSTAT WITH OPTIONAL ZONE LABEL SHOWN
---	ESTIMATED ROUTE OF BUILDING DISTRIBUTION COLD WATER LINE REQUIRING FROST PROTECTION
▭	SUPPLY AIR RECTANGULAR METAL DUCT
▭	RETURN AIR RECTANGULAR METAL DUCT
~	SUPPLY AIR FLEX DUCT
~	RETURN AIR FLEX DUCT
▲	WYE FLEX DUCT CONNECTION
▭	RECESSED SIDEWALL LINEAR SLOT SUPPLY AIR DIFFUSER. SEE SCHEDULE ON SHEET M0.1.
⊗	24x24 SUPPLY AIR DIFFUSER. SIZE PER MANUFACTURER RECOMMENDATION FOR CFM REQUIREMENTS.
⊗	24x24 RETURN AIR GRILLES (T-GRID AND SURFACE MOUNTED), TITUS 50 F 24" X 24" OR EQUAL.
▭	FOIL DOUBLE DEFLECTOR 12" X 6"
▭	VRF INDOOR CEILING CONCEALED DUCT (LOW-MID STATIC) FAN COIL UNIT. SEE SCHEDULE ON SHEET M0.1.
▭	VRF INDOOR CEILING MOUNTED CASSETTE FAN COIL UNIT. SEE SCHEDULE ON THIS SHEET.
▭	VRF OUTDOOR HEAT PUMP UNIT WITH HAIL GUARD. SEE SCHEDULE ON SHEET M0.1.
▭	LOUVERED DOOR OR DOOR UNDERCUT A MINIMUM 2" TO ALLOW FOR RETURN AIR FLOW
⊗	EXHAUST FAN-CLG MOUNTED. SEE SCHEDULE ON THIS SHEET.

\*NOT ALL SYMBOLS MAY BE USED.

CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-384-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.

### DUCT SIZING TABLE

MAXIMUM CFM	FLEX / ROUND	RECT	MAXIMUM CFM	FLEX / ROUND	RECT
50	FLEX 6" Ø		1000	FLEX 16" Ø	20x10
75	FLEX 6" Ø		1200	ROUND 16" Ø	22x10
85	ROUND 6" Ø	8x4	1300	FLEX 18" Ø	24x10
110		6x6	1400		22x12
160	FLEX 8" Ø	8x6	1500	ROUND 18" Ø	28X10
180	ROUND 8" Ø		1600		24x12
215		10x6	1750		26x12
270		12x6	1800		32x10
300	FLEX 10" Ø	10x8	1950		28x12
325	ROUND 10" Ø		2000	ROUND 20" Ø	
430		10x10	2150		30x12
480	FLEX 12" Ø		2200		38x10
525	ROUND 12" Ø	12x10	2300		32x12
670		14x10	2350		40x10
700	FLEX 14" Ø		2450		34x12
750	ROUND 14" Ø		2600		36x12
800		16x10	2750		38x12
930		18x10	2900		40x12
			3050		42x12

- TABLE NOTES:**
- INSIDE DIMENSIONS SHOWN. ADD 2" IN DIAMETER FOR INSULATION.
  - METAL DUCT CALCULATOR SETTING: FLEX, 1", ROUND, 1", RECTANGLE, 1" WC.
  - DEFLECTO BRAND RECTANGULAR DUCT SIZES SHOWN UP TO 26x12. DUCT FOR CFMS GREATER THAN 1950 MAY REQUIRE FIELD FABRICATION.
- GENERAL DUCTING NOTES:**
- MAIN SUPPLY TRUNKS DESIGNED WITH METAL ROUND DUCT UNLESS NOTED OTHERWISE. SIZE AS SHOWN OR WITH EQUIVALENT RECTANGULAR DUCT.
  - SIZE UNMARKED BRANCH DUCTS PER MANUFACTURER ACCORDING TO CFM SHOWN AT DIFFUSER.
  - IF DUCT RUN EXCEEDS 24', OR HAS EXCESSIVE TRANSITIONS, INCREASE TO NEXT DUCT SIZE.
  - USE ROUND METAL OR EQUIVALENT RECTANGULAR DUCTING FOR PRIMARY AND SECONDARY SUPPLY TRUNKS. FLEX DUCT MAY BE USED FOR RETURN DUCT.
  - USE WIDE RADIUS TURNS, TURNING VANES, AND 45 DEGREE ANGLES WHENEVER POSSIBLE.
  - ROUTE AS REQUIRED TO MAINTAIN MINIMUM CFM PER DIFFUSER AS LABELED.
  - PROVIDE DAMPER IN TAKEOFF COLLAR AS REQUIRED TO BALANCE CFM.
  - ALL DUCT PENETRATIONS THROUGH CEILING AND ANY PROPOSED FIRE RATED WALLS TO BE INSTALLED WITH COMPARABLE RATED FIRE/ SMOKE DAMPER.
  - PROVIDE SMOKE DETECTORS IN RETURN DUCTS FOR UNITS 2,000 CFM AND GREATER. SMOKE DETECTORS SHALL SHUT DOWN FANS. WIRING OF SMOKE DETECTORS SHALL BE BY FIRE ALARM INSTALLER.
- FLEX DUCTING NOTES:**
- FLEX DUCT FOR SUPPLY ONLY FOR DIRECT ATTACHMENT OF DIFFUSER TO METAL DUCT.
  - INSTALL FLEX DUCTS ONLY IN STRAIGHT, NON-BENDING VERTICAL RUNS AS MUCH AS POSSIBLE.
  - EXTEND FLEX DUCT TO ITS FULLEST LENGTH (MAXIMUM 14') WITHOUT COMPRESSION.
  - SPECIFIC NOTES ON PLANS SUPERCEDE THESE NOTES.

- ### MECHANICAL NOTES BY SYMBOL #
- UNCONDITIONED SPACE. ALL INTERIOR COLD WATER PIPING TO BE FROST-PROTECTED VIA HEAT TRACE TAPE. NO MECHANICAL EQUIPMENT SPECIFIED.
  - FUTURE TENANT AREA INTERIOR WALLS TO BE FRAMED ONLY. NO WALL COVERINGS, FINISHES OR TENANT MEP TO BE INSTALLED DURING THIS PHASE OF CONSTRUCTION. ALL INTERIOR TENANT SPACE TO BE DESIGNED AND INSTALLED AS PART OF THE FUTURE TENANT CONSTRUCTION DOCUMENTS.
  - 306.3 APPLIANCES IN ATTICS.** ATTICS CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE. THE PASSAGEWAY SHALL BE NOT LESS THAN 30 INCHES (762 MM) HIGH AND 22 INCHES (559 MM) WIDE AND NOT MORE THAN 20 FEET (6096 MM) IN LENGTH MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE. THE PASSAGEWAY SHALL HAVE CONTINUOUS SOLID FLOORING NOT LESS THAN 24 INCHES (610 MM) WIDE. A LEVEL SERVICE SPACE NOT LESS THAN 30 INCHES (762 MM) DEEP AND 30 INCHES (762 MM) WIDE SHALL BE PRESENT AT THE FRONT OR SERVICE SIDE OF THE APPLIANCE. THE CLEAR ACCESS OPENING DIMENSIONS SHALL BE NOT LESS THAN 20 INCHES BY 30 INCHES (508 MM BY 762 MM), AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE.
- EXCEPTIONS:**
- THE PASSAGEWAY AND LEVEL SERVICE SPACE ARE NOT REQUIRED WHERE THE APPLIANCE IS CAPABLE OF BEING SERVICED AND REMOVED THROUGH THE REQUIRED OPENING WHERE THE PASSAGEWAY IS UNOBSTRUCTED AND NOT LESS THAN 6 FEET (1829 MM) HIGH AND 22 INCHES (559 MM) WIDE FOR ITS ENTIRE LENGTH, THE PASSAGEWAY SHALL BE NOT GREATER THAN 50 FEET (15250 MM) IN LENGTH.
  -

# APPROVED

### CODE SOLUTIONS INC.

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

### LG VRF EQUIPMENT SCHEDULE

INDOOR UNIT	AREA SERVED	QTY	MANUFACTURER AND MODEL NUMBER	RATED CAPACITY (KBTU/H)			CORRECTED CAPACITY (KBTU/H)			ROOM DESIGN TEMP. (RETURN AIR)			SUPPLY AIR CFM	OUTSIDE AIR CFM	REFRIGERANT PIPING		ELECTRICAL CHARACTERISTICS						NET WEIGHT (LBS)		
				GROSS COOLING	SENSIBLE COOLING	HEATING	GROSS COOLING	SENSIBLE COOLING	HEATING	COOLING DBT (°F)	COOLING WBT (°F)	HEATING DBT (°F)			LIQUID	GAS	VOLTS	PHASE	HZ	MCA (A)	MOCP (A)				
FCU-1	1st FLOOR LOBBY	1	LG LCN98HV4	8.2	—	7.7	6.6	—	5.1	75.0	62.5	68.0	120	0	1/2"	3/8"	208V-230V	1	60	0.25	*	29			
FCU-2	2nd FLOOR COMMONS	1	LG LMDN187HV4	16.4	—	15.3	13.0	—	10.2	75.0	62.5	68.0	415	30	1/2"	1/2"	208V-230V	1	60	0.80	*	49			
OUTDOOR UNIT	EQUIPMENT SERVED	QTY	MANUFACTURER AND MODEL NUMBER	RATED CAPACITY (KBTU/H)			CORRECTED CAPACITY (KBTU/H)			NOMINAL POWER INPUT (KW)			CORRECTED POWER INPUT (KW)			EFFICIENCY (BTU/H / W)			REFRIGERANT AMOUNT & PIPING						NET WEIGHT (LBS)
				COOLING	HEATING	COOLING	HEATING	COOLING	HEATING	COOLING	HEATING	COOLING	HEATING	COOLING	HEATING	COOLING	HEATING	AMOUNT R410A(LBS)	LIQUID	GAS	VOLTS	PHASE	HZ	MCA (A)	
HP-1	FCU-1, FCU-2	1	LG LMU243HV	23.0	23.8	19.6	15.3	2.0	2.1	2.1	1.7	9.3	9.0	4.66	(3) 1/2"	(3) 3/8"	208V-230V	1	60	16.0	20A/2P	101			

**NOTES:**

- PROVIDE EACH FCU WITH LG MODEL PREMTBVC2 MULTISITE CRC2 REMOTE CONTROLLER.
- PROVIDE FCU-4 & FCU-5 WITH LG MODEL ZFBXM201A HIGH EFFICIENCY FILTER BOX.
- PROVIDE HP-1 WITH LG MODEL ZHGDKA51A HAIL GUARD KIT.
- CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-384-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.
- HP: HEAT PUMP; FCU: FAN COIL UNIT
- FAN COIL UNITS TO BE POWERED FROM HEAT PUMP POWER CIRCUIT. ALL POWER WIRING TO BE MINIMUM 14 AWG, 4-CONDUCTOR FROM THE HEAT PUMP TO THE FAN COIL UNITS.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.

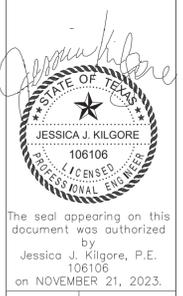
CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.	THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

- ### MEP GENERAL NOTES
- ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
  - CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
  - REVIEW PLAN SHEET "MEP" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
  - THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
  - SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
  - SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
  - WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-853-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
  - DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469

# AME Engineering, Inc.

mail@ameengineering.com | o.c. 817-653-4122 | fax 817-754-6615  
3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

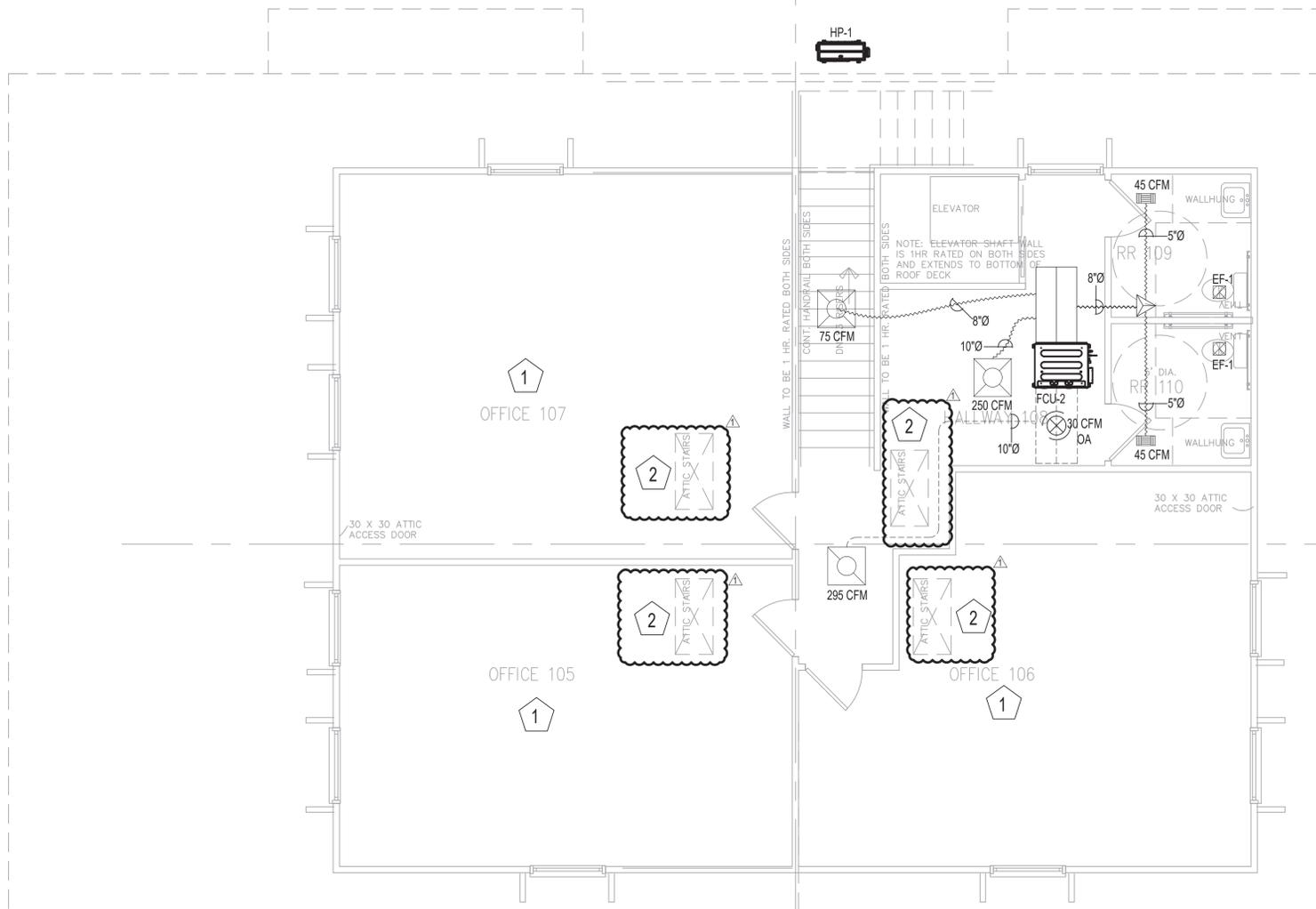
1716 KELLER PARKWAY  
KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575
ISSUE:	
CLIENT REVIEW SET	10-30-2023
REV. CLIENT REVIEW SET	11-20-2023
PERMIT REVIEW SET	11-21-2023
CITY REVIEW SET	01-11-2024
SHEET REVISIONS	
△ CITY COMMENTS	01/11/2024
PRINTED	1/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100')

HVAC PLAN  
1ST FLOOR

**M1.0**

PROJECT 1819



1 HVAC PLAN - 2ND FLOOR

### HVAC LEGEND

SYM	DESCRIPTION
	THERMOSTAT SET FOR FROST PROTECTION PER CURRENT IPC SECTION 305.4 TO BE ACTUATED TO MECHANICAL HEATING EQUIPMENT.
	THERMOSTAT WITH OPTIONAL ZONE LABEL SHOWN
	ESTIMATED ROUTE OF BUILDING DISTRIBUTION COLD WATER LINE REQUIRING FROST PROTECTION
	SUPPLY AIR RECTANGULAR METAL DUCT
	RETURN AIR RECTANGULAR METAL DUCT
	SUPPLY AIR FLEX DUCT
	RETURN AIR FLEX DUCT
	WYE FLEX DUCT CONNECTION
	RECESSED SIDEWALL LINEAR SLOT SUPPLY AIR DIFFUSER. SEE SCHEDULE ON SHEET M0.1.
	24x24 SUPPLY AIR DIFFUSER. SIZE PER MANUFACTURER RECOMMENDATION FOR CFM REQUIREMENTS.
	24x24 RETURN AIR GRILLES (T-GRID AND SURFACE MOUNTED). TITUS 50 F 24" X 24" OR EQUAL.
	FOIL DOUBLE DEFLECTOR 12" X 6"
	VRF INDOOR CEILING CONCEALED DUCT (LOW-MID STATIC) FAN COIL UNIT. SEE SCHEDULE ON SHEET M0.1.
	VRF INDOOR CEILING MOUNTED CASSETTE FAN COIL UNIT. SEE SCHEDULE ON THIS SHEET.
	VRF OUTDOOR HEAT PUMP UNIT WITH HAIL GUARD. SEE SCHEDULE ON SHEET M0.1.
	LOUVERED DOOR OR DOOR UNDERCUT A MINIMUM 2" TO ALLOW FOR RETURN AIR FLOW
	EXHAUST FAN-CLG MOUNTED. SEE SCHEDULE ON THIS SHEET.

\*NOT ALL SYMBOLS MAY BE USED.

CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-364-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.

### MECHANICAL NOTES BY SYMBOL #

- FUTURE TENANT AREA INTERIOR WALLS TO BE FRAMED ONLY, NO WALL COVERINGS, FINISHES OR TENANT MEP TO BE INSTALLED DURING THIS PHASE OF CONSTRUCTION. ALL INTERIOR TENANT SPACE TO BE DESIGNED AND INSTALLED AS PART OF THE FUTURE TENANT CONSTRUCTION DOCUMENTS.
- 306.3 APPLIANCES IN ATTICS.** ATTICS CONTAINING APPLIANCES SHALL BE PROVIDED WITH AN OPENING AND UNOBSTRUCTED PASSAGEWAY LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE. THE PASSAGEWAY SHALL BE NOT LESS THAN 30 INCHES (762 MM) HIGH AND 22 INCHES (559 MM) WIDE AND NOT MORE THAN 20 FEET (6096 MM) IN LENGTH MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY FROM THE OPENING TO THE APPLIANCE. THE PASSAGEWAY SHALL HAVE CONTINUOUS SOLID FLOORING NOT LESS THAN 24 INCHES (610 MM) WIDE. A LEVEL SERVICE SPACE NOT LESS THAN 30 INCHES (762 MM) DEEP AND 30 INCHES (762 MM) WIDE SHALL BE PRESENT AT THE FRONT OR SERVICE SIDE OF THE APPLIANCE. THE CLEAR ACCESS OPENING DIMENSIONS SHALL BE NOT LESS THAN 20 INCHES BY 30 INCHES (508 MM BY 762 MM), AND LARGE ENOUGH TO ALLOW REMOVAL OF THE LARGEST APPLIANCE.
 

**EXCEPTIONS:**

  - THE PASSAGEWAY AND LEVEL SERVICE SPACE ARE NOT REQUIRED WHERE THE APPLIANCE IS CAPABLE OF BEING SERVICED AND REMOVED THROUGH THE REQUIRED OPENING.
  - WHERE THE PASSAGEWAY IS UNOBSTRUCTED AND NOT LESS THAN 6 FEET (1829 MM) HIGH AND 22 INCHES (559 MM) WIDE FOR ITS ENTIRE LENGTH, THE PASSAGEWAY SHALL BE NOT GREATER THAN 50 FEET (15 250 MM) IN LENGTH.

