City of Jonestown, Texas

AGENDA REPORT

Meeting Date: January 12, 2026

Agenda Item Number:

(City Secretary's Use Only)

Department: Development Services

Prepared by: Rebeca Guerra, AICP

Budgeted Amount: $0

Date Prepared: January 7, 2026

Exhibits: Letter of Justification For a Special Exception
SFR Rendering For Permit 2024-1036
Notice of Hearing

Subject

Consideration and Approval of a Special Exception Request to Allow Unenclosed Parking in Lieu of Enclosed Parking as Required by Table 3.2.4-1 of the Jonestown Unified Development Code (UDC) for a Single-Family Residence at 17363 East Reed Parks Road

Recommendation

Staff recommends that the Board of Adjustments deny the request to allow unenclosed parking in lieu of enclosed parking as required by Table 3.2.4-1 of the Jonestown UDC for a single-family residence at 17363 East Reed Parks Road, pursuant to UDC Section 1.05.086(b)(2).

Discussion

The applicant requests a Special Exception to allow unenclosed parking (carport) in lieu of the two (2) enclosed parking spaces per dwelling unit required for single-family residences under UDC §3.2.4, Parking, and Table 3.2.4-1. The subject property is zoned R-1.

The applicant previously submitted Residential – New Construction Building Permit No. 2024-1036, which depicted enclosed parking consistent with the applicable parking requirements. The permit was reviewed and approved based on that compliance. The current request reflects a subsequent change in design preference to replace the approved enclosed parking with unenclosed parking, rather than a condition imposed by the ordinance or the physical characteristics of the property.

The request is evaluated under the criteria set forth in UDC Section 1.05.086(b)(2). A Special Exception may be granted only if the required findings can be made. Staff have reviewed the applicant's Letter of Justification dated October 16, 2025, and finds that the request does not satisfy the applicable criteria.

EVALUATION OF SPECIAL EXCEPTION CRITERIA PER UDC §1.05.086(b)(2)

1. Character or use of the building

UDC §1.05.086(b)(2) requires a finding that "the character or use of the building is such as to make unnecessary the full provision of parking or loading facilities."

Staff find this criterion is not met. The proposed development is a single-family residence, a use for which two (2) enclosed parking spaces per dwelling unit are expressly required in the R-1 zoning district pursuant to Table 3.2.4-1. The character and use of the residence are typical of residential development within the city and do not reduce or eliminate the need for the required enclosed parking. The applicant's justification is based on architectural design intent and project vision rather than a functional aspect of the use that would make enclosed parking unnecessary.

2. Topography or unusual shape of the lot

The ordinance requires a finding that "the topography or unusual shape of the lot and regulations would impose an unreasonable hardship upon the use of the lot, as contrasted with merely granting an advantage or a convenience."

Staff find this criterion is not met. While the property is large and features Hill Country topography, these characteristics are common within Jonestown and do not prevent compliance with the enclosed parking requirement. The applicant's previously approved building permit 2024-1036 demonstrates that the site can reasonably accommodate enclosed parking in compliance with Table 3.2.4-1. The request to allow unenclosed parking would provide a design preference or convenience rather than relief from an unreasonable hardship created by the lot's physical conditions.

3. Application of Table 3.2.4-1 parking regulations

UDC §1.05.086(b)(2)further requires a finding that "the regulations in Table 3.2.4-1 would impose an unreasonable hardship upon the use of the lot, as contrasted with merely granting an advantage or a convenience."

Staff find this criterion is not met. The enclosed parking requirement applies uniformly to single-family residences in the R-1 district and was met through the applicant's originally approved plans under Permit No. 2024-1036. The applicant has not demonstrated that compliance with the enclosed parking requirement deprives the property of reasonable use. Instead, the request seeks relief from a standard previously accepted and approved in order to pursue an alternative architectural approach involving unenclosed parking.

Therefore, based on the above rationale, Staff find that the applicant has not demonstrated that the request satisfies the required findings under UDC Section 1.05.086(b)(2). The request represents a voluntary design change rather than an unreasonable hardship imposed by the ordinance or the physical characteristics of the property. For these reasons, Staff recommends denial of the Special Exception request.

Approval By	*Signature*	*Date*
Department Head		1-7-2026
City Administrator	Tracie Hlavinka	1/7/2026

City of Jonestown

Permit #2024-1036

REQUEST TO BE PLACED ON THE AGENDA OF THE BOARD OF ADJUSTMENT AND APPEAL

APPLICATION FOR CONSIDERATION OF A:
VARIANCE – APPEAL – SPECIAL EXCEPTION

VARIANCE ☐ APPEAL ☐ SPECIAL EXCEPTION ☒

PROJECT INFORMATION

Subject property street address			Date submitted
17363 E Reed Parks Rd, Jonestown, TX 78645			Dec 3, 2025
Legal Description	**Subdivision**	**Section or Block**	**Lot Number**
ABS 325 SUR 603 GREGG J & ABS 2536 SUR	104 CARLTON J F ACR 5.338		

CONTACT INFO

Property Owners Name	Phone Number	Email
Csaba Kos & Seon Mee Chang	737-781-2127	csaba.kos@gmail.com

Mailing Address	City	State	Zip
2820 Latana Ridge Dr	Austin	TX	78732

REQUEST DETAILS

Explanation of request

This is a request for a Special Exception from the residential parking requirements, as explicitly authorized by Chapter 1, Section 1.05.086(b) of the Ordinances. The request is to permit the construction of an architecturally integrated, attached carport in lieu of the mandated enclosed garage for a new single-family residence. The basis for this request is that the unique character of the proposed building, the special conditions of the 5-acre property, and the unreasonable hardship imposed by the literal enforcement of the ordinance make the full provision of an enclosed garage unnecessary and detrimental. The proposed design, by the nationally recognized firm Alterstudio, utilizes the carport as a superior and integral architectural element that is more harmonious with the modern design and the natural Hill Country topography of the large, private lot.

REQUIRED ITEMS

☒ **Copy of plat or survey of subject property.**

☒ **If the application is for a variance, attach a detailed drawing of a plot plan showing location of the area of the property that will be affected by this request.**

☒ **Include a letter describing in detail the reason(s) for the request and describe the hardship on which the request is based.**

☒ **Appropriate check list completed and signed.**

☒ **If application is for an appeal, state in the explanation of request above the decision of the city official and/or application/permit denial that is being appealed. Please include a copy of any applications and written correspondence from the City official that you may have.**

☒ **All filing fees, and related fees must be paid before the request will be put on an agenda.**

☒ **Application must be signed by all legal owners of the subject property or by the legally authorized agent for the property owner(s).**

☒ **Application fee $825.00**

APPLICANTS SIGNATURE

Applicants signature	Printed name	Date
Csaba	Csaba Kos & Seon Mee Chang	Dec 3, 2025

FOR CITY USE ONLY

Reviewed and accepted for filing by:

Name: _____ **Title:** _____ **Date:** _____

Meeting date: _____ **$825.00 Application fee paid ☐**

Action from meeting: _____

City of Jonestown

VARIANCE CHECKLIST

YES ☒ NO ☐	Is the request for a variance owing to special conditions inherent in the property itself? Example: The property has an odd shape, large trees would have to be cut to meet building requirements, hill, bluff, or creek reduces building area of the lo
YES ☒ NO ☐	Is the condition unique to this property?
YES ☐ NO ☒	Is this condition self-imposed or self-created?
YES ☒ NO ☐	Will literal enforcement of the zoning ordinance result in unnecessary hardship? Example: Protected trees would have to be removed, minimum square footage could not be met due to terrain or shape of the lot.
YES ☐ NO ☒	Will the hardship prevent any reasonable use of the property without a variance? Without the variance the property owner would be denied the use of the property.
YES ☐ NO ☒	Would the granting of the variance be contrary to the public interest, or have an adverse effect on the surrounding property?
YES ☒ NO ☐	Is the request within the spirit of the zoning ordinance?

Comments:_____

_____

_____

_____

FOR CITY USE ONLY

The variance request has been reviewed for compliance using the checklist and is

APPROVED FOR PROCESSING ☐ **REJECTED FOR NON-QUALIFYING ☐**

Reviewed by _____ **Title** _____ **Date** _____

The Honorable Chair and Members of the Board of Adjustment and Appeals
City of Jonestown
18649 FM 1431, Suite 1A
Jonestown, TX 78645

RE: Letter of Justification for a Special Exception Request for an Architectural Carport at 17363 E Reed Parks Rd, Jonestown, TX

Dear Chair and Members of the Board,

As owners of the property at 17363 E Reed Parks Rd, we respectfully request a Special Exception from the residential parking requirements to permit an architecturally integrated carport in lieu of an enclosed garage. This request is made pursuant to the authority granted to the Board in the Code of Ordinances, Chapter 1, Section 1.05.086(b), which allows for exceptions in cases of unreasonable hardship due to a building's unique character and a lot's specific conditions.

We respect that the garage requirement serves an important purpose for most properties, typically to maintain neighborhood aesthetics and prevent street congestion. However, our property's unique conditions—its substantial 5-acre size, the privacy it affords, and a home site with significant setbacks from the road—render those concerns inapplicable in this case. This unique combination, along with its Hill Country topography and the home's specific architectural character, presents precisely the type of special condition the ordinance was designed to accommodate. Our project, designed by the nationally acclaimed firm Alterstudio and built by Abode Modern Homes, a six-time recipient of Austin Home Magazine's "Builder of the Year" award, is intended to be a benchmark for high-quality, site-sensitive development that aligns with the city's long-term vision.

Our request is based on the following points of hardship:

1. **Architectural & Topographical Hardship:** The core design principle of our home is its integration with the landscape. The architectural concept, from a firm with over 200 design awards, is predicated on transparency to preserve the visual continuity of the Hill Country terrain. A mandated enclosed garage, with its solid walls and greater visual mass, would create an opaque barrier, functionally severing the home from the very landscape it was designed to honor. The hardship is the imposition of a feature that is visually incongruous with the site's natural character and fundamentally compromises the architectural integrity of the design.
2. **Conflict with the City's Vision:** The most significant hardship is the conflict between a prescriptive ordinance and the opportunity to create a landmark home that embodies Jonestown's own values. The Jonestown Comprehensive Plan's (https://ecode360.com/JO6363/document/753001707.pdf, Ordinance no. 2023-O-638) vision is to "Preserve the Hill Country scenery and natural topography". Our proposed design, with its site-sensitive carport, is demonstrably more aligned with this vision than

a conventional garage. Forcing a standard garage would compel a design that is less in keeping with the character the city officially seeks to preserve, creating a hardship of lost opportunity for both our family and the community.

This request is not based on financial cost, construction ease, or personal convenience. Building a carport to the high architectural standards of Alterstudio is not a cost-saving measure. We are choosing the more difficult design path because it is the only way to maintain the integrity of the site.

Granting this exception would resolve a demonstrable hardship and allow for the creation of a home that thoughtfully contributes to the community by exemplifying the principles of high-quality, site-sensitive design outlined in the Comprehensive Plan.

We believe our project fully satisfies the criteria for a special exception and represents an opportunity to add a beautiful and respectful home to Jonestown. Thank you for your time and consideration. We look forward to presenting our project to you in person.