### DUCT SIZING TABLE

MAXIMUM CFM	FLEX / ROUND	RECT	MAXIMUM CFM	FLEX / ROUND	RECT
50	FLEX 5" Ø		1000	FLEX 16" Ø	20x10
75	FLEX 6" Ø		1200	ROUND 16" Ø	22x10
85	ROUND 6" Ø	8x4	1300	FLEX 18" Ø	24x10
110		6x6	1400		22x12
160	FLEX 8" Ø	8x6	1500	ROUND 18" Ø	28x10
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215		10x6	1750		26x12
270		12x6	1800		32x10
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325	ROUND 10" Ø		2000	ROUND 20" Ø	
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525	ROUND 12" Ø	12x10	2300		32x12
670		14x10	2350		40x10
700	FLEX 14" Ø		2450		34x12
750	ROUND 14" Ø		2600		38x12
800		16x10	2750		38x12
930		18x10	2900		40x12
			3050		42x12

- TABLE NOTES:**
- INSIDE DIMENSIONS SHOWN. ADD 2" IN DIAMETER FOR INSULATION.
  - METAL DUCT CALCULATOR SETTING: FLEX: 1" ROUND: 1" RECTANGLE: 1" WC.
  - DEFLECTO BRAND RECTANGULAR DUCT SIZES SHOWN UP TO 28x12. DUCT FOR CFMS GREATER THAN 1950 MAY REQUIRE FIELD FABRICATION.
- GENERAL DUCTING NOTES:**
- MAIN SUPPLY TRUNKS DESIGNED WITH METAL ROUND DUCT UNLESS NOTED OTHERWISE. SIZE AS SHOWN OR WITH EQUIVALENT RECTANGULAR DUCT.
  - SIZE UNMARKED BRANCH DUCTS PER MANUFACTURER ACCORDING TO CFM SHOWN AT DIFFUSER.
  - IF DUCT RUN EXCEEDS 24' OR HAS EXCESSIVE TRANSITIONS, INCREASE TO NEXT DUCT SIZE.
  - USE ROUND METAL OR EQUIVALENT RECTANGULAR DUCTING FOR PRIMARY AND SECONDARY SUPPLY TRUNKS. FLEX DUCT MAY BE USED FOR RETURN DUCT.
  - USE WIDE RADIUS TURNS, TURNING VANES, AND 45 DEGREE ANGLES WHENEVER POSSIBLE.
  - ROUTE AS REQUIRED TO MAINTAIN MINIMUM CFM PER DIFFUSER AS LABELED.
  - PROVIDE DAMPER IN TAKEOFF COLLAR AS REQUIRED TO BALANCE CFM.
  - ALL DUCT PENETRATIONS THROUGH CEILINGS AND ANY PROPOSED FIRE RATED WALLS TO BE INSTALLED WITH COMPARABLE RATED FIRE/ SMOKE DAMPER.
  - PROVIDE SMOKE DETECTORS IN RETURN DUCTS FOR UNITS 2,000 CFM AND GREATER. SMOKE DETECTORS SHALL SHUT DOWN FANS. WIRING OF SMOKE DETECTORS SHALL BE BY FIRE ALARM INSTALLER.
- FLEX DUCTING NOTES:**
- FLEX DUCT FOR SUPPLY ONLY FOR DIRECT ATTACHMENT OF DIFFUSER TO METAL DUCT.
  - INSTALL FLEX DUCTS ONLY IN STRAIGHT, NON-BENDING VERTICAL RUNS AS MUCH AS POSSIBLE.
  - EXTEND FLEX DUCT TO ITS FULLEST LENGTH (MAXIMUM 14') WITHOUT COMPRESSION.
  - SPECIFIC NOTES ON PLANS SUPERCEDE THESE NOTES.

**ZONE 1**

### OUTDOOR AIR AND EXHAUST AIR CALCULATIONS PER IMC TABLE 403.3

SPACE TYPE	BREATHABLE AREA PER IMC (SQ FT)	TOTAL OUTSIDE AIR REQUIRED (CFM)
Office Main Entry Lobby	115	13
Public Space Corridor	266	16
Public Restroom Normal Use Exhaust per WC/UR	110	0
<b>TOTAL</b>	<b>491</b>	<b>29</b>

Provide 30 cfm Outside Air to FCU-2

### LG VRF EQUIPMENT SCHEDULE

INDOOR UNIT	AREA SERVED	QTY	MANUFACTURER AND MODEL NUMBER	RATED CAPACITY (KBTU/H)			CORRECTED CAPACITY (KBTU/H)			ROOM DESIGN TEMP. (RETURN AIR)			SUPPLY AIR CFM	OUTSIDE AIR CFM	REFRIGERANT PIPING		ELECTRICAL CHARACTERISTICS					NET WEIGHT (LBS)
				GROSS COOLING	SENSIBLE COOLING	HEATING	GROSS COOLING	SENSIBLE COOLING	HEATING	COOLING DBT (F)	COOLING WBT (F)	HEATING DBT (F)			LIQUID	GAS	VOLTS	PHASE	HZ	MCA (A)	MOCP (A)	
FCU-1	1st FLOOR LOBBY	1	LG LCN098HV4	8.2	—	7.7	6.6	—	5.1	75.0	62.5	68.0	120	0	3/8"	3/8"	208V-230V	1	60	0.25	*	29
FCU-2	2nd FLOOR COMMONS	1	LG LMDN187HV4	16.4	—	15.3	13.0	—	10.2	75.0	62.5	68.0	415	30	3/8"	3/8"	208V-230V	1	60	0.80	*	49
OUTDOOR UNIT	EQUIPMENT SERVED	QTY	MANUFACTURER AND MODEL NUMBER	RATED CAPACITY (KBTU/H)		CORRECTED CAPACITY (KBTU/H)		NOMINAL POWER INPUT (KW)		CORRECTED POWER INPUT (KW)		EFFICIENCY (BTU/H / W)		REFRIGERANT AMOUNT & PIPING		ELECTRICAL CHARACTERISTICS					NET WEIGHT (LBS)	
HP-1	FCU-1, FCU-2	1	LG LMD24SHV	23.0	23.8	19.6	15.3	2.0	2.1	2.1	1.7	9.3	9.0	4.66	(3) 3/8"	(3) 3/8"	208V-230V	1	60	16.0	20A2P	101

**NOTES:**

- PROVIDE EACH FCU WITH LG MODEL PREMTBVC2 MULTISTAGE CRC2 REMOTE CONTROLLER.
- PROVIDE FCU-4 & FCU-5 WITH LG MODEL ZFBM201A HIGH EFFICIENCY FILTER BOX.
- PROVIDE HP-1 WITH LG MODEL ZHGDKA51A HAIL GUARD KIT.
- CONTACT BRIAN JILEK WITH TEXAS AIR SYSTEMS IN FORT WORTH AT 214-364-8264 OR THE MAIN OFFICE AT 817-838-7400 WITH PRODUCT QUESTIONS.
- HP: HEAT PUMP; FCU: FAN COIL UNIT
- FAN COIL UNITS TO BE POWERED FROM HEAT PUMP POWER CIRCUIT. ALL POWER WIRING TO BE MINIMUM 14 AWG, 4-CONDUCTOR FROM THE HEAT PUMP TO THE FAN COIL UNITS.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.

# APPROVED

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CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
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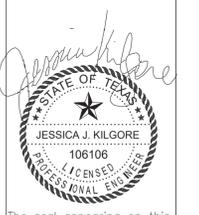
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- CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
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- WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
- CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-853-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
- DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469

# AME Engineering, Inc.

mail@ameengineering.com | o: 817-653-4122 | fax: 817-754-6615  
3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

1716 KELLER PARKWAY  
KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575

**ISSUE:**

CLIENT REVIEW SET 10-30-2023  
REV. CLIENT REVIEW SET 11-20-2023  
PERMIT REVIEW SET 11-21-2023  
CITY REVISED SET 01-11-2024

**SHEET REVISIONS**

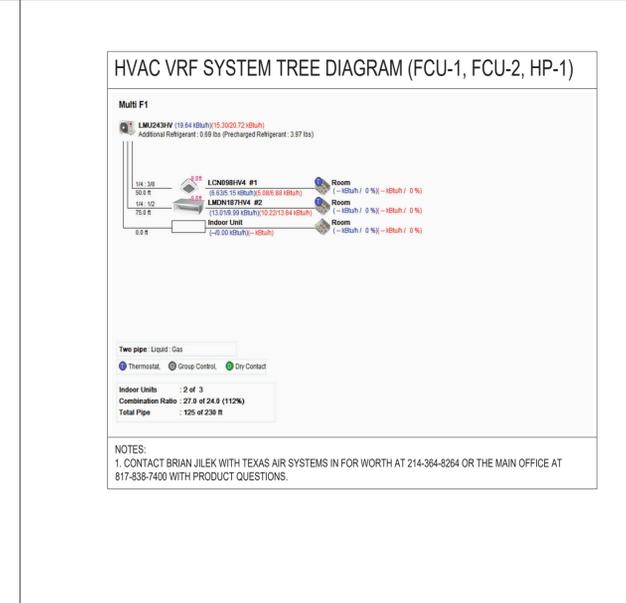
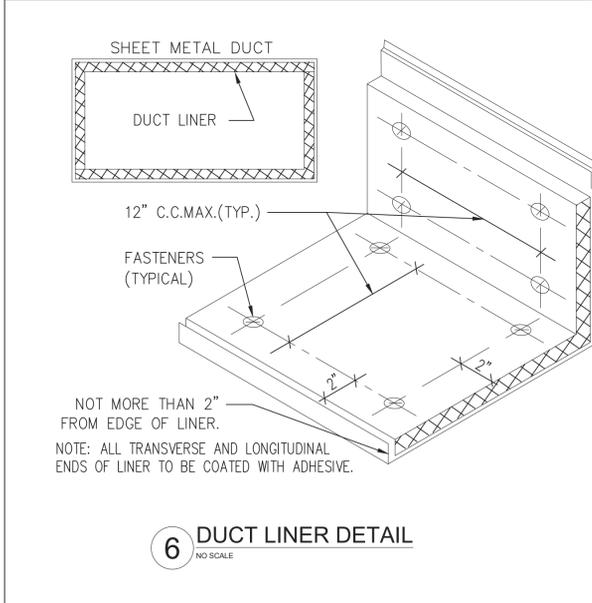
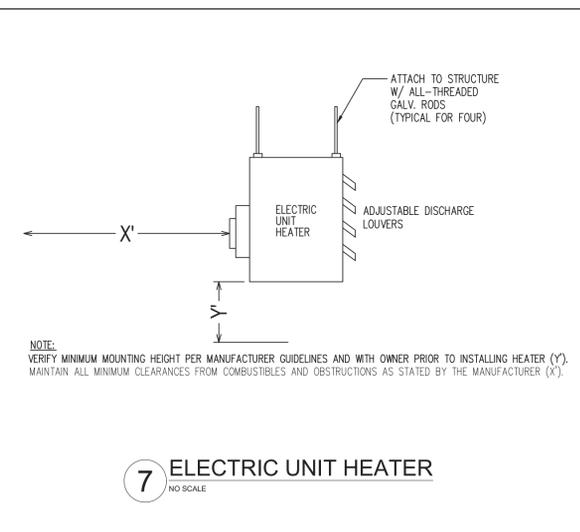
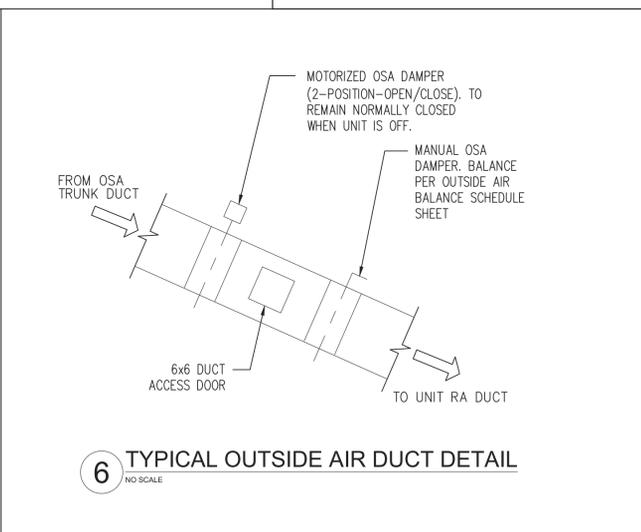
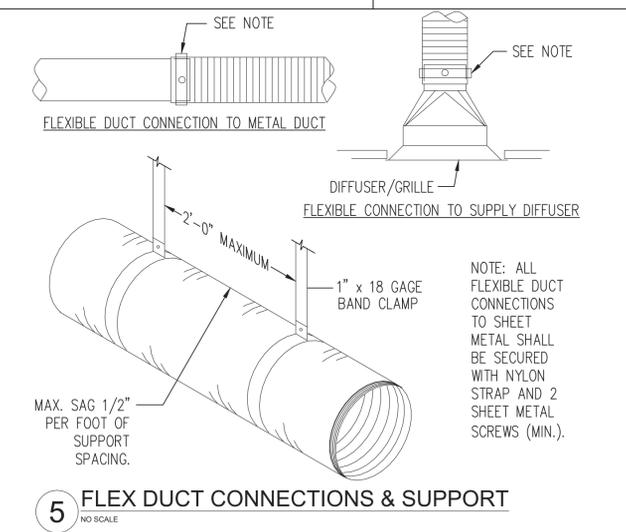
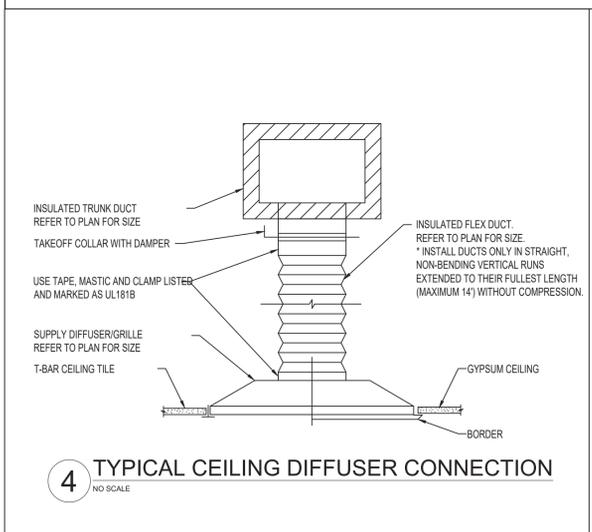
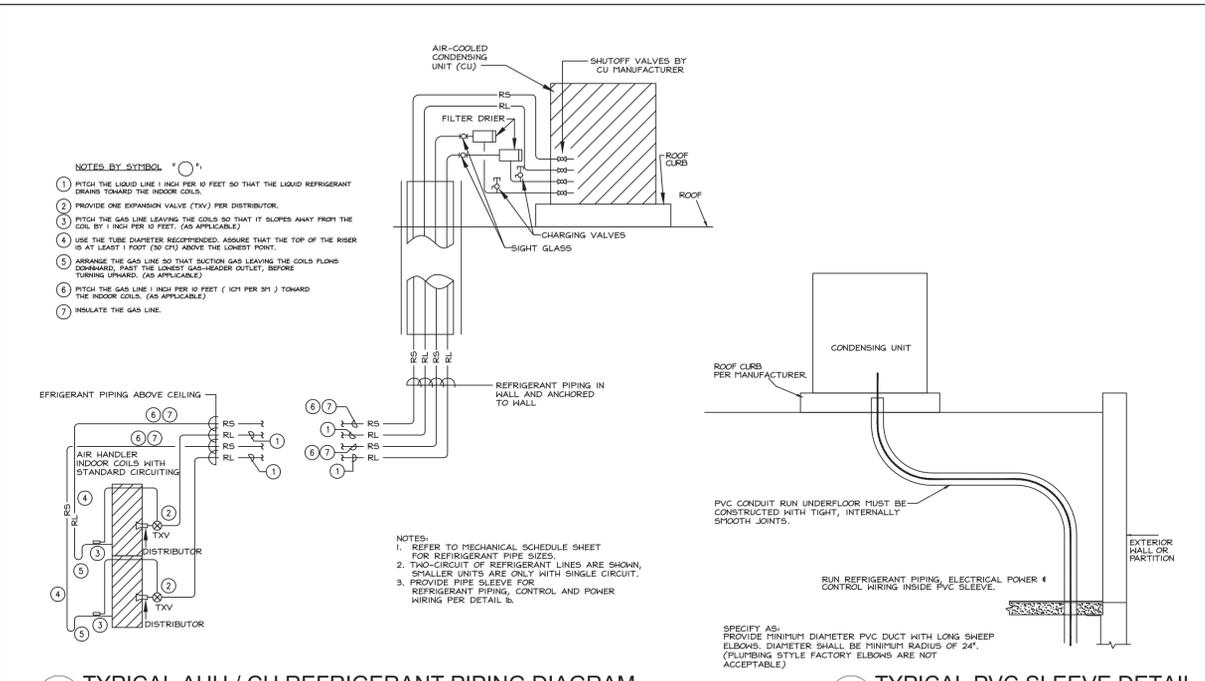
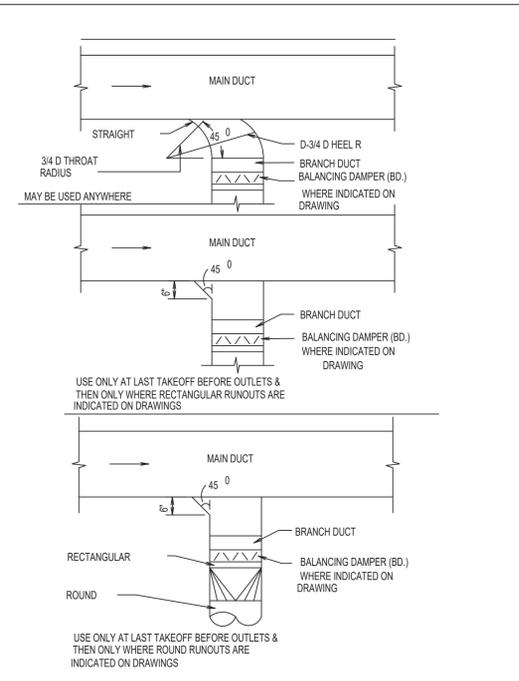
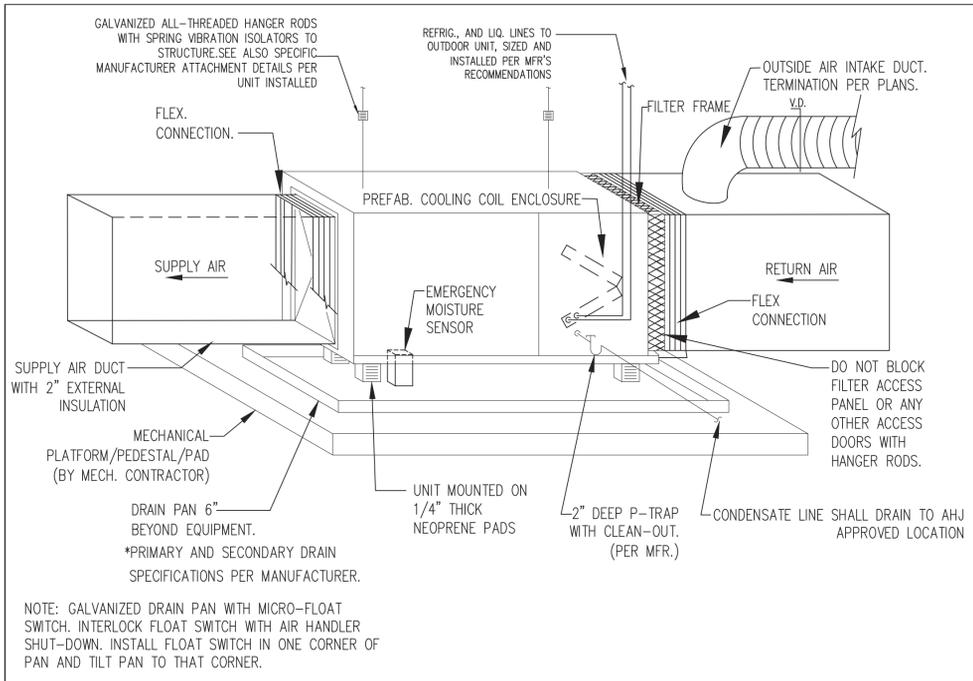
△ CITY COMMENTS 01/11/2024

PRINTED	1/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100')

HVAC PLAN  
2ND FLOOR

M1.1

PROJECT 1819



APPROVED

CODE SOLUTIONS INC.