Sincerely,

Csaba Kos and Seon Mee Chang
17363 E Reed Parks Rd
Jonestown, TX 78645

2015 IRC
2015 IECC

City of Jonestown

18649 FM 1431, 1A
Jonestown, Texas 78645
Phone: (512) 267-0359 ◊ Fax: (512) 267-1712
Web: jonestown.org

PLAN REVIEW

17363 E. Reed Park Road	Richard White				1/30/2024
Address:	Permit Applicant:				Date:
					2024-1036
Subdivision:	Section:	Phase:	Block:	Lot:	Permit:
New Residence		R3	V-B		
Project:	Zoning:	Group:	Construction Type:		

REVIEW – CONDITIONALLY APPROVED

Documentation Submitted

Document	Document Date	A/E/S Seal	Registration #
Site Plan	**1/26/2024**	RA	17761
Foundation	**12/15/2023**	PE	99208
Structural Framing	**12/15/2023**	PE	99208
Wind Brace Plan	**12/15/2023**	PE	99208
Building Design	**12/15/2023**	RA	17761
Roof Plan	**12/15/2023**	RA	17761
Electrical Plans	**1/26/2024**	RA	17761
Manual J/S/D	**5/15/2023**		
Energy Conservation	**4/26/2023**		

Comments

	A site plan was submitted. It is the responsibility of the builder to ensure that building setbacks and easements are observed. A form check survey by a licensed professional surveyor is required prior to concrete placement.
	The builder is to ensure that the final drainage flows away from structure per IRC**. Inspector will site verify code compliance of drainage.**
	The builder is to ensure compliance with all City of Jonestown adopted Ordinances.
IRC R322.2	Buildings and structures constructed in whole or in part in a flood hazard area shall be designed and constructed in accordance with Sections R322.2.1 through R322.2.3. Owner/builder is responsible to apply with governing flood authority for development permit. Elevation certificate may be required.
IRC Chpt. 11 IECC 2015	Please ensure values assumed in energy compliance calculations are incorporated into home construction. Be advised proposed U values and shading coefficients for windows and glass doors will be site verified.
IRC E3902.16	All kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, rec rooms, closets, hallways, laundry areas and similar rooms or areas shall be protected with Arc-Fault Circuit-interruption per this section.
IRC E3901.12	A 125-volt, single phase, 15- or 20-ampere-rated receptacle outlet shall be installed at an accessible location on the same level and within 25 ft. for the servicing of heating, A/C and refrigeration equipment. **Inspector will site verify.**
IRC R315	A carbon monoxide alarm is required to be installed outside of each separate sleeping area in dwellings which have fuel-fired appliances or attached garages. **Inspector will site-verify**.
IRC Table R302.6	All habitable rooms above the garage shall be separated by not less than 5/8-inch Type X gypsum board or equivalent. **Inspector will site verify.**

CC: File, City of Jonestown, Applicant

IRC R308.4	Tempered glass is required in all glazing in a hazardous location in accordance with this section. **Inspector will site verify.**
IRC R311.7	All stairs, landings, and handrails shall be in accordance with the IRC. **Inspector will site-verify**
IRC R502.11.1	A floor truss system is indicated, provide truss plans to Inspector. Wood trusses shall be designed in accordance with approved engineering practice. The design and manufacture of metal-plate-connected wood trusses shall comply with ANSI/TPI 1. **City Inspector may request additional information at the time of inspection.**
IRC R703.4	Approved corrosion-resistive flashing shall be provided in the exterior wall envelope in such a manner as to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. **Inspector will site verify.**
IRC P3008.1	Sewage backflow. All structures connected to the City sewer system shall be protected by an approved backwater valve, installed in the building drain. Plumbing fixtures installed above one story shall not discharge through a backwater valve. **Inspector will site verify.**
IRC R106.1	Contractor shall stop work if damage to structural members is noticed. Inform City of Jonestown of damage and schedule an inspection.

INSPECTIONS REQUIRED

House

1. Temporary Meter Loop Inspection
2. Water / Sewer Yard-Lines Inspection
3. Plumbing Rough-In / Foundation Layout Inspection
4. Under Slab Water Distribution Piping Inspection
5. UFER Inspection *(unless using ground rods)*
6. Foundation Pre-pour Inspection
7. **1
8. Sheathing Inspection
9. Weather Resistant Barrier Inspection
10. Stucco/Lath Inspection
11. Frame, Mechanical, Electrical Rough-in & Plumbing Top-out
12. Insulation / Energy Inspection **2
13. Wallboard Inspection
14. Electrical Meter Connection Inspection
15. Final Inspection (Building, Mechanical, Electrical, Plumbing & Final Energy)

**** Additional Inspections to be performed by others.**

**1. Foundation Pre-pour Inspection by Design Engineer. Certification letter from design engineer to be delivered to the City of Jonestown prior to issuance of CO.

**2. 2018 IECC Compliance Inspection (Duct Leakage & Blower Door Test). Passing report from third-party HERS rater to be delivered to City of Jonestown prior to issuance of CO. The following link identifies accredited third-party providers for the State of Texas after choosing Texas in the dropdown menu:
http://www.resnet.us/professional/programs/search_directory

To schedule City inspections, please log on to www.mypermitnow.gov.

Plans must be on-site when inspections are being performed.

REVIEWED BY: Jaime Lanka, ATS Engineers, (737) 346-8246, jaime_lanka@ats-engineers.com

Plan Review Limitations

This plan review describes observations made by ATS in consideration of the referenced codes and does not include recommendations for remedial actions. No independent design or engineering analyses of the architectural, fire protection, structural, mechanical, electrical, plumbing or energy systems has been performed to verify the suitability or performance of the proposed systems, features and components. This review does not include Dark Sky, Fire, Health, Irrigation, Landscape, Parking, Signage, Technology or Zoning.

ATS makes no warranties or guarantees, either expressed or implied, that all items of a deficient nature and/or improper construction techniques, etc. have been discovered and commented upon in this plan review. This plan review has been prepared to identify the current code deficiencies observed and should not be considered an exhaustive description of every item that may require correction and/or clarification.

Review and acceptance of these plans for construction does not alleviate the responsibility of the design professional(s) and contractor(s) to comply with the code in its entirety. Field verification must also be completed to ensure compliance with jurisdiction-adopted code(s), ordinances and requirements of other authorities having jurisdiction. ATS has been engaged as a "Building Official" with regard to providing plan review services and inspections and has proceeded as such with the express understanding that the provisions of IBC Section 104 govern its limitations of liability.

P.O. Box 220 S-204P, Austin, TX 78767
(512) 473-3216 or 1-800-776-5272, Ext. 3216
Fax (512) 473-3501

2643 N. Wirtz Dam Road, Marble Falls, TX 78654
(512) 473-3216 or 1-800-776-5272, Ext. 3216
Fax (830) 693-6242

Lower Colorado River Authority

LCRA ON-SITE SEWAGE FACILITIES PROGRAM
FLOODPLAIN COMPLIANCE ACKNOWLEDGEMENT

LCRA's On-Site Sewage Facilities (OSSF) Rules require applicant to document compliance with applicable flood damage prevention regulations or documentation that such regulations are not applicable to this property.

This documentation must be submitted along with the application for an on-site sewage facilities construction permit to be issued by LCRA. Please complete this form to fulfill the documentation for your property.

This is to verify that

Property owner	Csava Kos
Site address	17363 E Reed Parks Rd
Legal description of property	ABS 325 SUR 603 GREGG J & ABS 2536 SUR 104 CARLTON J F ACR 5.338
City (if applicable)	Jonestown
County	Travis
Development Permit Number	

This documentation is verification that the applicant has complied with flood damage prevention regulations as described within the National Flood Insurance Act of 1968, 82 Stat. 572, 42 U.S.C.A.

C. Gally
Floodplain Administrator

11/15/23
Date

City of Jonestown TX (Permitting authority will check applicable notes)
(Name of permitting authority)

✓ No development shall occur until a Jonestown permit has been issued and posted.
(Name of permitting authority)

_____ To remain in compliance a completed elevation certificate must be returned to _____ within _____ days of completion of the 1st floor.
(Name of permitting authority)

_____ Replacement of OSSF only.

✓ By law, the minimum finished floor elevation (FFE) of any habitable structure on Lake Travis must be at least one foot above the Federal Emergency Management Agency (FEMA) floodplain of 722 feet above mean sea level (msl) all new habitable structures must have a FFE of at least 723.

National Flood Hazard Layer FIRMette

FEMA

97°55'54"W 30°28'59"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

97°55'17"W 30°28'28"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainag areas of less than one square mile *Zone*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zon*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

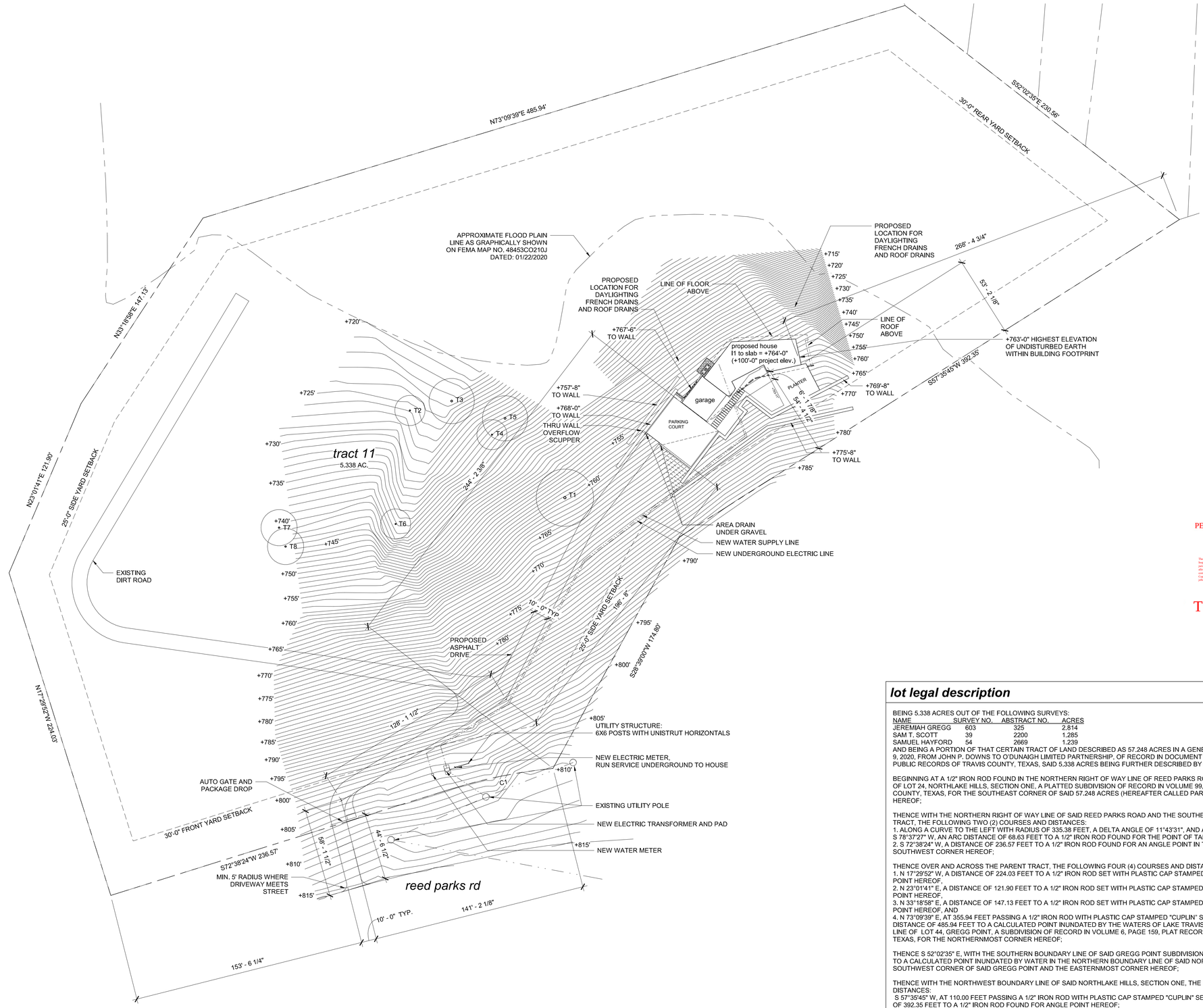
N

The pin displayed on the map is an approximat point selected by the user and does not represe an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 11/15/2023 at 5:06 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