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NOTE: BID INTENT

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TEXAS FIRM F-16469

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3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700

JESSICA J. KILGORE  
106106  
LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

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KELLER, TX

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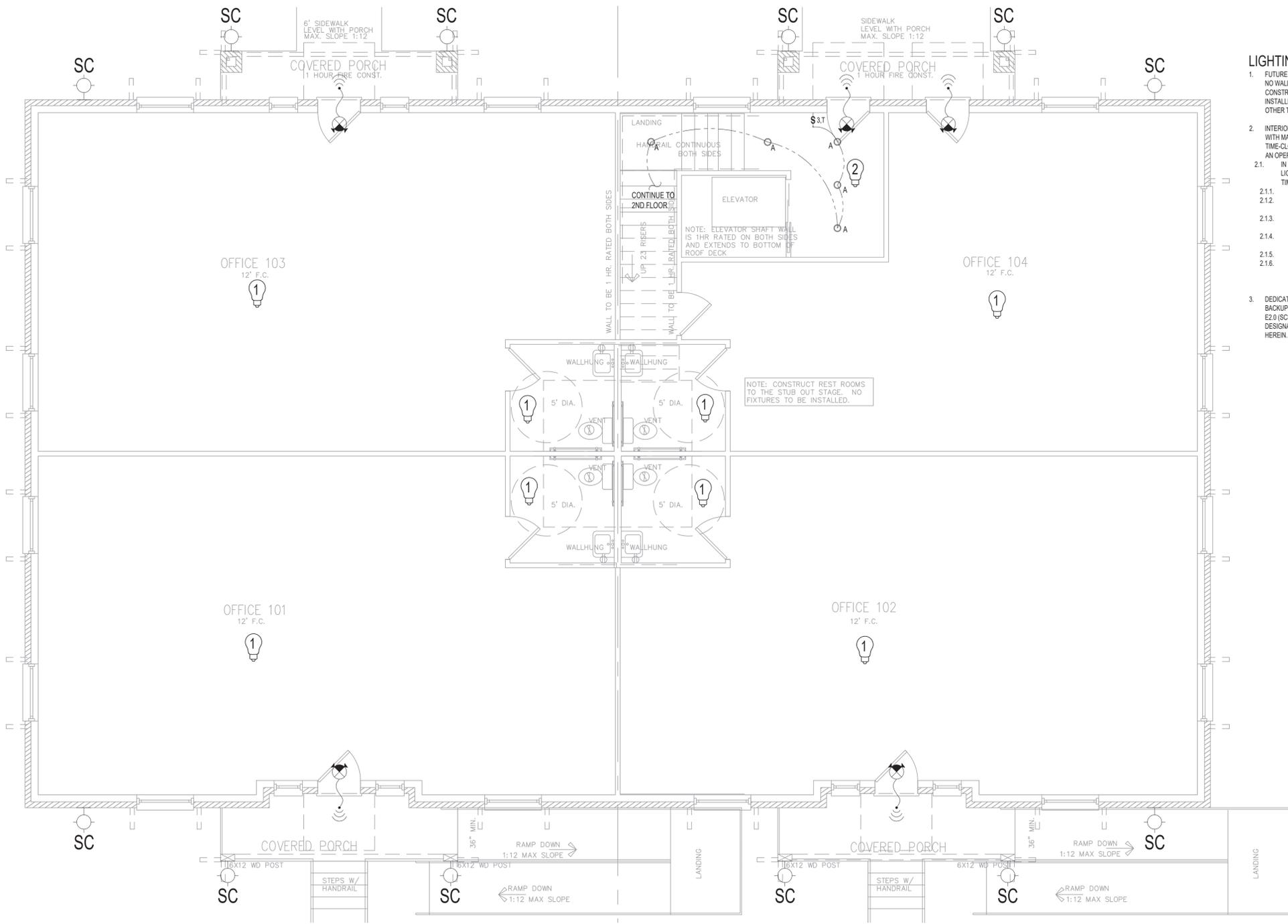
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IECC/ASHRAE	2018
NEC	2020
SCALE	AS SHOWN

HVAC DETAILS

PROJECT	M2.0
	1819



- ### LIGHTING NOTES BY SYMBOL
- FUTURE TENANT AREA INTERIOR WALLS SHOWN HEREIN TO BE FRAMED ONLY. NO WALL COVERING OR FINISHES TO BE INSTALLED DURING THIS PHASE OF CONSTRUCTION. ALL INTERIOR EMERGENCY AND EGRESS LIGHTING TO BE INSTALLED AS PART OF THE FUTURE TENANT-FINISH-OUT CONSTRUCTION OTHER THAN SHOWN HEREIN.
  - INTERIOR COMMON HALLWAY & LOBBY LIGHTING CIRCUITS TO BE PROVIDED WITH MANUAL CONTROLS AS WELL AS BE CONTROLLABLE THROUGH A TIME-CLOCK FOR A PRE-DEFINED SCHEDULE AND/OR CONFIGURABLE THROUGH AN OPERATION-BASED TIMER AS NEEDED (REFER TO IECC SEC. C405.2.2).
  - IN THOSE AREAS NOT CONTROLLED BY OCCUPANCY SENSORS, LIGHTING IS REQUIRED TO BE CONTROLLED BY TIME CLOCKS. THE TIME-CLOCK MUST BE ABLE TO DO THE FOLLOWING:
    - HAVE A MINIMUM 7-DAY CLOCK.
    - BE CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK.
    - INCORPORATE AN AUTOMATIC HOLIDAY 'SHUTOFF' FEATURE, WHICH TURNS OFF ALL CONTROLLED LIGHTING LOADS FOR AT LEAST 24 HOURS AND THEN RESUMES NORMALLY.
    - SCHEDULED OPERATIONS.
    - HAVE PROGRAM BACKUP CAPABILITIES, WHICH PREVENT THE LOSS OF PROGRAM AND TIME SETTINGS FOR AT LEAST 10 HOURS, IF POWER IS INTERRUPTED.
  - DEDICATED EMERGENCY LIGHTING FIXTURES, CIRCUITING FOR BATTERY BACKUPS (EM), & FIRE PREVENTION CIRCUIT(S), ARE SCHEDULED ON SHEET E2.0 (SCHEDULED AS FACP AND/OR EMERGENCY). TO BE UTILIZED FOR THE DESIGNATED FIXTURES "EM" PACKS AS SHOWN OR APPLICABLE ON THIS PLAN HEREIN.

### LIGHTING SYMBOLS LEGEND

SYMBOL	DESCRIPTION
ⓧ	LIGHT SWITCH WITH OPTIONAL MARK: 3 - THREE WAY SWITCH 4 - FOUR WAY SWITCH D - DIMMABLE SWITCH a - LIGHT FIXTURE SWITCH CIRCUIT T - TIME SWITCH CONTROL FUNCTION
Ⓢ	OCCUPANCY SENSOR SWITCH SET TO MANUAL-ON/AUTO-OFF VACANCY SETTING. RECOMMENDED LUTRON MAESTRO MS-VPS2-WH (DIMMING USE MSCL-OP153M)
Ⓜ	WALL MOUNTED VANITY LIGHT
Ⓞ	RECESSED DOWN LIGHT
Ⓜ	WALL SCONCE - EXTERIOR

NOTES:  
 1. CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.  
 2. CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.  
 3. SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.  
 4. SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

### EMERGENCY LIGHTING SCHEDULE AND NOTES

SYM	FIXTURE	DESCRIPTION
Ⓧ	EXIT SIGN ONLY	LITHONIA LIGHTING UNIVERSAL-MOUNT DIRECTIONAL GREEN-LETTER WHITE-FINISH WITH 90-MINUTE NI-CAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. MODEL LOM-S-W-3-G-120/277-EL-N-M6.
Ⓧ	EMERGENCY LIGHT ONLY	LITHONIA LIGHTING DUAL LAMP WHITE FINISH EMERGENCY LIGHT WITH 90-MINUTE NI-CAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. 90 LUMENS. MODEL EU2C-M6.
Ⓧ	EXIT SIGN W/ EXTERIOR REMOTE HEAD	LITHONIA LIGHTING LOW PROFILE EMERGENCY LIGHT / EXIT SIGN COMBO MODEL ECRG-H0-RD-M6. ORDER WITH WEATHER-PROOF REMOTE HEAD MODEL ERE-GY-SGL-WP-RD AS SEPARATE CATALOG NUMBER. EMERGENCY ILLUMINATION IS REQUIRED AT THE PORTION OF THE EXTERIOR DISCHARGE IMMEDIATELY ADJACENT TO THE EXIT DISCHARGE DOORWAYS.
Ⓧ	EXIT SIGN LIGHT COMBO	LITHONIA LIGHTING EXIT SIGN WITH INTEGRATED ROUND DUAL-HEAD LIGHTS. 160 LUMENS. MODEL LH0M-LED-G-M6.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS. CONTACT MARK SCHMULEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000.

NOTES: MEANS OF EGRESS AND EMERGENCY POWER FOR ILLUMINATION (PER 2021/2018/2015 IBC SECTION 1008)

- THE PATH OF EGRESS SHALL BE ILLUMINATED AT FLOOR LEVEL AT LEAST 1-FOOT-CANDLE (FC) AT ALL TIMES WHILE THE BUILDING SPACE THAT IS SERVED BY THIS PATH OF EGRESS IS OCCUPIED.
- EXTERIOR EMERGENCY LIGHTING AT EXIT DOORS ARE REQUIRED TO LIGHT THE PATHWAY TO THE PUBLIC WAY.
- THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF AT LEAST 90 MINUTES.
- EMERGENCY LIGHTING FIXTURES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FC AND A MINIMUM, AT ANY POINT, MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL FIXTURES TO MEET IBC SPECIFIED EMERGENCY LIGHTING REQUIREMENTS AS NEEDED FOR COMPLIANCE.
- EMERGENCY AND STANDBY POWER SYSTEMS SHALL BE MAINTAINED AND TESTED IN ACCORDANCE WITH THE AHJ ADOPTED INTERNATIONAL FIRE CODE.
- ELECTRICAL CONTRACTOR TO COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR REQUIRED CIRCUITRY.
- ADDITIONAL EMERGENCY LIGHTING MAY BE REQUIRED AND IS SUBJECT TO FIELD VERIFICATION.
- THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).

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### INTERIOR LIGHT FIXTURE SCHEDULE - 1ST FLOOR

MARK	INTERIOR FIXTURE	DESCRIPTION	MH <sup>1</sup>	QTY	WATTS <sup>2</sup>	TOTAL WATTS
A	RECESSED 6" LED DOWNLIGHT	LITHONIA LDN6 36/154-04AR-LS-MVOLT-EZ10 3500K LED	WGB CEILING	5	18	90
TOTAL INTERIOR WATTAGE						90
TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC						104

### EXTERIOR LIGHTING FIXTURE SCHEDULE

MARK	LAMP	COMPONENT FIXTURE TYPE	DESCRIPTION MAKE AND MODEL	MH <sup>1</sup>	QTY	WATTS <sup>2</sup>	TOTAL W
SC	LED	LED WALL SCONCE	EELP VERSALED LIGHTING PTW8-3-13L-120V-40K 13W LED 1280LM 4000K	8"	12	13	156
TOTAL EXTERIOR WATTAGE						156	
SEE EXTERIOR LIGHTING COMCHECK FOR ALLOWABLE EXTERIOR WATTAGE						PASSES	

NOTES:  
 1. APPROXIMATE MOUNTING HEIGHT ABOVE GRADE. SEE LIGHTING AND ARCHITECTURAL PLANS FOR EXACT HEIGHT. BOTTOM OF FIXTURE SHOULD EXCEED 80" TO MEET ADA REQUIREMENTS.  
 2. ALL FIXTURES SPECIFIED AT 120V-1PH.

\* OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER OR USE EXISTING EQUIPMENT AS APPLICABLE, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.  
 \* CONTACT MARK SCHMULEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000.

### EXTERIOR LIGHTING CIRCUITED TO HP-2, EM LIGHTING CIRCUITED TO HP-4

- ### ELECTRICAL LIGHTING AND POWER NOTES
- ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
  - LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
  - ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
  - ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
  - ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
  - ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
  - ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
  - EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOT-CANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1008.
  - ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
  - OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
  - CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
  - THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12(F) NEC).
  - MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

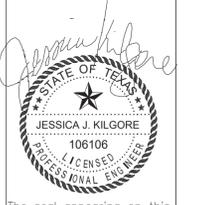
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  - CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
  - REVIEW PLAN SHEET "MEP" - "MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
  - THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
  - SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
  - SEE ELECTRICAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
  - WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
  - DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469

**AME Engineering, Inc.**

mail@ameengineering.com | fax 817-754-6615  
 3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

1716 KELLER PARKWAY  
KELLER, TX

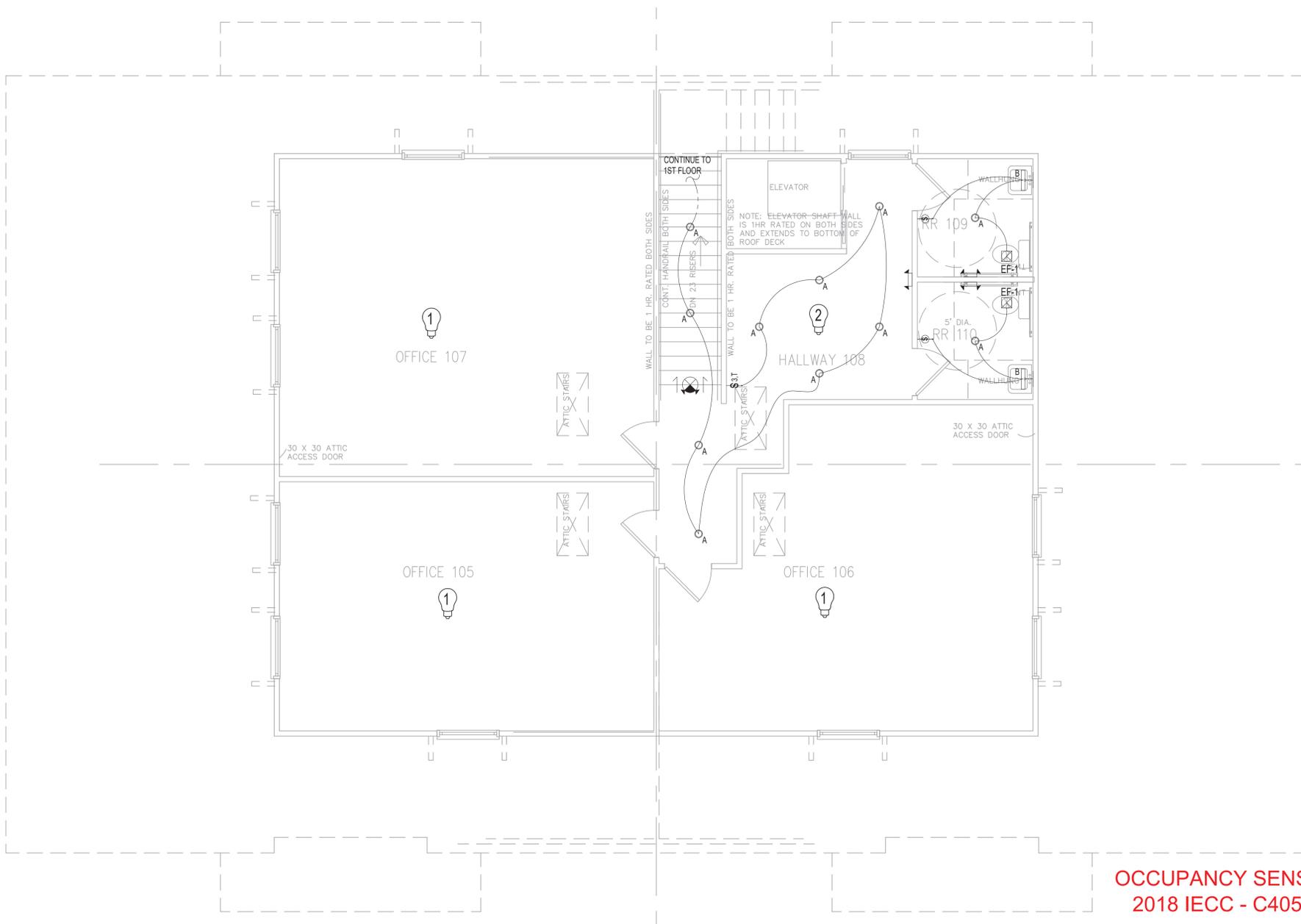
CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575
ISSUE:	
CLIENT REVIEW SET	10-30-2023
REV. CLIENT REVIEW SET	11-20-2023
PERMIT REVIEW SET	11-21-2023
CITY REVISED SET	01-11-2024
SHEET REVISIONS	

PRINTED	1/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
ISSUED	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100)

LIGHTING PLAN - 1ST FLOOR

**E1.0**

PROJECT 1819



### LIGHTING NOTES BY SYMBOL

- FUTURE TENANT AREA INTERIOR WALLS SHOWN HEREIN TO BE FRAMED ONLY. NO WALL COVERING OR FINISHES TO BE INSTALLED DURING THIS PHASE OF CONSTRUCTION. ALL INTERIOR EMERGENCY AND EGRESS LIGHTING TO BE INSTALLED AS PART OF THE FUTURE TENANT-FINISH-OUT CONSTRUCTION OTHER THAN SHOWN HEREIN.
- INTERIOR COMMON HALLWAY & LOBBY LIGHTING CIRCUITS TO BE PROVIDED WITH MANUAL CONTROLS AS WELL AS BE CONTROLLABLE THROUGH A TIME-CLOCK FOR A PRE-DEFINED SCHEDULE AND/OR CONFIGURABLE THROUGH AN OPERATION-BASED TIMER AS NEEDED (REFER TO IECC SEC. C405.2.2). IN THOSE AREAS NOT CONTROLLED BY OCCUPANCY SENSORS, LIGHTING IS REQUIRED TO BE CONTROLLED BY TIME CLOCKS. THE TIME-CLOCK MUST BE ABLE TO DO THE FOLLOWING:
  - HAVE A MINIMUM 7-DAY CLOCK.
  - BE CAPABLE OF BEING SET FOR SEVEN DIFFERENT DAY TYPES PER WEEK.
  - INCORPORATE AN AUTOMATIC HOLIDAY "SHUTOFF" FEATURE, WHICH TURNS OFF ALL CONTROLLED LIGHTING LOADS FOR AT LEAST 24 HOURS AND THEN RESUMES NORMAL SCHEDULED OPERATIONS.
  - HAVE PROGRAM BACKUP CAPABILITIES, WHICH PREVENT THE LOSS OF PROGRAM AND TIME SETTINGS FOR AT LEAST 10 HOURS, IF POWER IS INTERRUPTED.
- DEDICATED EMERGENCY LIGHTING FIXTURES, CIRCUITING FOR BATTERY BACKUPS (EM), & FIRE PREVENTION CIRCUIT(S), ARE SCHEDULED ON SHEET E2.0 (SCHEDULED AS FACP AND/OR EMERGENCY). TO BE UTILIZED FOR THE DESIGNATED FIXTURES "EM" PACKS AS SHOWN OR APPLICABLE ON THIS PLAN HEREIN.

### LIGHTING SYMBOLS LEGEND

SYMBOL	DESCRIPTION
ⓧ	LIGHT SWITCH WITH OPTIONAL MARK: 3 - THREE WAY SWITCH 4 - FOUR WAY SWITCH D - DIMMABLE SWITCH a - LIGHT FIXTURE SWITCH CIRCUIT T - TIME SWITCH CONTROL FUNCTION
Ⓢ	OCCUPANCY SENSOR SWITCH SET TO MANUAL-ON/AUTO-OFF VACANCY SETTING. RECOMMENDED LUTRON MAESTRO MS-VPS2-WH (DIMMING USE MSCL-OP15M)
Ⓜ	WALL MOUNTED VANITY LIGHT
Ⓞ	RECESSED DOWN LIGHT
Ⓜ	WALL SCONCE - EXTERIOR

- NOTES:
- CONTRACTOR TO PROVIDE EXIT SIGNS WITH ARROWS BASED ON REQUIREMENTS IN FIELD.
  - CONTRACTOR TO UTILIZE REMOTE HEAD CAPABLE (MULTI-TAP BATTERY) EMERGENCY LIGHTING FIXTURES WHEREVER POSSIBLE.
  - SEE LIGHTING SCHEDULE THIS SHEET FOR FIXTURE DESIGNATIONS.
  - SOLID HATCH ON SYMBOL OR 'EM' LABEL INDICATES EMERGENCY LIGHTING SYSTEM FIXTURE.

### EMERGENCY LIGHTING SCHEDULE AND NOTES

SYM	FIXTURE	DESCRIPTION
Ⓧ	EXIT SIGN ONLY	LITHONIA LIGHTING UNIVERSAL-MOUNT DIRECTIONAL GREEN-LETTER WHITE-FINISH WITH 90-MINUTE NI-CAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. MODEL LOM-S-W3-G-120277-EL-N-M6.
Ⓧ	EMERGENCY LIGHT ONLY	LITHONIA LIGHTING DUAL LAMP WHITE FINISH EMERGENCY LIGHT WITH 90-MINUTE NI-CAD BATTERY BACKUP 120V WITH EASY TEST BUTTON. 90 LUMENS. MODEL EL2C-M6.
Ⓧ	EXIT SIGN W/ EXTERIOR REMOTE HEAD	LITHONIA LIGHTING LOW PROFILE EMERGENCY LIGHT / EXIT SIGN COMBO MODEL ECRG-HD-RD-M6 ORDER WITH WEATHER-PROOF REMOTE HEAD MODEL ERE-GY-SGL-WP-RD AS SEPARATE CATALOG NUMBER. EMERGENCY ILLUMINATION IS REQUIRED AT THE PORTION OF THE EXTERIOR DISCHARGE IMMEDIATELY ADJACENT TO THE EXIT DISCHARGE DOORWAYS.
Ⓧ	EXIT SIGN LIGHT COMBO	LITHONIA LIGHTING EXIT SIGN WITH INTEGRATED ROUND DUAL-HEAD LIGHTS. 160 LUMENS. MODEL LHQM-LED-G-M6.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS. CONTACT MARK SCHMULEN WITH ALA FOR MORE INFORMATION ABOUT UNITS SPECIFIED: 214-658-9000

- NOTES: MEANS OF EGRESS AND EMERGENCY POWER FOR ILLUMINATION (PER 2021/2018/2015 IBC SECTION 1008)
- THE PATH OF EGRESS SHALL BE ILLUMINATED AT FLOOR LEVEL AT LEAST 1-FOOTCANDLE (FC) AT ALL TIMES WHILE THE BUILDING SPACE THAT IS SERVED BY THIS PATH OF EGRESS IS OCCUPIED.
  - EXTERIOR EMERGENCY LIGHTING AT EXIT DOORS ARE REQUIRED TO LIGHT THE PATHWAY TO THE PUBLIC WAY.
  - THE EMERGENCY POWER SYSTEM SHALL PROVIDE POWER FOR A DURATION OF AT LEAST 90 MINUTES.
  - EMERGENCY LIGHTING FIXTURES SHALL BE ARRANGED TO PROVIDE INITIAL ILLUMINATION THAT IS AT LEAST AN AVERAGE OF 1 FC AND A MINIMUM, AT ANY POINT, MEASURED ALONG THE PATH OF EGRESS AT FLOOR LEVEL. ELECTRICAL CONTRACTOR SHALL PROVIDE ADDITIONAL FIXTURES TO MEET IBC SPECIFIED EMERGENCY LIGHTING REQUIREMENTS AS NEEDED FOR COMPLIANCE.
  - EMERGENCY AND STANDBY POWER SYSTEMS SHALL BE MAINTAINED AND TESTED IN ACCORDANCE WITH THE AHJ ADOPTED INTERNATIONAL FIRE CODE.
  - ELECTRICAL CONTRACTOR TO COORDINATE WITH FIRE PROTECTION CONTRACTOR FOR REQUIRED CIRCUITRY.
  - ADDITIONAL EMERGENCY LIGHTING MAY BE REQUIRED AND IS SUBJECT TO FIELD VERIFICATION.
  - THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12F) NEC.

### OCCUPANCY SENSORS 2018 IECC - C405.2.1

Lighting shall be controlled by Occupancy Sensors, The lighting control occupancy sensor shall:

- Automatically turn off all lights within 20 minutes of all occupants leaving the space.
- Manual "ON" is permitted
- Automatically "ON" is limited to 50 percent power. The occupant must manually switch the additional 50% on.
- Automatic on to 100% is only permitted for public corridors, lobbies and other egress features.
- Incorporate a manual control to allow occupants to turn lights off.

### EXTERIOR LIGHTING CIRCUITED TO HP-2, EM LIGHTING CIRCUITED TO HP-4

### INTERIOR LIGHT FIXTURE SCHEDULE - 2ND FLOOR

MARK	INTERIOR FIXTURE	DESCRIPTION	MH <sup>1</sup>	QTY.	WATTS <sup>2</sup>	TOTAL WATTS
A	RECESSED 6" LED DOWNLIGHT	LITHONIA LDN6 3515-L04AR-LSS-MVOLT-EZ10 3500K LED	WGB CEILING	11	18	198
B	VANITY	SHAPER LED VANITY LIGHT 605-25-W-L31835-UNV-ALP-2HTB	ABV MIRROR - PER OWNER	2	20	40
TOTAL EXTERIOR WATTAGE						198
TOTAL ALLOWABLE INTERIOR WATTAGE PER CURRENTLY ADOPTED IECC						242

### ELECTRICAL LIGHTING AND POWER NOTES

- ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
- LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL, OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
- ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
- ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
- ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
- ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
- ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
- EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1008.
- ALUMINUM CONDUCTORS GREATER THAN 20 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
- OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
- THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOCK-ON FEATURE (700.12F) NEC.
- MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

# APPROVED

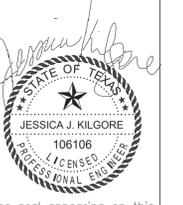
### CODE SOLUTIONS INC.

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.	THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

### MEP GENERAL NOTES

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- SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
- SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
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- CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
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The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD  
 1716 KELLER PARKWAY  
 KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575

ISSUE:	
CLIENT REVIEW SET	10-30-2023
REV. CLIENT REVIEW SET	11-20-2023
PERMIT REVIEW SET	11-21-2023
CITY REVISED SET	01-11-2024
SHEET REVISIONS	

PRINTED	1/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100)

### LIGHTING PLAN - 2ND FLOOR

PROJECT	E1.1 1819
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## ELECTRICAL PANEL - HP

PANEL	HP	FEEDER
FED FROM	MAIN SWITCHBOARD	
# CIRCUITS	42	NUMBER OF CONDUITS
H VOLTAGE	240	FEEDER CONDUIT
LOW VOLTAGE	120	WIRE SIZE L1
PHASE	1	WIRE SIZE L2
DESIGN LOAD AMPS	246	WIRE SIZE NEUTRAL
NEUTRAL BUS	YES	WIRE SIZE GROUND
GROUND BUS	YES	
AVAILABLE FAULT CURRENT AT THIS PANEL	16,739	
MAIN BREAKER SIZE AMPS	250	

#	BKR	CIRCUIT DESCRIPTION	I	VA	I	VA	I	CIRCUIT DESCRIPTION	BKR	#
1	20A/1P	INTERIOR LIGHTING	C	375	L1	1,200	C	EXTERIOR LIGHTING	20A/1P	2
3	20A/1P	IRRIGATION CONTROL	C	300	L2	1,200	C	FIRE ALARM	20A/1P	4
5	20A/1P	ELEC SERVICE QUAD	D	720	L1	180	C	EMERGENCY LIGHTING	20A/1P	6
7	15A/2P	FCU-1	M	100	L2	3,840	M	HP-1	40A/2P	8
9	15A/2P	-	M	100	L1	3,840	M	-	40A/2P	10
11	15A/2P	FCU-2	M	100	L2	1,920	D	RESTROOM GFCI	20A/1P	12
13	15A/2P	-	M	100	L1	180	D	RPZ EXT. HOTBOX	20A/1P	14
15	150A/2P	ELEVATOR (MPP - HACR)	M	12,500	L2	1,440	C	BWH	25A/1P	16
17	150A/2P	-	M	12,500	L1	1,440	C	BWH	25A/1P	18
19	20A/1P	ELEV. LIGHTS & CONTROLS	C	1,920	L2	1,440	D	EXT. RECEPTACLES	20A/1P	20
21	20A/1P	ELEV. - SC-1	D	1,920	L1	1,080	D	COMMON AREA RECEPT	20A/1P	22
23	-	OPEN	G		L2	360	D	ATTIC RECEPT	20A/1P	24
25	-	OPEN	G		L1	1,920	D	ELEV. SP-1	20A/1P	26
27	-	OPEN	G		L2		G			28
29	-	OPEN	G		L1		G			30
31	-	OPEN	G		L2		G			32
33	-	OPEN	G		L1		G			34
35	-	OPEN	G		L2		G			36
37	-	OPEN	G		L1		G			38
39	-	OPEN	G		L2		G			40
41	-	OPEN	G		L1		G			42

## LOAD CALCULATIONS (HP)

LOAD CALCULATIONS FOR "PANEL HP"	L1	L2	NEC 220.61(A)
BASED ON THE 2020 NEC			NEUTRAL
CALCULATED LOAD (NEC 215.5)	25,555 VA	25,120 VA	25,555 VA
CALCULATED LOAD WITH DEMAND FACTORS (NEC 215.5)			
GENERAL LOAD	0 VA	0 VA	0 VA
RECEPTACLE LOAD (NEC TABLE 220.44)	5,820 VA	3,720 VA	5,820 VA
1ST 10,000W			
CONTINUOUS LOAD (NEC 215.2)	3,195 VA	4,860 VA	3,195 VA
PLUS 25%	799 VA	1,215 VA	
0% (NEUTRAL) NEC 215.2(A) EX NO. 2			0 VA
MOTOR LOAD (NEC 430.24)	16,540 VA	16,540 VA	16,540 VA
PLUS 25% OF LARGEST MOTOR	3,125 VA	3,125 VA	3,125 VA
KITCHEN LOADS (NEC 220.56)			0 VA
L1 (0 X 1) =	0 VA	0 VA	0 VA
L2 (0 X 1) =			
TOTAL BALANCED LOAD (1-PHASE)	29,460 VA	29,460 VA	
TOTAL UNBALANCED LOAD (1-PHASE)	19 VA	0 VA	
NEUTRAL LOAD			28,680 VA
LINE AMPS BALANCED (1-PHASE)	245.5 A	245.5 A	
LINE AMPS UNBALANCED (1-PHASE)	0.2 A	0.0 A	
TOTALS	245.7 A	245.5 A	239.0 A
ADJUSTMENT FACTOR	0.0 A	0.0 A	0.0 A
TOTAL DESIGN LOAD	245.7 A	245.5 A	239.0 A
VOLTAGE DROP CALCULATIONS			
Single Phase	(2 X 50' L X 0.0515 R X 245.7 A + 1,000) = 1.3 VD		
Voltage Drop %	(1.3 VD ÷ 240 V X 100) = 0.5 % VD		

## SHELL BLDG. SERVICE LOAD CALCULATIONS

LOAD CALCULATIONS FOR - MAIN SWITCHBOARD	L1	L2	NEC 220.61(A)
BASED ON THE 2020 NEC			NEUTRAL
CALCULATED LOAD (NEC 215.5)	120,615 VA	127,680 VA	127,680 VA
CALCULATED LOAD WITH DEMAND FACTORS (NEC 215.5)			
GENERAL LOAD	7,880 VA	12,320 VA	12,320 VA
RECEPTACLE LOAD (NEC TABLE 220.44)			
1ST 10,000W	4,261 VA	5,739 VA	5,739 VA
REMAINDER @ 50%	14,219 VA	19,151 VA	19,151 VA
CONTINUOUS LOAD (NEC 215.2)	21,695 VA	10,860 VA	10,860 VA
PLUS 25%	5,424 VA	2,715 VA	2,715 VA
MOTOR LOAD (NEC 430.24)	58,540 VA	60,460 VA	60,460 VA
PLUS 25% OF LARGEST MOTOR	3,125 VA	3,125 VA	3,125 VA
KITCHEN LOADS (NEC 220.56)			0 VA
L1 (0 X 1) =	0 VA	0 VA	0 VA
L2 (0 X 1) =			
TOTAL BALANCED LOAD (3-PHASE)	0 VA	0 VA	
TOTAL UNBALANCED LOAD (1-PHASE)	114,370 VA	114,370 VA	
TOTAL UNBALANCED LOAD (1-PHASE)	574 VA	0 VA	
LINE AMPS BALANCED (3-PHASE)	0.0 A	0.0 A	
LINE AMPS BALANCED (1-PHASE)	953.1 A	953.1 A	
LINE AMPS UNBALANCED (1-PHASE)	4.9 A	0.0 A	
TOTALS	957.9 A	953.1 A	953.1 A
ADJUSTMENT FACTOR	191.6 A	190.6 A	190.6 A
TOTAL DESIGN LOAD	1,149.5 A	1,143.7 A	1,143.7 A

### FAULT CURRENT CALCULATIONS

AFC - Assumes Unlimited Primary Short-Circuit Current (Infinite Bus)  
 Transformer FLA - Formula (250 KVA x 1,000) ÷ (240 SV x 1) = 1,042 FLA  
 Transformer Multiplier TM - Formula (100) x (0.9 x 1.9 %) = 58.48 TM  
 Transformer Let-Through Current TLC - Formula ((1,042 FLA x 58.48 TM) x 1.1 UA) ÷ 3,024 MC = 70,054 TLC  
 Conductor Factor CF - Formula (2 x 200 L X 70,054 TLC) ÷ (19,704 C x 4 N x 240 SV) = 1,481 CF  
 Conductor Multiplier CM - Formula (1) ÷ (1 + 1.481 CF) = 0.403 CM  
 Conductor Let-Through Current CLC - Formula (70,054 TLC x 0.403 CM) = 28,232 CLC

%Z - Transformer Impedance Nameplate %Z  
 A - Amps  
 AFC - Available Fault Current  
 C - Conductor Constant  
 CF - Conductor Factor  
 CLC - Conductor Let-Through Current  
 CM - Conductor Multiplier  
 FLA - Full Load Amps

KVA - Kilovolt Amps  
 L - Length of Conductor  
 MC - Motor Contribution  
 N - Number of Conductors Per Phase  
 SV - Secondary Voltage  
 TLC - Transformer Let-Through Current  
 TM - Transformer Multiplier  
 UA - Utility Adjustment  
 VA - Volt Amps

# APPROVED

CODE SOLUTIONS INC.

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### POWER NOTES BY SYMBOL:

- RECOMMENDED ADD SAME SIZED SPARE CONDUIT WITH SECONDARY CONDUIT RUNS TO BUILDING SERVICE LOCATION NOTED.
- ELEVATOR DISCONNECTS INSTALLED AT HOUSE PANEL BRANCH FEEDER & DESIGNATED INSTALLATION POINT WITHIN THE ELEVATOR'S SHAFT AND BRACING. REFER TO MANUFACTURER SPECIFICATIONS FOR ALL INSTALLATION PROTOCOLS. ELEVATOR POWER AND REQUIRED CIRCUIT SIZES AND QUANTITIES BASED ON BEST AVAILABLE DATA AT TIME OF DESIGN. CONTRACTOR TO CONFIRM ALL PRIOR TO PURCHASE AND INSTALLATION.
- FAULT CURRENT RATINGS & CALCULATIONS:** APPROXIMATE CALCULATIONS PROVIDED UNDER TYPICAL FIELD-PROVIDED TRANSFORMER INFORMATION, AND TYPICAL PRIMARY VOLTAGE PARAMETERS (ASSUMING THE PRIMARY SYSTEM IS INFINITE BUS. SEE SHELL SERVICE BUILDING LOAD CALCULATIONS ON THIS PLAN). WHEREAS, THE RESPECTIVE UTILITY COMPANY AND ELECTRICAL CONTRACTOR WILL BE REQUIRED TO VERIFY THE REQUIRED PARAMETERS PRIOR TO ELECTRICAL SERVICE INSTALLATION(S), AND THE RESPECTIVE LABELING OF THIS INFORMATION AS SPECIFIED IN NEC SECTION(S) 110.9, 110.10, 110.24, & 240.86. "FUTURE" PANEL & TENANT ELECTRICAL DISTRIBUTION PARAMETERS, AS VERIFIED BY OTHERS PRIOR TO ANY FUTURE INSTALLATION.
- AS INSTALLED BY THE ELECTRICAL UTILITY COMPANY, TRANSFORMER INFORMATION SHALL BE PROVIDED TO THE ELECTRICAL CONTRACTOR WITH THE AVAILABLE FAULT/SHORT-CIRCUIT CURRENT PRIOR TO THE INSTALLATION OF THE PROPOSED BUILDING'S ELECTRICAL DISTRIBUTION SYSTEM AS SHOWN ON THIS PLAN AND SHEET(S) E2.0 & E2.1. THUS, PROVIDING A MINIMUM, AND FIELD-ACCURATE, VALUE FOR THE REQUIRED INTERRUPT RATING & CAPACITY FOR THE PROPOSED ELECTRICAL EQUIPMENT AND DISTRIBUTION SYSTEM.
- WHERE REQUIRED BY NEC SECTION 230.71, THERE SHALL NOT BE MORE THAN 6 MAIN SERVICE DISCONNECTS PROVIDED IN A GROUPED LOCATION, A SINGLE ENCLOSURE, OR WITHIN SEPARATE ENCLOSURES. WHEREAS, THE MEANS OF ELECTRICAL BUILDING SERVICE DISCONNECT(S) CAN BE ISOLATED TO A SINGLE MAIN DISCONNECT AS PROVIDED FOR THE DIVERSIFIED MEANS OF METERING AND ELECTRICAL SERVICE FOR ANY FUTURE TENANT OR FUTURE OCCUPANCY.

## SHELL SPACE - FUTURE TENANT - ELECTRICAL LOAD (120/240V, 1φ)

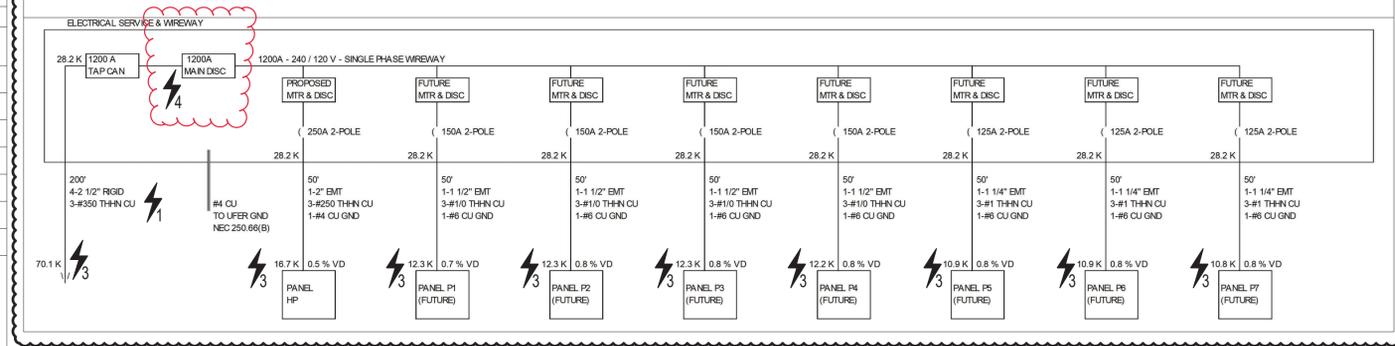
BASED ON OCCUPANCY, SPACE CATEGORIZATION, & RELATIVE UTILIZATION PER TENANT*	
RENTABLE 1ST FLOOR INTERIOR AREA (SF)*	3,613
RENTABLE 2ND FLOOR INTERIOR AREA (SF)*	1,301
TOTAL RENTABLE FUTURE TENANT AREA (SF)*	4,914
TOTAL NUMBER OF TENANTS*	7
ESTIMATED OFFICE / BUSINESS USE TENANT COUNT*	7
ESTIMATED MIXED USE, BUSINESS AREA (SF)	4914
BUSINESS OCCUPANCY (PER IBC TABLE 2602.1)	49
ALLOCATED COMMON AREA FOR TENANT EGRESS AND FACILITIES*	534
OCCUPANTS FOR ALLOCATED RETAIL SPACE*	4
ESTIMATED TOTAL BUILDING OCCUPANCY	53

### CALCULATIONS BY ELECTRICAL LOAD CATEGORY\*\*

RECEPTACLE LOAD (30 WATTS / SF) + 1ST 10,000 W + 50% OF REMAINDER - (VA)	78710
CONTINUOUS LOAD: INTERIOR LIGHTING LOAD (OFFICE: 0.82 VA/SF) (COMMON OFFICE: 0.82 VA/SF) - (VA) PER IECC 405.4.2(1)	5584
MECHANICAL LOAD (MIN. TONNAGE 12 KBTU/H x 3.412 WBTU/H + 25%/70% @ 80% - (VA)	95803
OFFICE AREAS (1 CFM / SF) (400 CFM / 1 TON)	
COMMON OFFICE AREAS (1 CFM / SF) (400 CFM / 1 TON)	
MINIMUM POWER LOAD (VA)	180097
MINIMUM SERVICE LOAD (A)	750
TOTAL SHELL BUILDING SERVICE CALCULATIONS*	
HOUSE PANEL SERVICE LOAD PER CALCULATIONS SHOWN ON THIS PLAN (A)	250
TOTAL POWER DEMAND FOR BUILDING (VA)	234097
TOTAL SERVICE LOAD FOR BUILDING (A)	975
TOTAL SERVICE SIZE TO BE INSTALLED (A)	1200

\*TENANT COUNT, AND ALLOCATED AREAS SCHEDULED, ARE BASED ON BEST AVAILABLE DATA & PROPOSED CONFIGURATIONS AT THE TIME OF DESIGN. ALL PROPOSED AREAS ARE TO BE CONFIRMED BY THE CONTRACTOR WITH RESPECT TO THE FINAL PROPOSED DESIGN.  
 \*\*CALCULATIONS BASED ON THE PROPOSED AREAS TO BE DEVELOPED THROUGHOUT THE BUILDING. THEIR INTENDED CLASSIFICATION, UTILIZATION, AND AN ESTIMATED OCCUPANCY TO HELP DETERMINE A VISIBLE ELECTRICAL SERVICE LOAD (AMPERAGE) FOR THE ENTIRE BUILDING DESIGN AND THE POTENTIAL FUTURE TENANTS TO UTILIZE THE BUILDING DESIGN IN SUCCESSION.  
 1. FINAL CALCULATION VALUES (VA) ARE PROVIDED FOLLOWING THE RESPECTIVE BRANCH CIRCUIT CLASSIFICATIONS OUTLINED IN THE NEC (ARTICLE 220).  
 2. GENERALIZED RECEPTACLE LOAD WATTAGE TO AREA RATIO BASED ON OVERALL UTILIZATION & CLASSIFICATION OF THE RELATIVE OCCUPANCY FOR THE PROPOSED BUILDING DESIGN.