SHEET ISSUE KEY

NOT FOR CONSTRUCTION	○
SEALED FOR CONSTRUCTION	●
REVISED	R
DELETED	X

SHEET INDEX

architectural

		12.15.2023 PERMIT	01.26.2024 PERMIT RESP		
A0.10_	site plan	●			
A0.20_	code diagrams & outdoor electrical	●			
A0.30_	landscape and tree protection	●			
A2.11_	level 1 floor plan	●			
A2.21_	level 2 floor plan	●			
A3.11_	rcp/electrical plan - level 1		●		
A3.21_	rcp/electrical plan - level 2		●		
A4.11_	elevations	●			
A4.12_	elevations	●			
A4.13_	elevations	●			
A4.50_	wall sections	●			

structural

		12.15.2023 PERMIT			
S0.01	structural general notes	●			
S0.03	abbreviations and legends	●			
S1.01	axonometric views	●			
S2.02	foundation plan	●			
S2.03	level 02 framing plan	●			
S2.04	roof framing plan	●			
S3.01	wind bracing plan	●			
S4.01	typical foundation details	●			
S4.10	foundation details (residential)	●			
S4.20	foundation details	●			
S7.01	typical base plate & hss columns steel details	●			
S7.02	typical steel to wood details	●			
S8.01	typical wood details	●			
S8.02	typical wood details	●			
S8.03	typical wood details	●			
S8.04	typical wood shear wall details	●			
S8.05	typical wood shear wall details	●			
S8.10	wood framing	●			
S8.11	wood framing details	●			

kos residence

17363 E Reed Parks Rd.
Jonestown, Texas 78645

PERMIT DOCUMENTS

THIS SET TO REMAIN ON-SITE

lot legal description

BEING 5.338 ACRES OUT OF THE FOLLOWING SURVEYS:

NAME	SURVEY NO.	ABSTRACT NO.	ACRES
JEREMIAH GREGG	603	325	2.814
SAM T. SCOTT	39	2200	1.285
SAMUEL HAYFORD	54	2669	1.239

AND BEING A PORTION OF THAT CERTAIN TRACT OF LAND DESCRIBED AS 57.248 ACRES IN A GENERAL WARRANTY DEED DATED NOVEMBER 9, 2020, FROM JOHN P. DOWNS TO O'DUNAIGH LIMITED PARTNERSHIP, OF RECORD IN DOCUMENT NO. 2020221616, OFFICIAL PUBLIC RECORDS OF TRAVIS COUNTY, TEXAS, SAID 5.338 ACRES BEING FURTHER DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A 1/2" IRON ROD FOUND IN THE NORTHERN RIGHT OF WAY LINE OF REED PARKS ROAD AT THE SOUTHWEST CORNER OF LOT 24, NORTHLAKE HILLS, SECTION ONE, A PLATTED SUBDIVISION OF RECORD IN VOLUME 99,PAGE 129, PLAT RECORDS OF TRAVIS COUNTY, TEXAS, FOR THE SOUTHEAST CORNER OF SAID 57.248 ACRES (HEREAFTER CALLED PARENT TRACT) AND THE SOUTHEAST CORNER HEREOF;

THENCE WITH THE NORTHERN RIGHT OF WAY LINE OF SAID REED PARKS ROAD AND THE SOUTHERN BOUNDARY LINE OF SAID PARENT TRACT, THE FOLLOWING TWO (2) COURSES AND DISTANCES:
1. ALONG A CURVE TO THE LEFT WITH RADIUS OF 335.38 FEET, A DELTA ANGLE OF 11°43'31", AND A CHORD OF 68.51 FEET BEARING S 78°37'27" W, AN ARC DISTANCE OF 68.63 FEET TO A 1/2" IRON ROD FOUND FOR THE POINT OF TANGENCY OF SAME, AND
2. S 72°38'24" W, A DISTANCE OF 236.57 FEET TO A 1/2" IRON ROD FOUND FOR AN ANGLE POINT IN THE PARENT TRACT AND THE SOUTHWEST CORNER HEREOF;

THENCE OVER AND ACROSS THE PARENT TRACT, THE FOLLOWING FOUR (4) COURSES AND DISTANCES:
1. N 17°29'52" W, A DISTANCE OF 224.03 FEET TO A 1/2" IRON ROD SET WITH PLASTIC CAP STAMPED "CUPLIN" FOR ANGLE POINT HEREOF,
2. N 23°01'41" E, A DISTANCE OF 121.90 FEET TO A 1/2" IRON ROD SET WITH PLASTIC CAP STAMPED "CUPLIN" FOR ANGLE POINT HEREOF,
3. N 33°18'58" E, A DISTANCE OF 147.13 FEET TO A 1/2" IRON ROD SET WITH PLASTIC CAP STAMPED "CUPLIN" FOR ANGLE POINT HEREOF, AND
4. N 73°09'39" E, AT 355.94 FEET PASSING A 1/2" IRON ROD WITH PLASTIC CAP STAMPED "CUPLIN" SET ON LINE , IN ALL A DISTANCE OF 485.94 FEET TO A CALCULATED POINT INUNDATED BY THE WATERS OF LAKE TRAVIS IN THE SOUTHERN BOUNDARY LINE OF LOT 44, GREGG POINT, A SUBDIVISION OF RECORD IN VOLUME 6, PAGE 159, PLAT RECORDS OF TRAVIS COUNTY, TEXAS, FOR THE NORTHERNMOST CORNER HEREOF;