## 1-LINE DIAGRAM - BUILDING SERVICE



## ELECTRICAL LIGHTING AND POWER NOTES

- ALL WORK SHALL MEET CURRENTLY ADOPTED IBC, IECC AND NEC CODE REQUIREMENTS AS WELL AS ANY CITY ADOPTED AMENDMENTS.
- LOADING AND BREAKER LAYOUT SHOWN IS BASED ON BEST AVAILABLE DATA. SPECIALTY, MEDICAL, OR IT EQUIPMENT AND APPLIANCES, ETC MAY NEED SEPARATE CIRCUITS. INSTALLING ELECTRICIAN TO VERIFY ACTUAL EQUIPMENT WATTAGES AND SUPPLY CORRECT EQUIPMENT AS NEEDED.
- ALL RECEPTACLES SHALL BE GFCI PROTECTED IF REQUIRED BY NEC OR AHJ.
- ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED WITH WEATHERPROOF IN-USE COVERS.
- ALL RECEPTACLES IN AREAS GENERALLY OCCUPIED BY CHILDREN INCLUDING CLASSROOMS, PATIENT EXAM ROOMS, WAITING ROOMS, RESTROOMS, HALLWAYS AND GYMS TO BE TAMPER-RESISTANT.
- ELECTRICAL CONTRACTOR TO PROVIDE JUNCTION BOX FOR BUILDING SIGNAGE AND PHOTOCELL WITH TIME CLOCK NEXT TO BREAKER PANEL.
- ALL LIGHTING AND CONTROLS SHALL CONFORM TO CURRENT IECC SECTION C405.2
- EMERGENCY ELECTRICAL SYSTEM AS LOCATED ON THIS PLAN SHALL PROVIDE POWER FOR A DURATION OF NOT LESS THAN 90 MINUTES AND AN INITIAL ILLUMINATION OF AN AVERAGE 1 FOOTCANDLE. EMERGENCY POWER SYSTEM TO BE IN COMPLIANCE WITH IBC SECTION 1006.
- ALUMINUM CONDUCTORS GREATER THAN 2/0 (APPROX 150 AMPS) CAN BE USED FOR THE INDIVIDUAL SERVICE.
- OWNER MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM SPECIFICATIONS, UNLESS NOTED OTHERWISE.
- CONTRACTOR TO CONTACT UNDERSIGNED ENGINEER WITH ANY DESIGN PLAN CHANGES.
- THE BRANCH CIRCUIT FEEDING THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE THE SAME BRANCH CIRCUIT AS THAT SERVING THE NORMAL LIGHTING IN THE AREA AND CONNECTED AHEAD OF ANY LOCAL SWITCHES. THE BRANCH CIRCUIT THAT FEEDS THE EMERGENCY LIGHTING UNIT EQUIPMENT SHALL BE CLEARLY IDENTIFIED AT THE DISTRIBUTION PANEL. EXCEPTION: IN A SEPARATE AND UNINTERRUPTED AREA SUPPLIED BY A MINIMUM OF THREE NORMAL LIGHTING CIRCUITS, A SEPARATE BRANCH CIRCUIT FOR UNIT EQUIPMENT SHALL BE PERMITTED IF IT ORIGINATES FROM THE SAME PANELBOARD AS THAT OF THE NORMAL LIGHTING CIRCUITS AND IS PROVIDED WITH A LOOK-ON FEATURE (700.127) NEC.
- MAIN ELECTRICAL DISCONNECT SHALL BE LABELED WITH A PLAINLY VISIBLE AND LEGIBLE SIGN INDICATING ITS PURPOSE.

## MEP GENERAL NOTES

- ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
- CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
- REVIEW PLAN SHEET "MEP" - MEP NOTES PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
- THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
- SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
- SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
- WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
- CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
- DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

## NOTE TO BIDDERS

THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

## CONTRACTOR RESPONSIBILITIES

CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.

TEXAS FIRM F-16469

**AME Engineering, Inc.**



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

1716 KELLER PARKWAY  
KELLER, TX

CONTACT NAME: GARLAND BELL

CONTACT COMPANY: EMPIRE BUILDERS

CONTACT PHONE: 415-414-5575

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SHEET REVISIONS

CITY COMMENTS 01/11/2024

PRINTED: 1/11/2024 2:53 PM

DESIGNED: JJK

CHECKED: JJK

IBC: 2021

IECC/ASHRAE: 2018

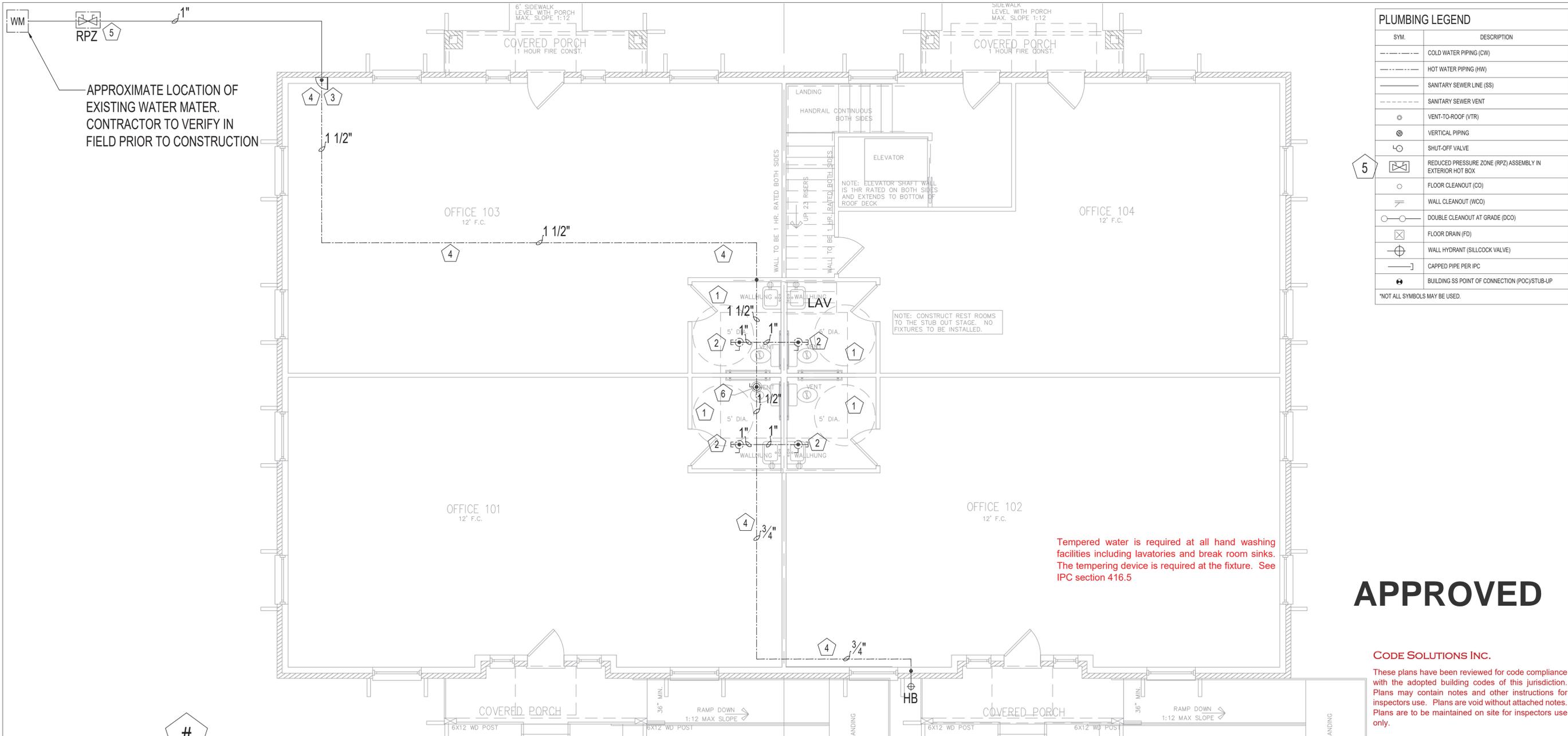
NEC: 2020

SCALE: AS SHOWN

ELECTRICAL PANELS AND DIAGRAMS

E3.0

PROJECT: 1819



PLUMBING LEGEND	
SYM.	DESCRIPTION
---	COLD WATER PIPING (CW)
---	HOT WATER PIPING (HW)
---	SANITARY SEWER LINE (SS)
---	SANITARY SEWER VENT
○	VENT-TO-ROOF (VTR)
⊙	VERTICAL PIPING
⊖	SHUT-OFF VALVE
⊞	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY IN EXTERIOR HOT BOX
○	FLOOR CLEANOUT (CO)
≡	WALL CLEANOUT (WCO)
⊞	DOUBLE CLEANOUT AT GRADE (DCO)
⊞	FLOOR DRAIN (FD)
⊞	WALL HYDRANT (SILCOCK VALVE)
—	CAPPED PIPE PER IPC
⊞	BUILDING SS POINT OF CONNECTION (POC) STUB-UP

\*NOT ALL SYMBOLS MAY BE USED.

APPROXIMATE LOCATION OF EXISTING WATER METER. CONTRACTOR TO VERIFY IN FIELD PRIOR TO CONSTRUCTION

Tempered water is required at all hand washing facilities including lavatories and break room sinks. The tempering device is required at the fixture. See IPC section 416.5

**APPROVED**

**CODE SOLUTIONS INC.**  
 These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are to be maintained on site for inspectors use only.

**PLUMBING NOTES BY SYMBOL #**

- CONTRACTOR TO ONLY INSTALL TO THE STUB-UP/STUB-OUT STAGE FOR THE INDICATED FUTURE TENANT SPACE RESTROOMS. ALL (FUTURE) WATER AND SEWER POINTS OF CONNECTION TO BE CAPPED PER IPC 2021. FUTURE TENANT PLUMBING FIXTURES AND FIXTURE CONNECTION PIPING TO BE INSTALLED PER THE APPROVED INDIVIDUAL CONSTRUCTION DOCUMENTS.
- CONTRACTOR TO INSTALL A 1" CW LINE TAP FOR FUTURE TENANT SPACES AS APPROXIMATELY LOCATED. PROVIDE WITH SHUT-OFF VALVE, ACCESS PANEL AND CAP IN A CODE APPROVED MANNER FOR FUTURE TENANT CONSTRUCTION.
- BEGINNING OF 1 1/2" OVERHEAD BUILDING WATER DISTRIBUTION RISER. VERTICAL PIPE RISER TO BE PROVIDED WITH AN EMERGENCY SHUT OFF VALVE IN AN ACCESSIBLE AND LABELED CABINET PRIOR TO ANY BRANCHES OR CONNECTION. INSTALL RISER PIPE UP WALL INTO FLOOR FRAMING AREA IN BETWEEN LEVELS THEN TO 2ND LEVEL RISER PIPE AS SHOWN AND THEN CONTINUATION TO THE BUILDING WALL HYDRANT AS APPROXIMATELY LOCATED HEREIN.
- ALL CW SUPPLY LINES IN NON-CONDITIONED SPACES TO BE FREEZE PROTECTED VIA HEAT TRACE TAPE UNTIL ALL TENANT SPACES ARE CONDITIONED AND IN OPERATION.
- EXTERIOR RPZ IN HOTBOX. CONTRACTOR TO CONFIRM LOCATION WITH OWNER PRIOR TO CONSTRUCTION. REFER TO DETAIL 3P3.0.
- LOCATION OF 1-1/4" RISER PIPE TO ABOVE 2ND LEVEL CEILING SPACE. REFER TO P1.1 FOR CONTINUATION OF THE REQUIRED BUILDING DISTRIBUTION LINE SIZING AND LOCATION.

PLUMBING FIXTURE SCHEDULE				
SYM	DESC	RECOMMENDED MODEL	WATER SIZE	SEWER SIZE
RPZ	REDUCED PRESSURE ZONE ASSEMBLY	WATTS 34" - 2" 9090TLF9090QT HIGH CAPACITY RELIEF SERIES WITH AIR GAP FITTING AND, FOR VERTICAL INSTALLATIONS, VENTED ELBOW	MATCH TO SUPPLY	--
LAV	LAVATORY-WALL ADA	AMERICAN STANDARD ADA-COMPLIANT MISSOURI WALL-HUNG LAVATORY MODEL 048.004U, 4" FAUCET HOLES WITH AMERICAN STANDARD MONTERREY 4 IN. CENTERSET 2-HANDLE HIGH-ARC BATHROOM FAUCET 7501.170.002	1/2"	2"
WCT	WATER CLOSET - TANK	AMERICAN STANDARD CHAMPION PRO RIGHT HEIGHT TWO-PIECE FLUSH TANK, ELONGATED SEAT, CLOG FREE, EVER-CLEAN SURFACE, HIGH EFFICIENCY 1.28 GPF, ADA COMPLIANT, 12" ROUGH-IN, (MODEL #211AA.104 WITH OPTIONAL 4225A.164 TANK LOCKING DEVICE AND 5325.010 SLOW CLOSE PLASTIC SEAT COVER)	3/4"	3"
FD	FLOOR DRAIN (WITH) TRAP PRIMER	ZURN Z419H-P (WITH 1/2" TRAP PRIMER CONNECTION), Z1022-XL 1/2" TRAP PRIMER FOR PRIVATE FLOOR DRAINS SUBJECT TO INFREQUENT USE, SUCH AS RESTROOMS AND RESTROOMS	--	MIN 3"
WCO	WALL CLEANOUT	ZURN Z1446-VP VANDAL PROOF CLEANOUT WITH ROUND WALL ACCESS COVER	--	MIN 3"
CO	FLOOR CLEAN OUT	ZURN C024250-PI4 ADJUSTABLE PVC FLOOR CLEAN OUT WITH STAINLESS STEEL ROUND FLOOR ACCESS COVER	--	MIN 4"
HB	HOSE BIBB (SILCOCK)	1/2" BRASS ANTI-SIPHON FROST FREE SILCOCK VALVE WITH PUSH-FIT CONNECTIONS. SIZE TO LENGTH PER ARCHITECTURAL PLANS.	3/4"	--

PIPING REQUIREMENTS  
 WATER SERVICE: 1" METER & SERVICE, 1 1/2" BLDG DISTRIBUTION, 1" (FUTURE) TENANT DISTRIBUTION  
 SANITARY SEWER: 4" WITH MINIMUM 1% SLOPE.

NOTES:  
 1. OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.  
 2. CONTRACTOR TO VERIFY PLUMBING FIXTURES WITH OWNER AND FOR CONFORMANCE TO ADA AND CURRENT CITY CODES AND ORDINANCES PRIOR TO PURCHASES AND INSTALLATION.

WATER HEATER SCHEDULE															
UNIT	QTY	TYPE	BRAND	MODEL	CAPACITY	VOLTAGE	ELEC REQ'D	INPUT PER HOUR	RECOVERY	1ST HOUR DELIVERY	HEATER DIMENSIONS	VENT DIA.	WATER CONNECT.	GAS CONNECT.	SHIPPING WEIGHT
EWH	2	TANKLESS ON-DEMAND ELECTRIC	STIEBEL ELTRON	MINI 3	(1) SINKS	120V/1PH	25A 10 AWG	3.000 W	INSTANT	--	7.5"Wx6.5"Hx3.25"D	N/A	3/4" COMPRESSION	NA	<5 LBS

NOTES:  
 1. REFER TO INSTALLATION MANUAL FOR ALL STRUCTURAL, ELECTRICAL, PLUMBING, VENTING AND GAS REQUIREMENTS PRIOR TO INSTALLATION.  
 2. ROUTE TAP AND OVERFLOW DRAINS TO BUILDING EXTERIOR OR AHJ APPROVED INDIRECT WASTE WITH REQUIRED AIR GAP FOR TANK-STYLE WATER HEATERS.  
 3. PROVIDE THERMAL EXPANSION TANK ON COLD WATER SUPPLY LINE FOR TANK-STYLE WATER HEATERS.  
 4. PROVIDE AND INSTALL DRIP PAN AND FLOODSTOP BY ONSITE PRO SHUT-OFF SYSTEM MODEL F534NPT FOR TANK-STYLE WATER HEATERS.  
 5. PROVIDE 120°F THERMOSTATIC MIXING/TEMPERING VALVE AT ALL SINKS.  
 6. INSULATE ALL HOT WATER LINES EQUAL TO 1/2" ARMAFLEX.

PLUMBING CALCULATIONS SUMMARY	
Maximum Developed Length	192
Building Total Water Supply Fixture Units	44
Meter and Service Pipe	1"
Building Distribution Pipe	1 1/2"
(FUTURE) Tenant Distribution Pipe	1"
Building Total Drainage Fixture Units	30
Building Sanitary Sewer Pipe	4"

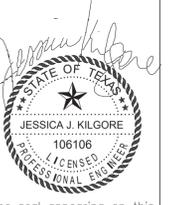
Notes:  
 WSFU from 2018 IPC Table E103.3(2)  
 Water Pipe Size from 2018 IPC Table E201.1 30-39 psi  
 DFU from 2018 IPC Table 709.1  
 Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

GENERAL PLUMBING NOTES	
1.	ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
2.	SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3.	ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE L OR 2021 IPC APPROVED.
4.	ALL PIPING TO BE INSULATED.
5.	IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNED ENGINEER IMMEDIATELY.
6.	REFER TO SITE DEVELOPER'S CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
7.	ALL SEWER LINES TO HAVE MINIMUM 1% SLOPE.
8.	ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE. ASSET TO APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATORIES.
9.	INSTALL A RPZ BACKFLOW PREVENTION ASSEMBLY ON THE INCOMING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
10.	VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
11.	HAND SINKS LOCATED IMMEDIATELY ADJACENT (WITHIN 12 INCHES) TO FOOD PREPARATION, SERVING OR STORAGE AREAS, MUST HAVE SUFFICIENT SPLASH PROTECTION INSTALLED TO PROTECT FOOD.

CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
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- MEP GENERAL NOTES**
- ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
  - CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
  - REVIEW PLAN SHEET "MEP" - "MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
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  - SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
  - SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
  - WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
  - DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469  
**AME Engineering, Inc.**  
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 3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



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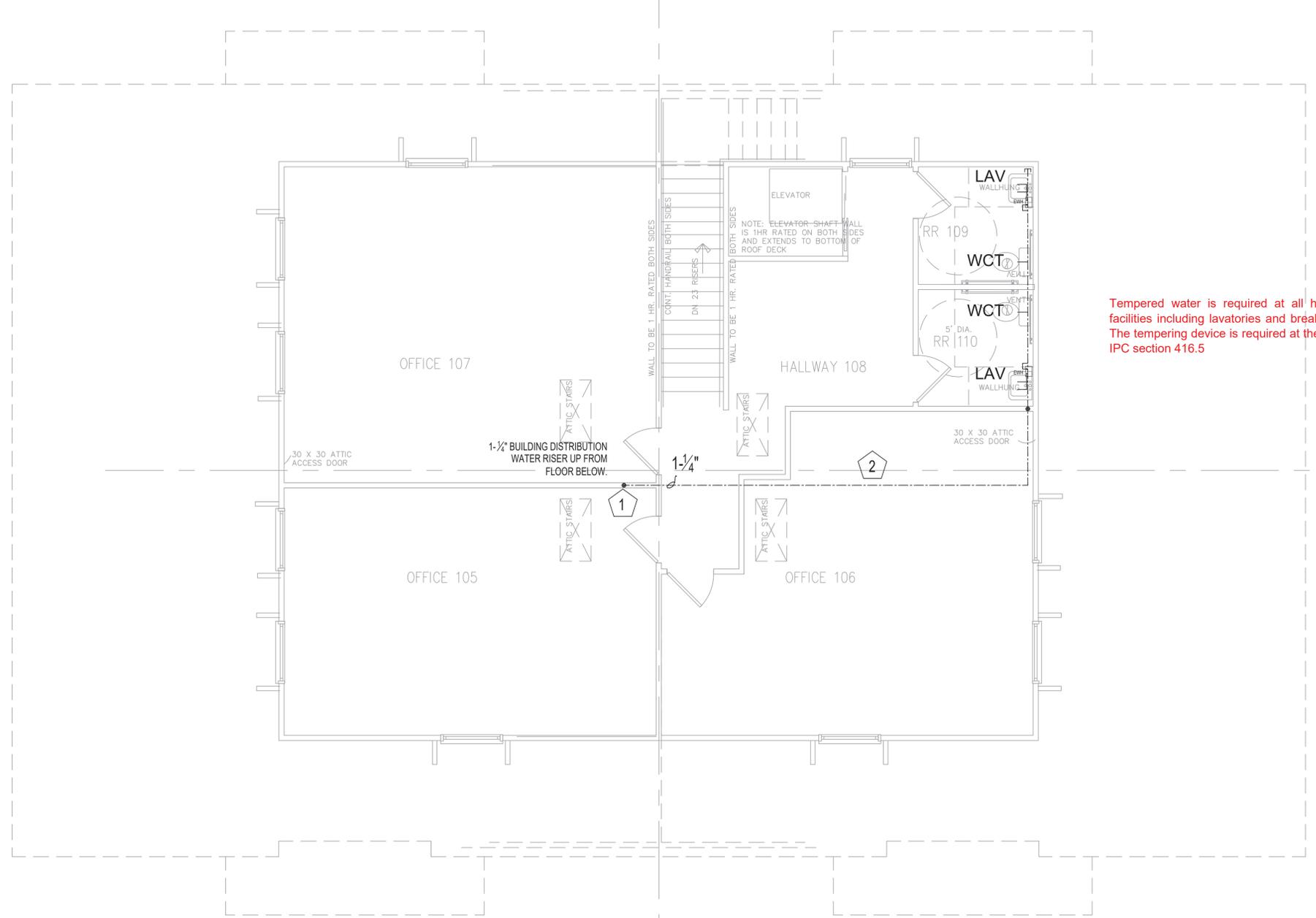
OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD  
 1716 KELLER PARKWAY  
 KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575

ISSUE:	
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Δ CITY COMMENTS	01/11/2024

PRINTED	1/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
IBC	2021
IECCASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100)

**WATER PLAN - 1ST FLOOR**  
 PROJECT **P1.0**  
**1819**



Tempered water is required at all hand washing facilities including lavatories and break room sinks. The tempering device is required at the fixture. See IPC section 416.5

PLUMBING LEGEND	
SYM.	DESCRIPTION
---	COLD WATER PIPING (CW)
---	HOT WATER PIPING (HW)
---	SANITARY SEWER LINE (SS)
---	SANITARY SEWER VENT
○	VENT-TO-ROOF (VTR)
⊗	VERTICAL PIPING
⊕	SHUT-OFF VALVE
⊠	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY IN EXTERIOR HOT BOX
○	FLOOR CLEANOUT (CO)
⊠	WALL CLEANOUT (WCO)
⊠	DOUBLE CLEANOUT AT GRADE (DCO)
⊠	FLOOR DRAIN (FD)
⊕	WALL HYDRANT (SILCOCK VALVE)
⊠	CAPPED PIPE PER IPC
⊠	BUILDING SS POINT OF CONNECTION (POC) STUB-UP

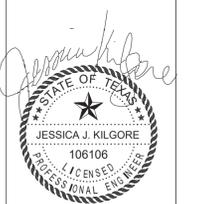
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# APPROVED

CODE SOLUTIONS INC.