THENCE S 52°02'35" E, WITH THE SOUTHERN BOUNDARY LINE OF SAID GREGG POINT SUBDIVISION, A DISTANCE OF 230.56 FEET TO A CALCULATED POINT INUNDATED BY WATER IN THE NORTHERN BOUNDARY LINE OF SAID NORTHLAKE HILLS, SECTION ONE, FOR THE SOUTHWEST CORNER OF SAID GREGG POINT AND THE EASTERNMOST CORNER HEREOF;

THENCE WITH THE NORTHWEST BOUNDARY LINE OF SAID NORTHLAKE HILLS, SECTION ONE, THE FOLLOWING TWO (2) COURSES AND DISTANCES:
S 57°35'45" W, AT 110.00 FEET PASSING A 1/2" IRON ROD WITH PLASTIC CAP STAMPED "CUPLIN" SET ON LINE, IN ALL A DISTANCE OF 392.35 FEET TO A 1/2" IRON ROD FOUND FOR ANGLE POINT HEREOF;

THENCE S 28°39'00" W, A DISTANCE OF 174.80 FEET TO THE POINT OF BEGINNING AND CALCULATED TO CONTAIN 5.338 ACRES.
NOTE:
A PLAT OF SURVEY OF EVEN DATE WAS PREPARED AND IS INTENDED TO ACCOMPANY THE ABOVE DESCRIBED TRACT OF LAND. BEARINGS ARE BASED ON NORTH AMERICAN DATUM OF 1983, TEXAS CENTRAL ZONE.

alterstudio
architecture LLP

1801 lavaca st #106
austin, texas 78701
512 499 8007

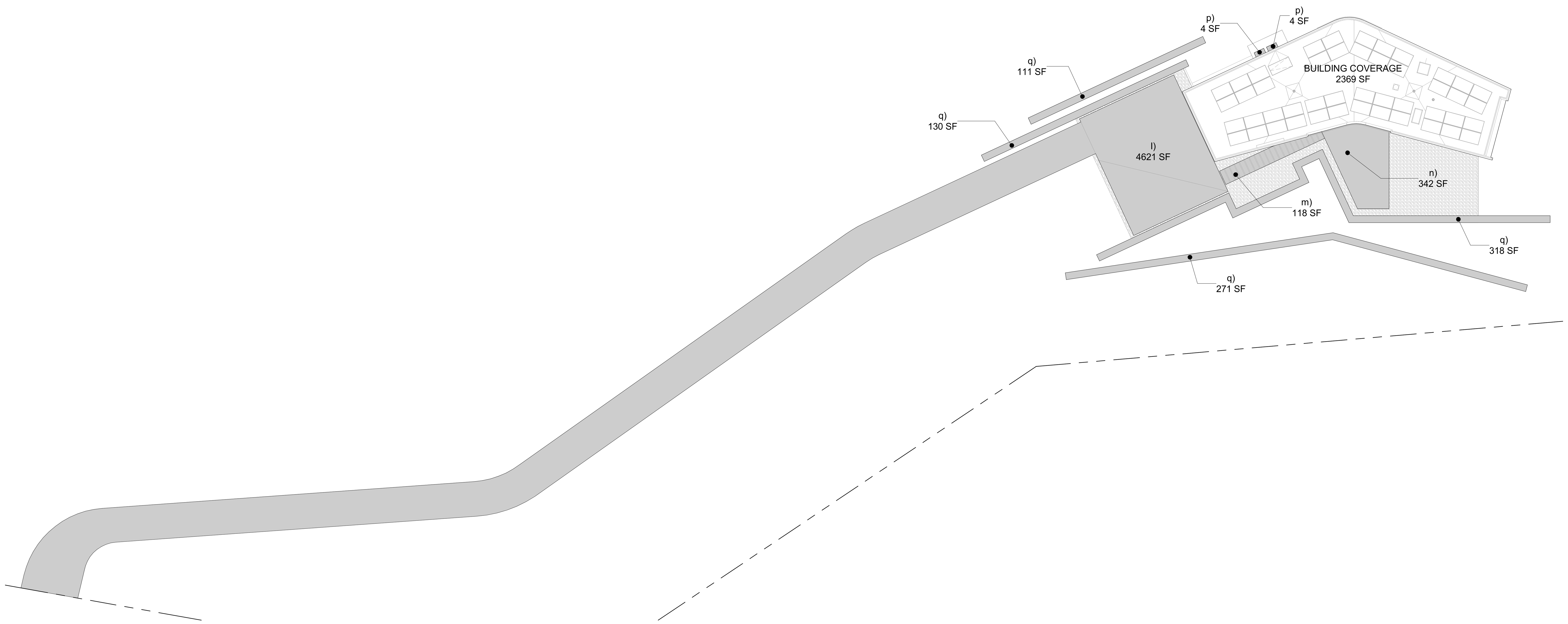
	DD PRICING SET	06.16.2023
	SEPTIC PERMIT	08.11.2023
	BUILDING PERMIT	12.15.2023
1	PERMIT RESPONSE	01.26.2024

Scale: As indicated

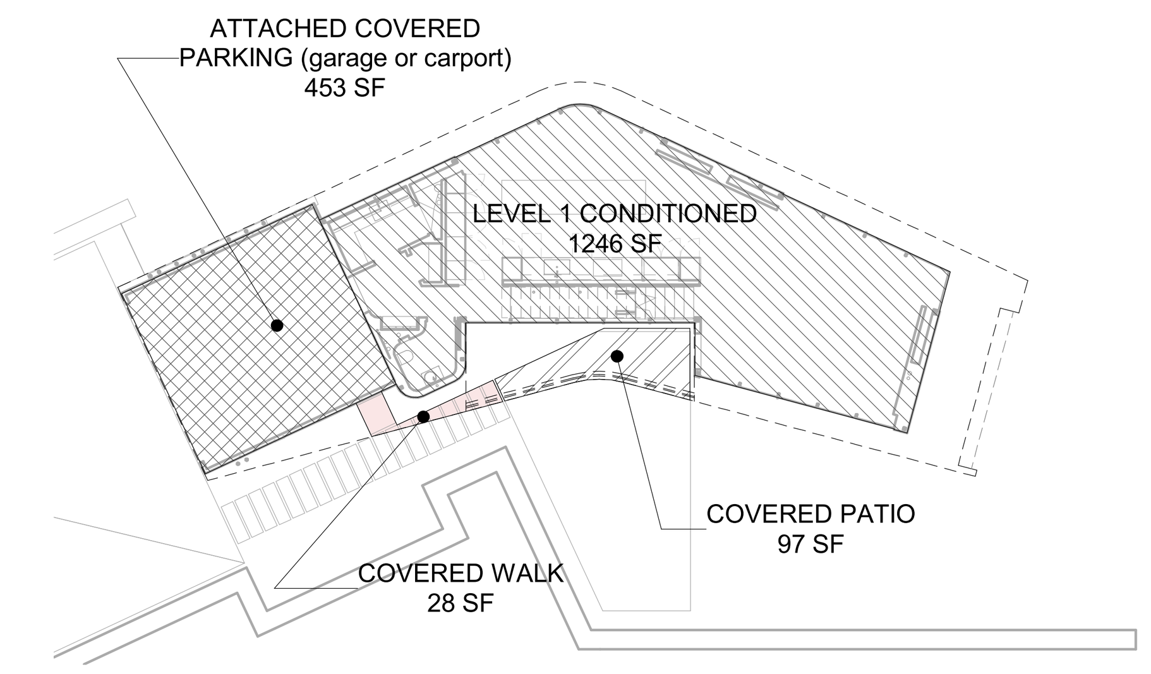
HALF OF NOTED SCALE WHEN PRINTED ON 12X18. DO NOT SCALE DRAWINGS. CONTACT ARCHITECT IN CASE OF DISCREPANCIES. THIS SHEET IS ONLY ONE COMPONENT OF THE TOTAL DOCUMENT PACKAGE WHICH CONSISTS OF ALL DRAWINGS AND SPECIFICATIONS.

site plan

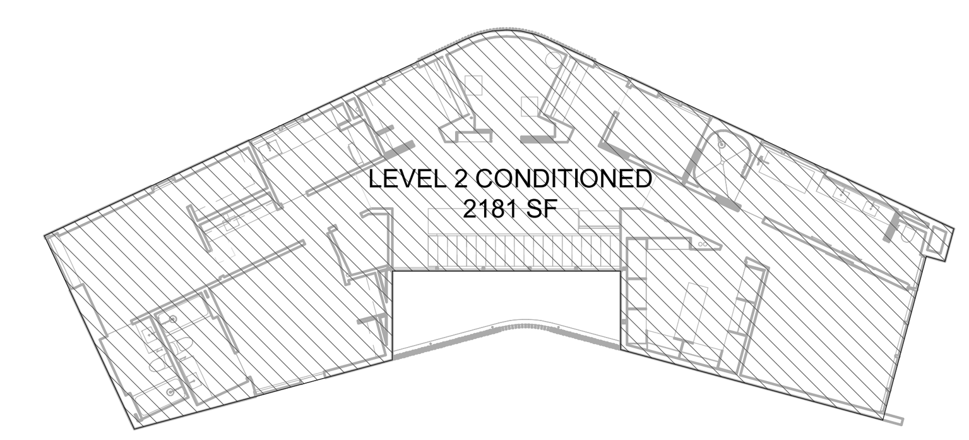
A0.10_



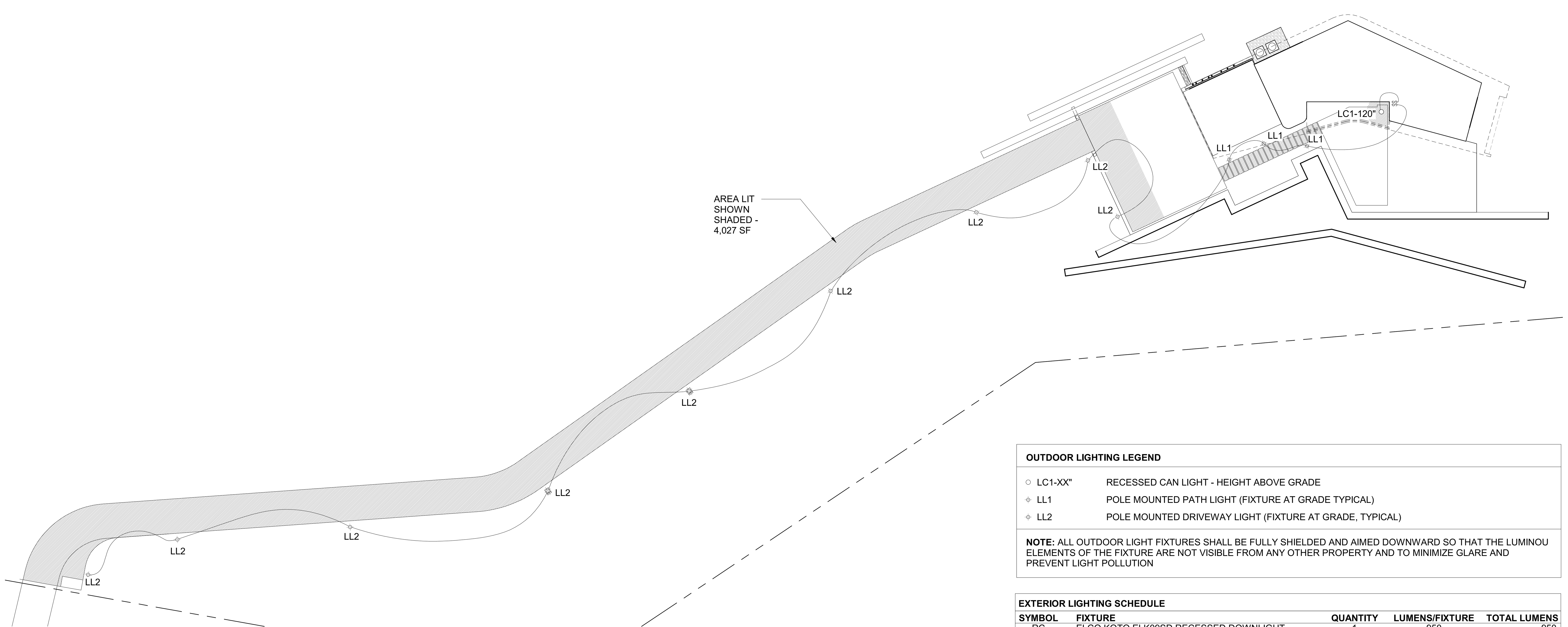
3 | *2 - building & impervious coverage diagram*
1" = 20'-0" A4.11