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IECC/ASHRAE: 2018

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SCALE: 1/4" = 1'-0" (100)

WATER PLAN - 2ND FLOOR

PROJECT: P1.1

PROJECT: 1819

### PLUMBING NOTES BY SYMBOL

- LOCATION OF 1-1/4" RISER PIPE TO ABOVE 2ND LEVEL CEILING SPACE. REFER TO P1.1 FOR CONTINUATION OF THE REQUIRED BUILDING DISTRIBUTION LINE SIZING AND LOCATION.
- ALL CW SUPPLY LINES IN NON-CONDITIONED SPACES TO BE FREEZE PROTECTED VIA HEAT TRACE TAPE UNTIL ALL TENANT SPACES ARE CONDITIONED AND IN OPERATION.

PLUMBING FIXTURE SCHEDULE				
SYM	DESC	RECOMMENDED MODEL	WATER SIZE	SEWER SIZE
RPZ	REDUCED PRESSURE ZONE ASSEMBLY	WATTS 34" - 2" 909QTLF909QT HIGH CAPACITY RELIEF SERIES WITH AIR GAP FITTING AND, FOR VERTICAL INSTALLATIONS, VENTED ELBOW	MATCH TO SUPPLY	-
LAV	LAVATORY-WALL ADA	AMERICAN STANDARD ADA-COMPLIANT MISSOURI WALL-HUNG LAVATORY MODEL 0438.004U, 4" FAUCET HOLES WITH AMERICAN STANDARD MONTERREY 4 IN. CENTERSET 2-HANDLE HIGH-ARC BATHROOM FAUCET 7501.170.002	1/2"	2"
WCT	WATER CLOSET - TANK	AMERICAN STANDARD CHAMPION PRO RIGHT HEIGHT TWO-PIECE FLUSH TANK, ELONGATED SEAT, CLOG FREE, EVERCLEAN SURFACE, HIGH EFFICIENCY 1.28 GPF, ADA COMPLIANT, 12" ROUGH-IN, (MODEL #211AA-104 WITH OPTIONAL 4225A 164 TANK LOCKING DEVICE AND 5325 010 SLOW CLOSE PLASTIC SEATCOVER)	3/4"	3"
FD	FLOOR DRAIN (WITH) TRAP PRIMER	ZURN Z419M-FP (WITH 1/2" TRAP PRIMER CONNECTION), Z1022-XL 1/2" TRAP PRIMER FOR PRIVATE FLOOR DRAINS SUBJECT TO INFREQUENT USE, SUCH AS RISER ROOMS AND RESTROOMS	-	MIN 3"
WCO	WALL CLEANOUT	ZURN Z1446-VP VANDAL PROOF CLEANOUT WITH ROUND WALL ACCESS COVER	-	MIN 3"
CO	FLOOR CLEAN OUT	ZURN C024250-PI4 ADJUSTABLE PVC FLOOR CLEAN OUT WITH STAINLESS STEEL ROUND FLOOR ACCESS COVER	-	MIN 4"
HB	HOSE BIBB (SILCOCK)	1/2" BRASS ANTI-SIPHON FROST FREE SILCOCK VALVE WITH PUSH-FIT CONNECTIONS. SIZE TO LENGTH PER ARCHITECTURAL PLANS.	3/4"	-

PIPING REQUIREMENTS  
 WATER SERVICE, 1" METER & SERVICE, 1 1/2" BLDG DISTRIBUTION, 1" (FUTURE) TENANT DISTRIBUTION  
 SANITARY SEWER, 4" WITH MINIMUM 1% SLOPE.

NOTES:  
 1. OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.  
 2. CONTRACTOR TO VERIFY PLUMBING FIXTURES WITH OWNER AND FOR CONFORMANCE TO ADA AND CURRENT CITY CODES AND ORDINANCES PRIOR TO PURCHASES AND INSTALLATION.

WATER HEATER SCHEDULE															
UNIT	QTY	TYPE	BRAND	MODEL	CAPACITY	VOLTAGE	ELEC REQ'D	INPUT PER HOUR	RECOVERY	1ST HOUR DELIVERY	HEATER DIMENSIONS	VENT DIA.	WATER CONNECT.	GAS CONNECT.	SHIPPING WEIGHT
EWH	2	TANKLESS ON-DEMAND ELECTRIC	STIEBEL ELTRON	MINI 3	(1) SINKS	120V/1PH	25A 10 AWG	3.000 W	INSTANT	-	7.5"Wx6.5"Hx3.25"D	N/A	3/4" COMPRESSION	NA	<5 LBS

NOTES:  
 1. REFER TO INSTALLATION MANUAL FOR ALL STRUCTURAL, ELECTRICAL, PLUMBING, VENTING AND GAS REQUIREMENTS PRIOR TO INSTALLATION.  
 2. ROUTE TAP AND OVERFLOW DRAINS TO BUILDING EXTERIOR OR AHJ APPROVED INDIRECT WASTE WITH REQUIRED AIR GAP FOR TANK-STYLE WATER HEATERS.  
 3. PROVIDE THERMAL EXPANSION TANK ON COLD WATER SUPPLY LINE FOR TANK-STYLE WATER HEATERS.  
 4. PROVIDE AND INSTALL DRIP PAN AND FLOODSTOP BY ON-SITE PRO SHUT-OFF SYSTEM MODEL F534NPT FOR TANK-STYLE WATER HEATERS.  
 5. PROVIDE 120°F THERMOSTATIC MIXING/TEMPERING VALVE AT ALL SINKS.  
 6. INSULATE ALL HOT WATER LINES EQUAL TO 1/2" ARMAFLEX.

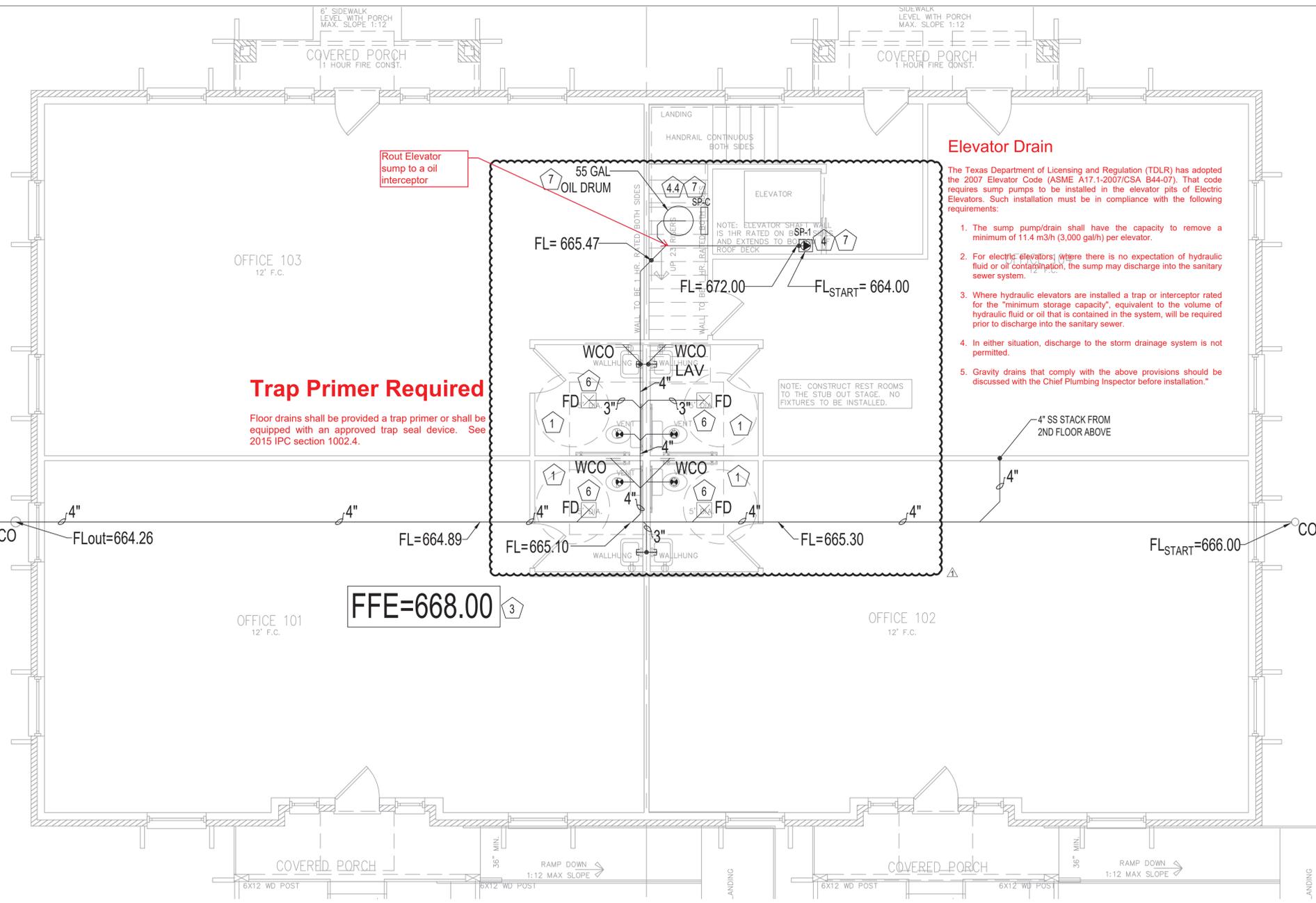
PLUMBING CALCULATIONS SUMMARY	
Maximum Developed Length	192
Building Total Water Supply Fixture Units	44
Meter and Service Pipe	1"
Building Distribution Pipe	1 1/2"
(FUTURE) Tenant Distribution Pipe	1"
Building Total Drainage Fixture Units	30
Building Sanitary Sewer Pipe	4"

Notes:  
 WSFU from 2018 IPC Table E103.3(2)  
 Water Pipe Size from 2018 IPC Table E201.1 30-39 psi  
 DFU from 2018 IPC Table 709.1  
 Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

GENERAL PLUMBING NOTES	
1.	ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
2.	SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3.	ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 'L' OR 2021 IPC APPROVED.
4.	ALL PIPING TO BE INSULATED.
5.	IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNED ENGINEER IMMEDIATELY.
6.	REFER TO SITE DEVELOPER'S CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
7.	ALL SEWER LINES TO HAVE MINIMUM 1% SLOPE.
8.	ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE, ASSE1070 APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATORIES AND HAND WASH SINKS PER 2021 IPC 416.5.
9.	INSTALL A RPZ BACKFLOW PREVENTION ASSEMBLY ON THE INCOMING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
10.	VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
11.	CONTRACTOR TO COORDINATE WITH ATMS AND DETERMINE EXACT GAS METER LOCATION IN FIELD PRIOR TO CONSTRUCTION.
12.	HAND SINKS LOCATED IMMEDIATELY ADJACENT (WITHIN 12 INCHES) TO FOOD PREPARATION, SERVING OR STORAGE AREAS, MUST HAVE SUFFICIENT SPLASH PROTECTION INSTALLED TO PROTECT FOOD.

CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.	THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

- ### MEP GENERAL NOTES
- ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
  - CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
  - REVIEW PLAN SHEET "MEP" - "MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
  - THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
  - SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
  - SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
  - WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
  - DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.



SYM.	DESCRIPTION
---	COLD WATER PIPING (CW)
---	HOT WATER PIPING (HW)
---	SANITARY SEWER LINE (SS)
---	SANITARY SEWER VENT
⊙	VENT-TO-ROOF (VTR)
⊙	VERTICAL PIPING
⊙	SHUT-OFF VALVE
⊙	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY IN EXTERIOR HOT BOX
⊙	FLOOR CLEANOUT (CO)
⊙	WALL CLEANOUT (WCO)
⊙	DOUBLE CLEANOUT AT GRADE (DCO)
⊙	FLOOR DRAIN (FD)
⊙	WALL HYDRANT (SILCOCK VALVE)
⊙	CAPPED PIPE PER IPC
⊙	BUILDING SS POINT OF CONNECTION (POC)/STUB-UP

\*NOT ALL SYMBOLS MAY BE USED.

**Elevator Drain**

The Texas Department of Licensing and Regulation (TDLR) has adopted the 2007 Elevator Code (ASME A17.1-2007/CSA B44-07). That code requires sump pumps to be installed in the elevator pits of Electric Elevators. Such installation must be in compliance with the following requirements:

- The sump pump/drain shall have the capacity to remove a minimum of 11.4 m<sup>3</sup>/h (3,000 gal/h) per elevator.
- For electric elevators where there is no expectation of hydraulic fluid or oil contamination, the sump may discharge into the sanitary sewer system.
- Where hydraulic elevators are installed a trap or interceptor rated for the "minimum storage capacity", equivalent to the volume of hydraulic fluid or oil that is contained in the system, will be required prior to discharge into the sanitary sewer.
- In either situation, discharge to the storm drainage system is not permitted.
- Gravity drains that comply with the above provisions should be discussed with the Chief Plumbing Inspector before installation.

**Trap Primer Required**

Floor drains shall be provided a trap primer or shall be equipped with an approved trap seal device. See 2015 IPC section 1002.4.

**PLUMBING NOTES BY SYMBOL #**

- ALL (FUTURE) TENANT WATER AND SEWER POINTS OF CONNECTION TO BE CAPPED PER IPC 2021.
- REFER TO CIVIL FOR CONTINUATION OF BUILDING SEWER SERVICE LINE CONNECTION TO MAIN.
- SLOPE AND PROPOSED FLOW-LINES BASED ON FINISHED FLOOR ELEVATION GIVEN IN CIVIL PLANS AT TIME OF DESIGN. CONTRACTOR TO CONFIRM IN FIELD PRIOR TO CONSTRUCTION.
- SEE ELEVATOR PIT SUMP PUMP (SP-1) & CONTROLS (SP-C) SCHEDULE THIS SHEET AND RESPECTIVE DETAILS ON SHEET P3.1. THE TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) HAS ADOPTED THE 2007 ELEVATOR CODE (ASME A17.1-2007/CSA B44-07). THAT CODE REQUIRES SUMP PUMPS TO BE INSTALLED IN THE ELEVATOR PITS OF ELECTRIC ELEVATORS. SUCH INSTALLATION MUST BE IN COMPLIANCE WITH THE FOLLOWING REQUIREMENTS:
  - THE SUMP PUMP/DRAIN SHALL HAVE THE CAPACITY TO REMOVE A MINIMUM OF 11.4 M<sup>3</sup>/H (3,000 GAL/H) PER ELEVATOR.
  - FOR ELECTRIC ELEVATORS, WHERE THERE IS NO EXPECTATION OF HYDRAULIC FLUID OR OIL CONTAMINATION, THE SUMP MAY DISCHARGE INTO THE SANITARY SEWER SYSTEM.
  - WHERE HYDRAULIC ELEVATORS ARE INSTALLED A TRAP OR INTERCEPTOR RATED FOR THE "MINIMUM STORAGE CAPACITY", EQUIVALENT TO THE VOLUME OF HYDRAULIC FLUID OR OIL THAT IS CONTAINED IN THE SYSTEM, WILL BE REQUIRED PRIOR TO DISCHARGE INTO THE SANITARY SEWER.
  - IN EITHER SITUATION, DISCHARGE TO THE STORM DRAINAGE SYSTEM IS NOT PERMITTED.
  - GRAVITY DRAINS THAT WITH THE ABOVE PROVISIONS SHOULD BE DISCUSSED WITH THE CHIEF PLUMBING INSPECTOR BEFORE INSTALLATION.
- 412.4 REQUIRED LOCATION FOR FLOOR DRAINS** FLOOR DRAINS SHALL BE INSTALLED IN THE FOLLOWING AREAS:
  - IN PUBLIC COIN-OPERATED LAUNDRIES AND IN THE CENTRAL WASHING FACILITIES OF MULTIPLE FAMILY DWELLINGS, THE ROOMS CONTAINING AUTOMATIC CLOTHES WASHERS SHALL BE PROVIDED WITH FLOOR DRAINS LOCATED TO READILY DRAIN THE ENTIRE FLOOR AREA. SUCH DRAINS SHALL HAVE A MINIMUM OUTLET OF NOT LESS THAN 3 INCHES (76 MM) IN DIAMETER.
  - COMMERCIAL KITCHENS, IN LIEU OF FLOOR DRAINS IN COMMERCIAL KITCHENS, THE CODE OFFICIAL MAY ACCEPT FLOOR SINKS.
  - PUBLIC RESTROOMS.
- TRAP PRIMER REQUIRED - FLOOR DRAINS SHALL BE PROVIDED A TRAP PRIMER OR SHALL BE EQUIPPED WITH AN APPROVED TRAP SEAL DEVICE. SEE 2021 IPC SECTION 1002.4.
- BUILDING OWNER'S RESPONSIBILITY TO DISPOSE OF 55 GALLON OIL INTERCEPTOR DRUM IN A CODE-APPROVED MANNER, WHEN IN EXCESS OF THE MAX. ALLOWABLE OIL CAPACITY. CONTRACTOR TO VERIFY THAT THE INSTALLATION OF THE SUMP PUMP OIL INTERCEPTING SYSTEM, CONTROL PANEL, AND OIL DRUM ARE IN COMPLIANCE WITH MANUFACTURER SPECIFICATIONS & LOCATED WHERE FUTURE SERVICEABILITY & MAINTENANCE IS READILY ACCESSIBLE FOR THE REQUIREMENTS SPECIFIED HEREIN. (REFER TO DETAIL #1 & #2 ON SHEET P3.1).

SYM	DESC	RECOMMENDED MODEL	WATER SIZE	SEWER SIZE
RPZ	REDUCED PRESSURE ZONE ASSEMBLY	WATTS 34"-2" 9090TLF9090T HIGH CAPACITY RELIEF SERIES WITH AIR GAP FITTING AND, FOR VERTICAL INSTALLATIONS, VENTED ELBOW	MATCH TO SUPPLY	-
LAV	LAVATORY-WALL ADA	AMERICAN STANDARD ADA-COMPLIANT MISSOURI WALL-HUNG LAVATORY MODEL 0438.004U; 4" FAUCET HOLES WITH AMERICAN STANDARD MONTERREY 4 IN. CENTERSET 2-HANDLE HIGH-ARC BATHROOM FAUCET 7501.170.002	1/2"	2"
WCT	WATER CLOSET - TANK	AMERICAN STANDARD CHAMPION PRO RIGHT HEIGHT TWO-PIECE FLUSH TANK; ELONGATED SEAT; CLOG FREE; EVER-CLEAN SURFACE; HIGH EFFICIENCY 1.28 GPF; ADA COMPLIANT; 12" ROUGH-IN. (MODEL #211AA-104 WITH OPTIONAL 4225A-164 TANK LOCKING DEVICE AND 5325.010 SLOW-CLOSE PLASTIC SEAT COVER)	3/4"	3"
FD	FLOOR DRAIN (WITH) TRAP PRIMER	ZURN Z415N-P (WITH 1/2" TRAP PRIMER CONNECTION), Z1022-XL 1/2" TRAP PRIMER FOR PRIVATE FLOOR DRAINS SUBJECT TO INFREQUENT USE, SUCH AS RISER ROOMS AND RESTROOMS.	-	MIN 3"
WCO	WALL CLEANOUT	ZURN Z1446-VP VANDAL PROOF CLEANOUT WITH ROUND WALL ACCESS COVER	-	MIN 3"
CO	FLOOR CLEAN OUT	ZURN C024250-PV4 ADJUSTABLE PVC FLOOR CLEAN OUT WITH STAINLESS STEEL ROUND FLOOR ACCESS COVER	-	MIN 4"
HB	HOSE BIBB (SILCOCK)	3/4" BRASS ANTI-SIPHON FROST FREE SILCOCK VALVE WITH PUSH-FIT CONNECTIONS. SIZE TO LENGTH PER ARCHITECTURAL PLANS.	3/4"	-

PIPING REQUIREMENTS  
WATER SERVICE: 1" METER & SERVICE; 1 1/2" BLDG DISTRIBUTION; 1" (FUTURE) TENANT DISTRIBUTION  
SANITARY SEWER: 4" WITH MINIMUM 1% SLOPE.

NOTES  
1. OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.  
2. CONTRACTOR TO VERIFY PLUMBING FIXTURES WITH OWNER AND FOR CONFORMANCE TO ADA AND CURRENT CITY CODES AND ORDINANCES PRIOR TO PURCHASES AND INSTALLATION.

UNIT	QTY	MANUFACTURER AND MODEL NUMBER	GPM	MAX HEAD (FT)	RPM	ARRANGEMENT	HP	VOLTS/ PHASE
SP-1	1	WEIL 1411 - SINGLE SEAL SUBMERSIBLE PUMP; 2" NPT	50	20	1750	SIMPLEX	1/2	120V/1ϕ
SP-C	1	LIQUID SMART PUMP SYSTEMS MODEL OSSIM-30-OR - SEE MANUFACTURER DETAILS PROVIDED ON P3.1	-	-	-	-	-	120V/1ϕ

CONTACT GABRIELA ARENIVAS WITH OSLINNATIONCO. IN ARLINGTON, AT 862-701-2552 FOR CUSTOM PRICING OR PRODUCT QUESTIONS.

OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER, BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.

PLUMBING CALCULATIONS SUMMARY	
Maximum Developed Length	192
Building Total Water Supply Fixture Units	44
Meter and Service Pipe	1"
Building Distribution Pipe	1 1/2"
(FUTURE) Tenant Distribution Pipe	1"
Building Total Drainage Fixture Units	30
Building Sanitary Sewer Pipe	4"

Notes:  
WSFU from 2018 IPC Table E103.3(2)  
Water Pipe Size from 2018 IPC Table E201.1.30-39 psi  
DFU from 2018 IPC Table 709.1  
Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

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- ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
  - SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
  - ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 1 OR 2021 IPC APPROVED.
  - ALL PIPING TO BE INSULATED.
  - IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNING ENGINEER IMMEDIATELY.
  - REFER TO SITE DEVELOPER'S CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
  - ALL SEWER LINES TO HAVE MINIMUM 1% SLOPE.
  - ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE, ASSETO APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATOIRES AND HAND WASH SINKS PER 2021 IPC 415.5.
  - INSTALL AN ANTI-SIPHON PREVENTION ASSEMBLY FOR THE INCLUDING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
  - VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
  - CONTRACTOR TO COORDINATE WITH ATMS AND DETERMINE EXACT GAS METER LOCATION IN FIELD PRIOR TO CONSTRUCTION.
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CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
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  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
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**APPROVED**

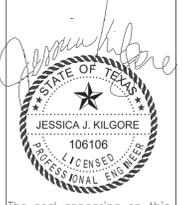
**CODE SOLUTIONS INC.**

These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are void without attached notes. Plans are to be maintained on site for inspectors use only.

TEXAS FIRM F-16469

**AME Engineering, Inc.**

mail@ameengineering.com | office: 817-653-4122 | fax: 817-754-6615  
3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

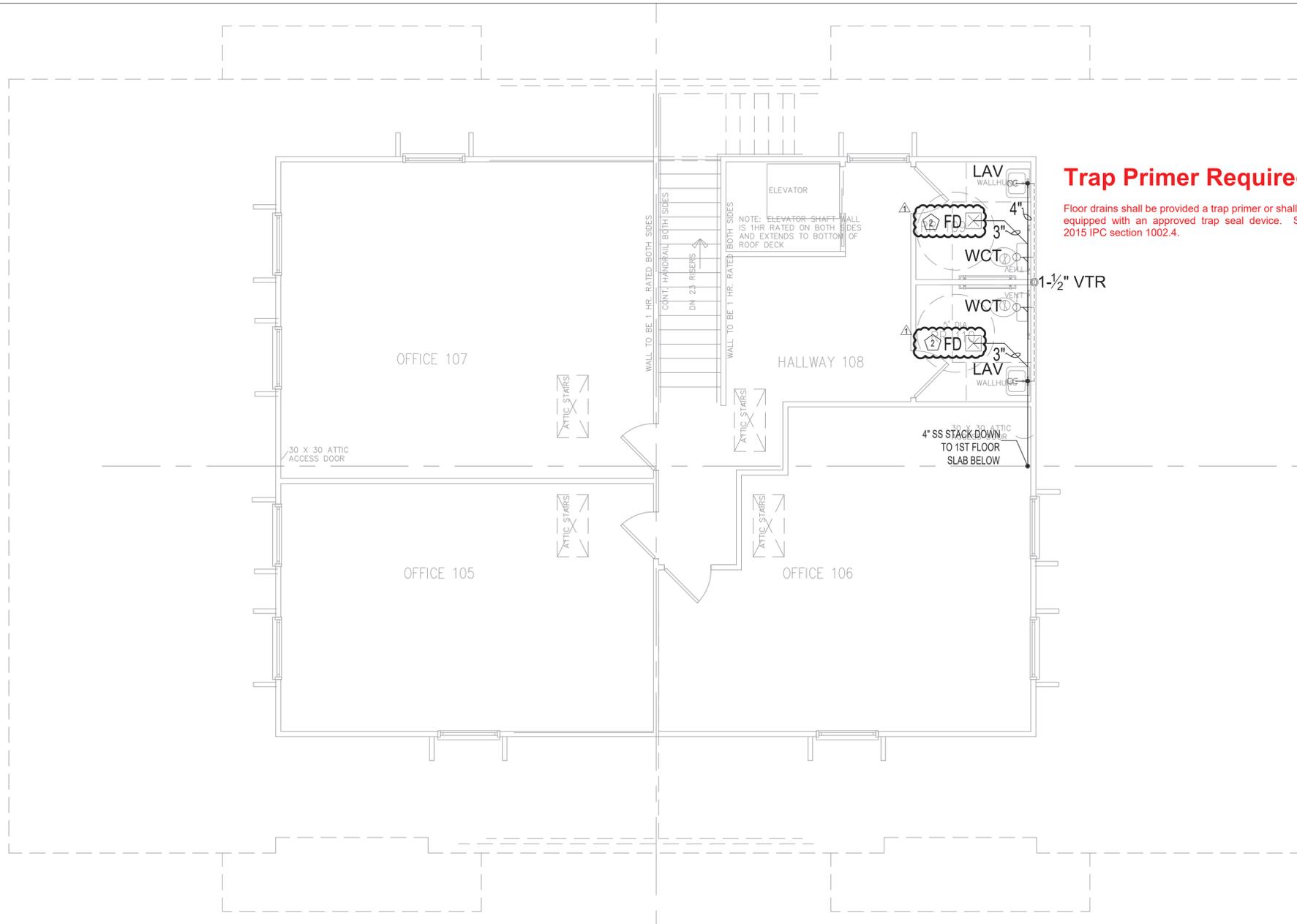
1716 KELLER PARKWAY  
KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575
ISSUE:	
CLIENT REVIEW SET	10-30-2023
REV. CLIENT REVIEW SET	11-20-2023
PERMIT REVIEW SET	11-21-2023
CITY REVIEW SET	01-11-2024
SHEET REVISIONS	
Δ CITY COMMENTS	01/11/2024
PRINTED	11/11/2024 2:53 PM
DESIGNED	JKK
CHECKED	JKK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100)

SEWER PLAN - 1ST FLOOR

**P2.0**

PROJECT 1819



PLUMBING LEGEND	
SYM.	DESCRIPTION
---	COLD WATER PIPING (CW)
---	HOT WATER PIPING (HW)
---	SANITARY SEWER LINE (SS)
---	SANITARY SEWER VENT
○	VENT-TO-ROOF (VTR)
⊗	VERTICAL PIPING
⊖	SHUT-OFF VALVE
⊠	REDUCED PRESSURE ZONE (RPZ) ASSEMBLY IN EXTERIOR HOT BOX
○	FLOOR CLEANOUT (CO)
⊢	WALL CLEANOUT (WCO)
⊕	DOUBLE CLEANOUT AT GRADE (DCO)
⊠	FLOOR DRAIN (FD)
⊕	WALL HYDRANT (SILCOCK VALVE)
⊢	CAPPED PIPE PER IPC
⊕	BUILDING SS POINT OF CONNECTION (POC) STUB-UP

**PLUMBING NOTES BY SYMBOL #**

- 412.4 REQUIRED LOCATION FOR FLOOR DRAINS FLOOR DRAINS SHALL BE INSTALLED IN THE FOLLOWING AREAS:
  - IN PUBLIC COMM-OPERATED LAUNDRIES AND IN THE CENTRAL WASHING FACILITIES OF MULTIPLE FAMILY DWELLINGS, THE ROOMS CONTAINING AUTOMATIC CLOTHES WASHERS SHALL BE PROVIDED WITH FLOOR DRAINS LOCATED TO READILY DRAIN THE ENTIRE FLOOR AREA. SUCH DRAINS SHALL HAVE A MINIMUM OUTLET OF NOT LESS THAN 3 INCHES (75 MM) IN DIAMETER.
  - COMMERCIAL KITCHENS. IN LIEU OF FLOOR DRAINS IN COMMERCIAL KITCHENS, THE CODE OFFICIAL MAY ACCEPT FLOOR SINKS.
  - PUBLIC RESTROOMS.
- TRAP PRIMER REQUIRED - FLOOR DRAINS SHALL BE PROVIDED A TRAP PRIMER OR SHALL BE EQUIPPED WITH AN APPROVED TRAP SEAL DEVICE. SEE 2021 IPC SECTION 1002.4.

# APPROVED

**CODE SOLUTIONS INC.**

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RPZ	REDUCED PRESSURE ZONE ASSEMBLY	WATTS 34"-2" 9090TLF9090T HIGH CAPACITY RELIEF SERIES WITH AIR GAP FITTING AND, FOR VERTICAL INSTALLATIONS, VENTED ELBOW	MATCH TO SUPPLY	-
LAV	LAVATORY-WALL ADA	AMERICAN STANDARD ADA-COMPLIANT MISSOURI WALL-HUNG LAVATORY MODEL 0438.004U; 4" FAUCET HOLES WITH AMERICAN STANDARD MONTERREY 4 IN. CENTERSET 2-HANDLE HIGH-ARC BATHROOM FAUCET 7501.170.002	1/2"	2"
WCT	WATER CLOSET - TANK	AMERICAN STANDARD CHAMPION PRO RIGHT HEIGHT TWO-PIECE FLUSH TANK; ELONGATED SEAT; CLOG FREE; EVERCLEAN SURFACE; HIGH EFFICIENCY 1.28 GPF; ADA COMPLIANT; 12" ROUGH-IN. (MODEL #211AA-104 WITH OPTIONAL 4225A-164 TANK LOCKING DEVICE AND 5353.010 SLOW CLOSE PLASTIC SEAT COVER)	3/8"	3"
FD	FLOOR DRAIN (WITH) TRAP PRIMER	ZURN Z415N-P (WITH 1/2" TRAP PRIMER CONNECTION), Z1022-XL 1/2" TRAP PRIMER FOR PRIVATE FLOOR DRAINS SUBJECT TO INFREQUENT USE. SUCH AS RISER ROOMS AND RESTROOMS.	-	MIN 3"
WCO	WALL CLEANOUT	ZURN Z1446-VP VANDAL PROOF CLEANOUT WITH ROUND WALL ACCESS COVER	-	MIN 3"
CO	FLOOR CLEAN OUT	ZURN C024250-PV4 ADJUSTABLE PVC FLOOR CLEAN OUT WITH STAINLESS STEEL ROUND FLOOR ACCESS COVER	-	MIN 4"
HB	HOSE BIBB (SILCOCK)	3/4" BRASS ANTI-SIPHON FROST FREE SILCOCK VALVE WITH PUSH-FIT CONNECTIONS. SIZE TO LENGTH PER ARCHITECTURAL PLANS.	3/4"	-

PIPING REQUIREMENTS  
 WATER SERVICE: 1" METER & SERVICE; 1 1/2" BLDG DISTRIBUTION; 1" (FUTURE) TENANT DISTRIBUTION  
 SANITARY SEWER: 4" WITH MINIMUM 1% SLOPE.

NOTES  
 1. OWNER, TENANT OR ARCHITECT MAY CHANGE EQUIPMENT MANUFACTURER BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.  
 2. CONTRACTOR TO VERIFY PLUMBING FIXTURES WITH OWNER AND FOR CONFORMANCE TO ADA AND CURRENT CITY CODES AND ORDINANCES PRIOR TO PURCHASE AND INSTALLATION.

PLUMBING CALCULATIONS SUMMARY	
Maximum Developed Length	192
Building Total Water Supply Fixture Units	44
Meter and Service Pipe	1"
Building Distribution Pipe	1 1/2"
(FUTURE) Tenant Distribution Pipe	1"
Building Total Drainage Fixture Units	30
Building Sanitary Sewer Pipe	4"

Notes:  
 WSFU from 2018 IPC Table E103.3(2)  
 Water Pipe Size from 2018 IPC Table E201.1 30-39 psi  
 DFU from 2018 IPC Table 709.1  
 Sewer Pipe Size from 2018 IPC Table 710.1(1) for 1/8" (1%)

GENERAL PLUMBING NOTES	
1.	ALL WORK SHOWN TO COMPLY WITH ALL NATIONAL, STATE AND LOCAL CODES, ORDINANCES, ETC.
2.	SEE ALL OTHER DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL WORK OR CLARIFICATION OF NECESSARY WORK.
3.	ALL HOT AND COLD WATER PIPING ABOVE FINISHED FLOOR TO BE COPPER TYPE 'L' OR 2021 IPC APPROVED.
4.	ALL PIPING TO BE INSULATED.
5.	IF WATER PRESSURE IS FOUND TO BE LESS THAN SHOWN IN DESIGN CRITERIA CONTACT UNDERSIGNED ENGINEER IMMEDIATELY.
6.	REFER TO SITE DEVELOPER'S CIVIL ENGINEER'S DRAWING FOR ALL PIPING 5'-0" BEYOND BUILDING.
7.	ALL HAND SINKS TO BE EQUIPPED WITH TEMPERING VALVE. ASSESS AND APPROVED THERMOSTATIC MIXING VALVES AT ALL LAVATORIES AND HAND WASH SINKS PER 2021 IPC 412.5.
8.	INSTALL A RPT BACKFLOW PREVENTION ASSEMBLY FOR THE INCOMING WATER LINE PRIOR TO ANY OTHER CONNECTIONS AS REQUIRED.
9.	VERIFY LOCATION OF SANITARY SEWER AND WATER LINES IN FIELD PRIOR TO CONSTRUCTION.
10.	CONTRACTOR TO COORDINATE WITH ATMOS AND DETERMINE EXACT GAS METER LOCATION IN FIELD PRIOR TO CONSTRUCTION.
11.	HAND SINKS LOCATED IMMEDIATELY ADJACENT (WITHIN 12 INCHES) TO FOOD PREPARATION, SERVING OR STORAGE AREAS, MUST HAVE SUFFICIENT SPLASH PROTECTION INSTALLED TO PROTECT FOOD.

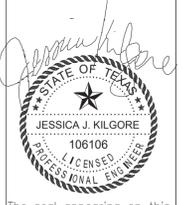
CONTRACTOR RESPONSIBILITIES	NOTE TO BIDDERS
CONTRACTOR SHALL REPORT ANY DISCREPANCIES, OMISSIONS OR INCONSISTENCIES ON THE DRAWINGS TO ENGINEER FOR VERIFICATION BEFORE STARTING CONSTRUCTION. OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR ANY ERRORS IN CONSTRUCTION WHERE SUCH DISCREPANCIES, OMISSIONS OR INCONSISTENCIES HAVE NOT BEEN PROPERLY REPORTED IN A TIMELY MANNER.	THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.

- MEP GENERAL NOTES**
- ALL CONSTRUCTION TO CONFORM TO INTERNATIONAL, STATE AND LOCAL CODES AND ORDINANCES CURRENTLY ADOPTED BY THE AUTHORITY HAVING JURISDICTION (AHJ).
  - CONTRACTORS TO CONFIRM ALL SPECIFICATIONS HEREIN WITH ACTUAL EQUIPMENT IN FIELD PRIOR TO PURCHASE AND INSTALLATION.
  - REVIEW PLAN SHEET "MEP" - "MEP NOTES" PRIOR TO BIDDING, PERMITTING, AND CONSTRUCTION.
  - THE INTENT OF THE DRAWINGS HEREIN IS TO REPRESENT A COMPLETE WORKING SYSTEM. ALL BIDDERS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL COMPONENTS NECESSARY TO PROVIDE A COMPLETE WORKING SYSTEM WHETHER SHOWN OR NOT SHOWN ON THE DRAWINGS.
  - SEE CIVIL AND ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ALL FIXTURES AND STRUCTURES.
  - SEE ARCHITECTURAL FINISH OUT SCHEDULES FOR SPECIFIC MODELS, COLORS AND DESIGN NOT DEFINED HEREIN.
  - WITH OWNER APPROVAL, CONTRACTOR MAY CHANGE SPECIFIED EQUIPMENT BUT SHALL KEEP MINIMUM UNIT SPECIFICATIONS.
  - CONTRACTOR TO CONTACT AME ENGINEERING, INC. AT 817-653-4122 PRIOR TO ANY SIGNIFICANT DESIGN REVISIONS.
  - DETAILS LABELED "TYPICAL" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE OR ARE SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.

TEXAS FIRM F-16469

**AME Engineering, Inc.**

mail@ameengineer.com | o/c: 817-653-4122 | fax: 817-754-6615  
 3825 W Green Oaks Blvd Suite 200, Arlington, TX 76016-2700



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD

1716 KELLER PARKWAY  
 KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575

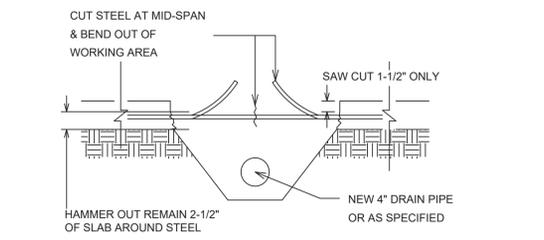
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PERMIT REVIEW SET	11-21-2023
CITY REVIEW SET	01-11-2024
SHEET REVISIONS	
△ CITY COMMENTS	01/11/2024

PRINTED	1/11/2024 2:53 PM
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CHECKED	JKK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	1/4" = 1'-0" (100)

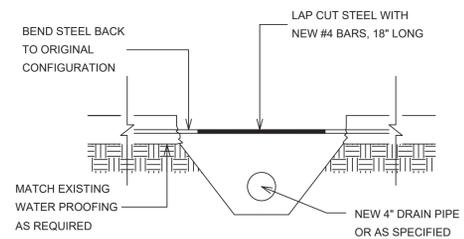
SEWER PLAN - 2ND FLOOR

**P2.1**

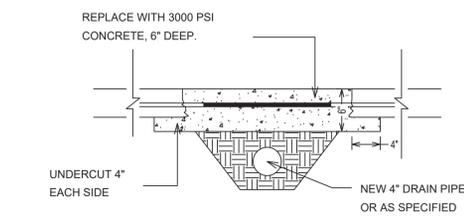
PROJECT 1819



DETAIL A-A: (1) TYPICAL SAW CUT  
(BASED ON ASSUMED TYP. 4" SLAB CONSTRUCTION WITH STEEL AS SHOWN)



DETAIL A-A: (2) LAP STEEL

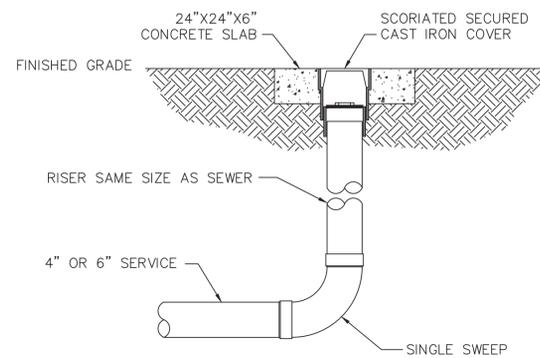


DETAIL A-A: (3) REPLACE CONCRETE

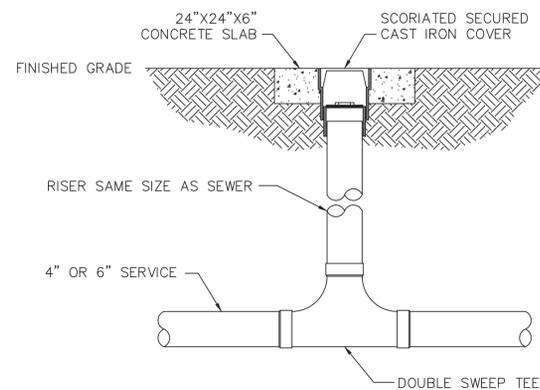
FOUNDATION CUT/REPAIR GENERAL NOTES:

1. ALL CONCRETE 3000 PSI STRENGTH AT 28 DAYS.
2. ALL REINFORCING GRADE 40 BARS.
3. IF SLAB STEEL BARS ARE CUT AT SAW JOINT, DOWEL NEW #4 BAR INTO EXISTING SLAB 12".
4. IF INTERIOR OR EXTERIOR BEAM ENCOUNTERED DURING CUTS, RELOCATE PIPE TO OFFSET BEAM.
5. ALL CONSTRUCTION WILL CONFORM TO BUILDING CODE REQUIREMENTS.
6. SEE ARCHITECTURAL FLOOR PLAN FOR DIMENSIONS.

**1** FOUNDATION CUT/REPAIR DETAIL  
NO SCALE

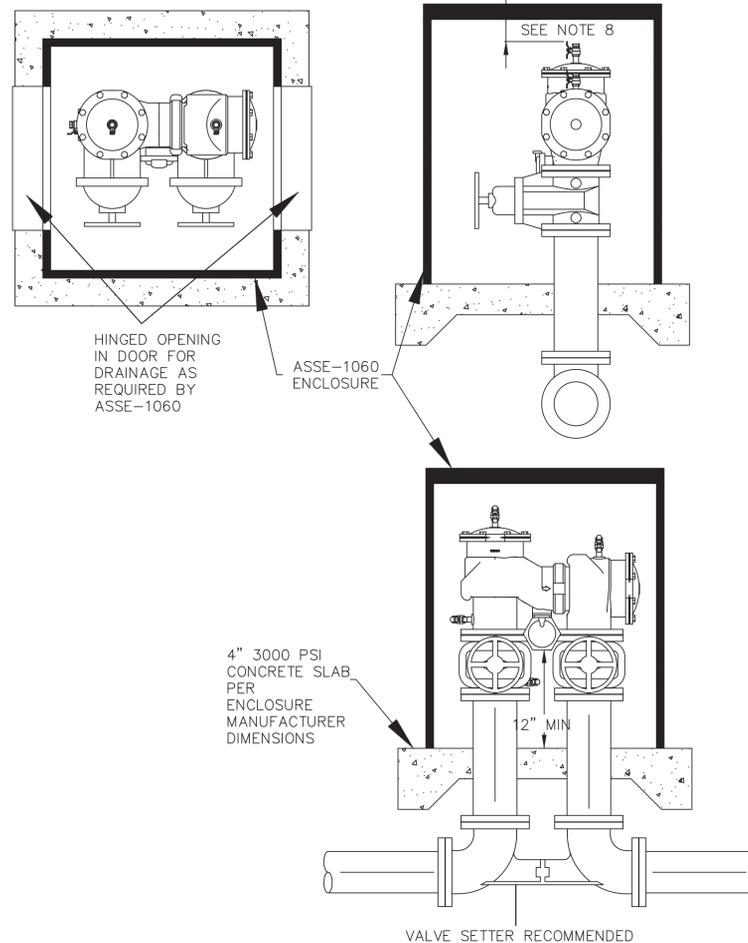


DEADEND CLEANOUT



INLINE CLEANOUT

**2** TYPICAL CLEANOUT DETAIL  
NO SCALE

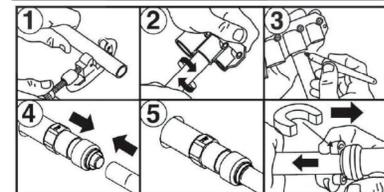


**3** EXTERIOR RPZ IN HOT BOX  
NO SCALE

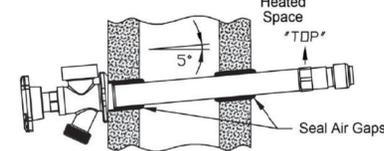
GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF KELLER (COA) STANDARD SPECIFICATIONS FOR WATER & SEWER CONSTRUCTION, LATEST EDITION.
2. THE ASSEMBLY SHALL MEET THE REQUIREMENTS OF ASSE 1013, REDUCED PRESSURE ZONE (RPZ) BACKFLOW PREVENTER ASSEMBLY (BPA); ASSE 1047, REDUCED PRESSURE DETECTOR ASSEMBLY (RPDA) BPA; IN A SIZE TO MATCH THAT OF THE REQUIRED METER AND/OR SERVICE PIPING, AND SHALL CONFORM TO ALL CURRENT REQUIREMENTS OF THE UNIVERSITY OF SOUTHERN CALIFORNIA, FOUNDATION FOR CROSS-CONNECTION CONTROL & HYDRAULIC RESEARCH (USC-FCCHR).
3. ANY VARIATIONS FROM THIS DETAIL MUST BE APPROVED BY KELLER WATER UTILITIES.
4. IF THIS BACKFLOW PREVENTION ASSEMBLY IS FOR 'CONTAINMENT', OR PREMISE 'ISOLATION', OWNER ACKNOWLEDGES THAT ITS PRESENCE ON THE PROPERTY DOES NOT DIMINISH, MITIGATE, OR REMOVE OWNER'S OBLIGATIONS TO SATISFY THE 'ISOLATION' OR 'POINT OF USE' REQUIREMENTS LAID OUT IN TITLE 30, CHAPTER 290 OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, (TCEQ) AND/OR OTHER RELEVANT GUIDELINES REQUIRED BY THE STATE OF TEXAS OR THE CITY OF KELLER.
5. IT IS THE RESPONSIBILITY OF ANY PERSON WHO OWNS OR CONTROL A PROPERTY TO ELIMINATE THE POSSIBILITY OF THERMAL EXPANSION IF A CLOSED SYSTEM HAS BEEN CREATED BY THE INSTALLATION OF A BACKFLOW ASSEMBLY.
6. LOCATION: THE ENCLOSURE SHALL BE LOCATED ON THE OWNER'S PROPERTY BEYOND THE RIGHT OF WAY IN ACCORDANCE WITH DETAIL BF-H OR DETAIL BF-I IN A LOCATION ACCESSIBLE TO CITY PERSONNEL FOR INSPECTION.
7. THERE SHALL BE NO TAPS, PIPE BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPARTMENT CONNECTION POINTS, OF OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS COM REQUIRED BPA.
8. ENCLOSURE: ASSEMBLY SHALL NOT BE BURIED IN EARTH OR IN ANY LOCATION SUBJECT TO FLOODING, BUT INSTALLED ABOVE GROUND IN A FREEZE-PROTECTED ENCLOSURE MEETING THE ASSE-1060 SPECIFICATION AND APPLICABLE COM PLUMBING AND BUILDING CODES.
9. INTERIOR CLEARANCES AROUND THE ASSEMBLY SHALL BE NO LESS THAN 2 INCHES AND INTERIOR ROOF CLEARANCE SHALL BE NO LESS THAN 1 INCH EXCEPT THAT ANY VALVE HANDLE/WHEEL OR TEST COCK SHALL HAVE 6 INCHES OF CLEARANCE FROM ANY WALL OR ROOF.
10. ABOVEGROUND ENCLOSURES SHALL BE SCREENED WITH LANDSCAPE PLANT MATERIAL IN ACCORDANCE WITH COM SPECIFICATIONS. PLANT MATERIAL MUST BE MAINTAINED BY OWNER IN A MANNER SUFFICIENT TO ENSURE ACCESS FOR BPA INSPECTION AND MAINTENANCE.
11. INSTALLATION: PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN COM STANDARDS AND SPECIFICATIONS.
12. ISOLATION VALVES ARE SPECIFIC TO EACH APPROVED BPA AND NO SUBSTITUTION OF ISOLATION VALVES ARE PERMITTED.
13. ALL JOINTS SHALL BE RESTRAINED WITH MEGALUG RESTRAINTS OR APPROVED EQUAL.
14. SUPPORT FOR ASSEMBLY SHALL BE DESIGNED BY OWNER SUCH THAT ASSEMBLY WEIGHT DOES NOT DESTABILIZE STRUCTURAL INTEGRITY AND SHALL NOT BLOCK RELIEF VALVE ON DRAIN PORT.
15. TESTING: EACH COM REQUIRED BACKFLOW PREVENTER MUST BE TESTED BY A COM-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
16. ALL RPZ-BFP ASSEMBLIES SHALL BE TESTED AT TIME OF INSTALLATION AND AT LEAST ANNUALLY THEREAFTER.
17. MAINTENANCE: MAINTENANCE AND UPKEEP OF ALL BACKFLOW PREVENTION EQUIPMENT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.

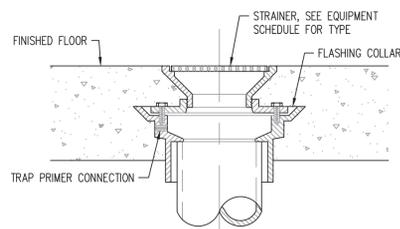
TYPICAL INSTALLATION



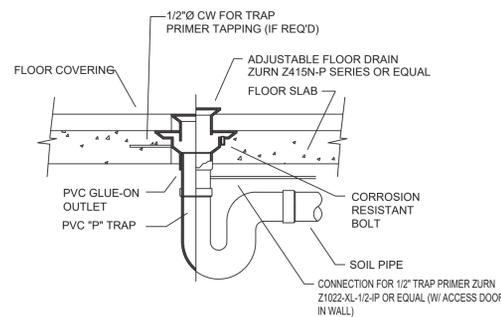
1. Cut Pipe squarely
2. Deburr and clean pipe
3. Mark pipe to insertion depth
4. Insert pipe into frost free sillcock to depth mark
5. Feed frost free sillcock and pipe through the wall and connect to plumbing system
6. Use disconnect clip to remove if needed
7. Seal all air gaps and install valve at a 5° angle



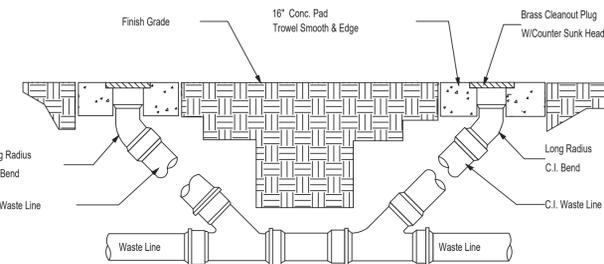
**4** TYPICAL FROST-FREE SILLCOCK DETAIL  
NO SCALE



**5** FLOOR DRAIN DETAIL  
NO SCALE



**6** TRAP PRIMER DETAIL  
NO SCALE



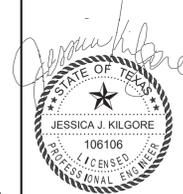
**7** DOUBLE CLEANOUT (DCO) TO GRADE  
NO SCALE

**APPROVED**

MEP GENERAL NOTES

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AME Engineering, Inc.  
1716 KELLER PARKWAY  
KELLER, TX



The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD  
1716 KELLER PARKWAY  
KELLER, TX

CONTACT NAME: GARLAND BELL

CONTACT COMPANY: EMPIRE BUILDERS

CONTACT PHONE: 415-414-5575

ISSUE:  
CLIENT REVIEW SET 10-30-2023  
REV. CLIENT REVIEW SET 11-20-2023  
PERMIT REVIEW SET 11-21-2023  
CITY REVIEW SET 01-11-2024

PRINTED: 1/11/2024 2:53 PM  
DESIGNED: JJK  
CHECKED: JJK  
IBC: 2021  
IECC/ASHRAE: 2018  
NEC: 2020  
SCALE: AS SHOWN

PLUMBING DETAILS  
PROJECT: 1819  
P3.0

**LIQUID SMART® PUMP SYSTEMS**

Simplex Single Phase: 120/208/240VAC

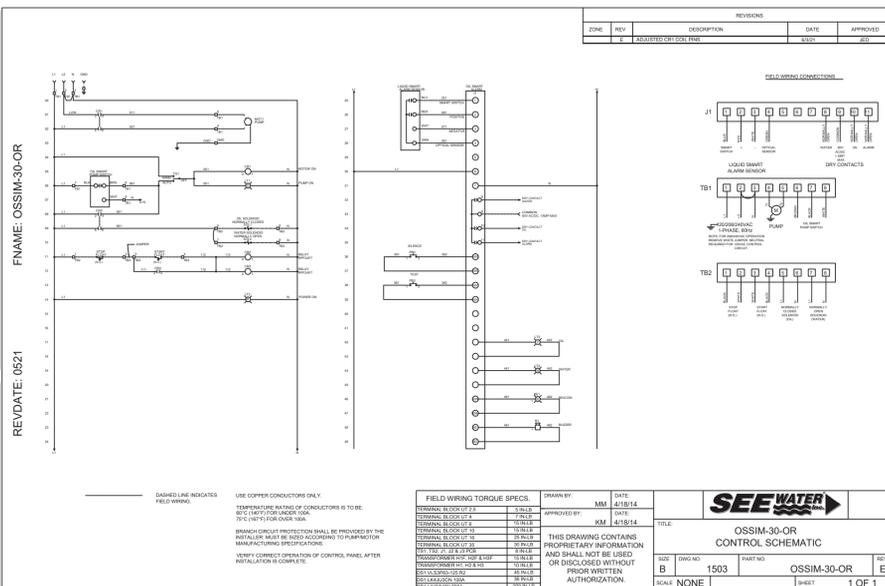
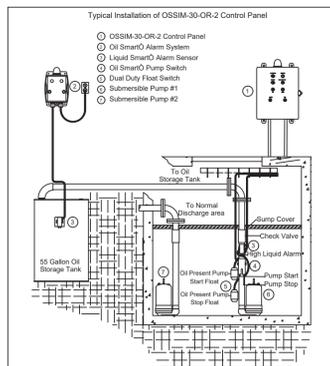
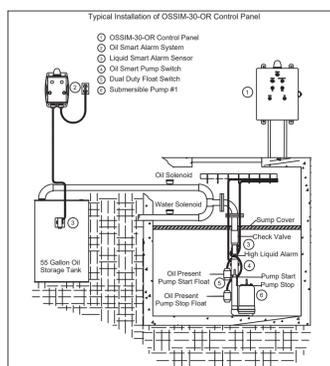
Models Pump Full Load Amp Rating  
 OSSIM-30-OR 0-16.0 FLA  
 OSSIM-30-OR-2 0-16.0 FLA

**Custom Options:**

- AF = Alarm Flasher
- ET = Elapsed Time Meter w/ LCD display & reset
- CC = Cycle Counter w/ LCD display & rest
- MD = Main Disconnect
- CB = Circuit Breaker
- S3 = No sensors included
- 24 = Pump Exerciser - auto cycles pump(s) daily, weekly, or monthly
- E = 50Hz configuration
- DPR = Dry Contact for Pump Run
- 83 = Alarm tank interlock circuit to prevent oil containment tank overflow
- C = Additional cord length greater than 20' specify after C. example: (OSSIM-30-OR-C50) indicates 50' cord lengths for all components

**Custom Options:**

- OSA-05 = Oil containment tank alarm. Works in conjunction with alarm interlock pump shut down feature
- 95-16 = 1.5" NC solenoid
- 95-17 = 1.5" NO solenoid
- 95-18 = 2.0" NC solenoid
- 95-19 = 2.0" NO solenoid

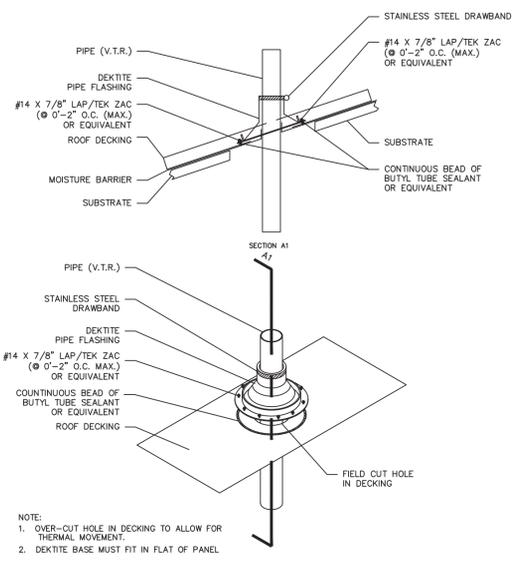


www.seewaterinc.com  
 951.487.8073 • 888.733.9283 • info@seewaterinc.com  
 22220 Opportunity Way, Suite 101 • Riverside, CA 92518

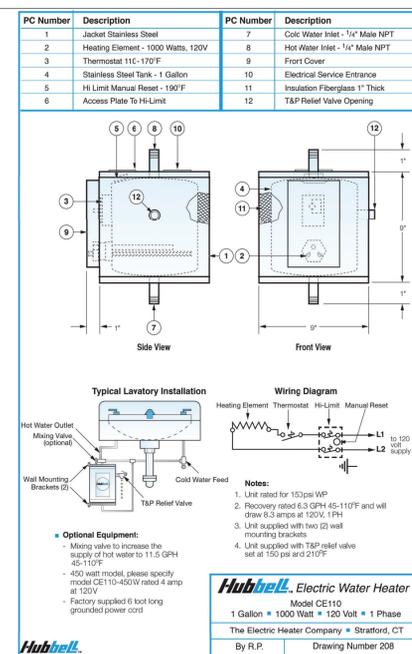


**1 ELEVATOR SUMP PUMP AND OIL-CONTROL PANEL DETAIL**  
NO SCALE

**2 ELEVATOR SUMP CONTROL PANEL, WIRING DIAGRAM, & SPECIFICATIONS**  
NO SCALE



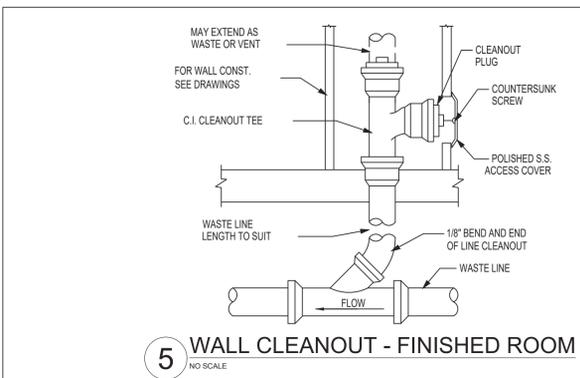
**3 RUBBER BOOT DEKITE FLASHING DETAIL**  
SCALE: 1/4\"/>



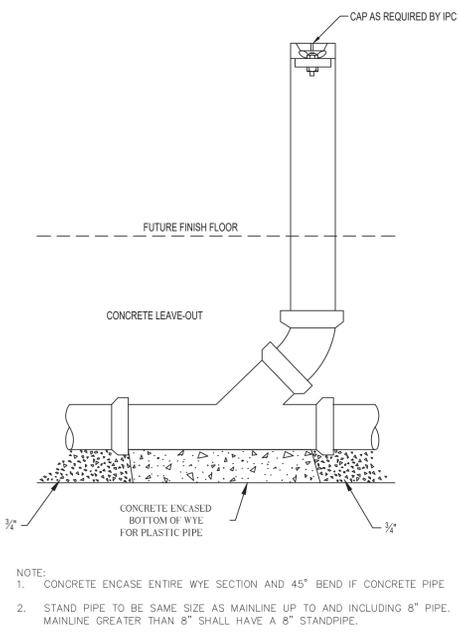
**4 TYPICAL ELECTRICAL INSTANT WATER HEATER**  
NO SCALE

**APPROVED**

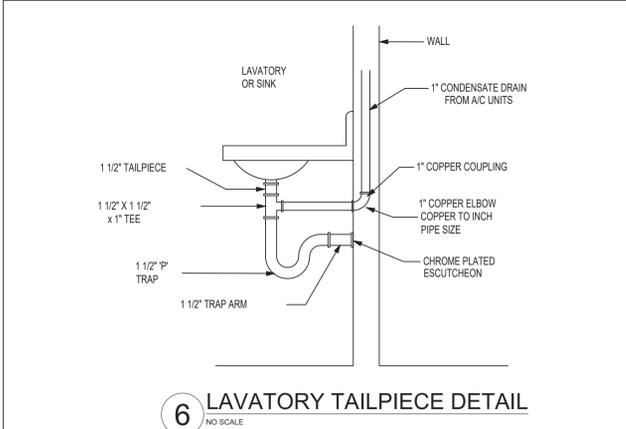
**CODE SOLUTIONS INC.**  
 These plans have been reviewed for code compliance with the adopted building codes of this jurisdiction. Plans may contain notes and other instructions for inspectors use. Plans are to be maintained on site for inspectors use only.



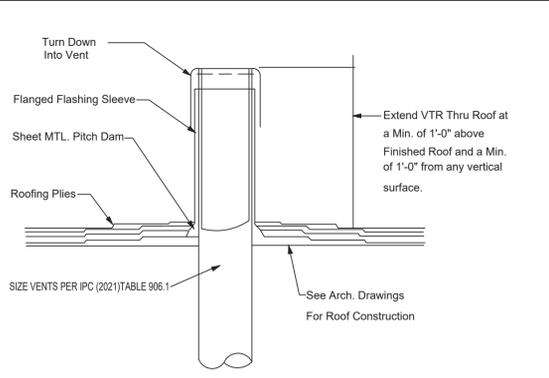
**5 WALL CLEANOUT - FINISHED ROOM**  
NO SCALE



**8 TYPICAL SANITARY STUB-UP**  
NO SCALE



**6 LAVATORY TAILPIECE DETAIL**  
NO SCALE



**7 VENT THROUGH ROOF (VTR) DETAIL**  
NO SCALE

**MEP GENERAL NOTES**

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TEXAS FIRM F-16469

**AME Engineering, Inc.**  
 mail@ameengineer.com • tlc 817-653-4122 | fax 817-754-6615  
 3825 W Green Oaks Blvd Suite 200, Arlington TX 76016-2700

JESSICA J. KILGORE  
 106106  
 LICENSED PROFESSIONAL ENGINEER

The seal appearing on this document was authorized by Jessica J. Kilgore, P.E. 106106 on NOVEMBER 21, 2023.

OFFICE BUILDING SHELL - LOT 6 BLOOMFIELD  
 1716 KELLER PARKWAY  
 KELLER, TX

CONTACT NAME	GARLAND BELL
CONTACT COMPANY	EMPIRE BUILDERS
CONTACT PHONE	415-414-5575
ISSUE:	
CLIENT REVIEW SET	10-30-2023
REV. CLIENT REVIEW SET	11-20-2023
PERMIT REVIEW SET	11-21-2023
CITY REVIEW SET	01-11-2024
SHEET REVISIONS	
CITY COMMENTS	01/11/2024
PRINTED	11/20/2024 2:53 PM
DESIGNED	JK
CHECKED	JK
IBC	2021
IECC/ASHRAE	2018
NEC	2020
SCALE	AS SHOWN

**PLUMBING DETAILS CONTINUED**

**P3.1**

PROJECT 1819