1 | *level 1 cal aid area diagram*
1" = 20'-0"



2 | *2- level 2 calculation aid area diagram*
1" = 20'-0"



OUTDOOR LIGHTING LEGEND

○ LC1-XX"	RECESSED CAN LIGHT - HEIGHT ABOVE GRADE
◇ LL1	POLE MOUNTED PATH LIGHT (FIXTURE AT GRADE TYPICAL)
◇ LL2	POLE MOUNTED DRIVEWAY LIGHT (FIXTURE AT GRADE, TYPICAL)

NOTE: ALL OUTDOOR LIGHT FIXTURES SHALL BE FULLY SHIELDED AND AIMED DOWNWARD SO THAT THE LUMINOU ELEMENTS OF THE FIXTURE ARE NOT VISIBLE FROM ANY OTHER PROPERTY AND TO MINIMIZE GLARE AND PREVENT LIGHT POLLUTION

EXTERIOR LIGHTING SCHEDULE

SYMBOL	FIXTURE	QUANTITY	LUMENS/FIXTURE	TOTAL LUMENS
RC	ELCO KOTO ELK09SD RECESSED DOWNLIGHT EL390ICA HOUSING ELK3618WH REFLECTOR	1	950	950
L1	HINKLEY ATLANTIS 15501BZ ROUND SMALL BOLLARD	4	350	1400
L2	HINKLEY ATLANTIS 55601BZ ROUND LARGE BOLLARD	9	550	4950
GRAND TOTAL				**7300**

11100 LUMENS/5.33 ACRES = **1370 LUMENS/ACRE**

4 | *plan - exterior lighting*
1" = 20'-0" A4.11

site development information

AREA DESCRIPTION	**AREA**
a) LEVEL 1 CONDITIONED AREA	1246 SF
b) LEVEL 2 CONDITIONED AREA	2181 SF
e) COVERED PARKING (garage or carport)	453 SF
f) COVERED PATIO, DECK, PORCH, OR BALCONY	97 SF
TOTAL BUILDING AREA (add a through g)	**3977 SF**
LOT SIZE	**232523 SF**
IMPERVIOUS COVER	
MAX. IMPERVIOUS COVER (40% OF LOT):	**93009 SF**
PROPOSED IMPERVIOUS COVER: PERCENT OF LOT SIZE:	**8288 SF** **3.6%**

calculation aid

AREA DESCRIPTION		**AREA**
a)	LEVEL 1 CONDITIONED	1246 SF
b)	LEVEL 2 CONDITIONED	2181 SF
c)	LEVEL 3 CONDITIONED	0 SF
d)	BASEMENT	0 SF
e)	ATTACHED COVERED PARKING (garage or carport)	453 SF
f)	COVERED PATIO	97 SF
g)	OTHER COVERED OR ROOFED AREAS	0 SF
h)	UNCOVERED WOOD DECKS	0 SF
TOTAL BUILDING AREA (add a through k)		**3977 SF**
TOTAL BUILDING COVERAGE (exclude b, c, d* & j) *area that extends beyond footprint is not excluded		**2369 SF**
l)	DRIVEWAY	4621 SF
m)	SIDEWALK	118 SF
n)	UNCOVERED PATIO	342 SF
o)	UNCOVERED WOOD DECKS	0 SF
p)	AC PADS/CONCRETE FLATWORK	9 SF
q)	RETAINING WALLS	830 SF
TOTAL SITE IMPERVIOUS COVERAGE **(add total building coverage & l through q)**		**8288 SF**

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kos residence

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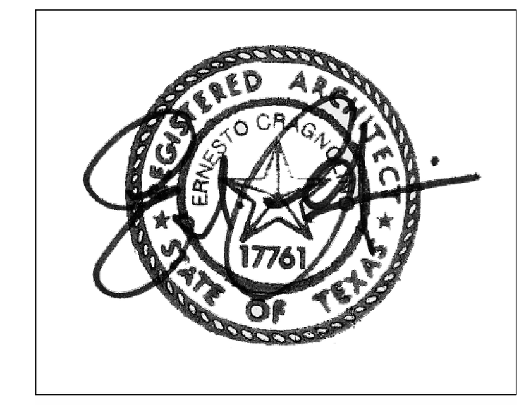

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512 499 8007

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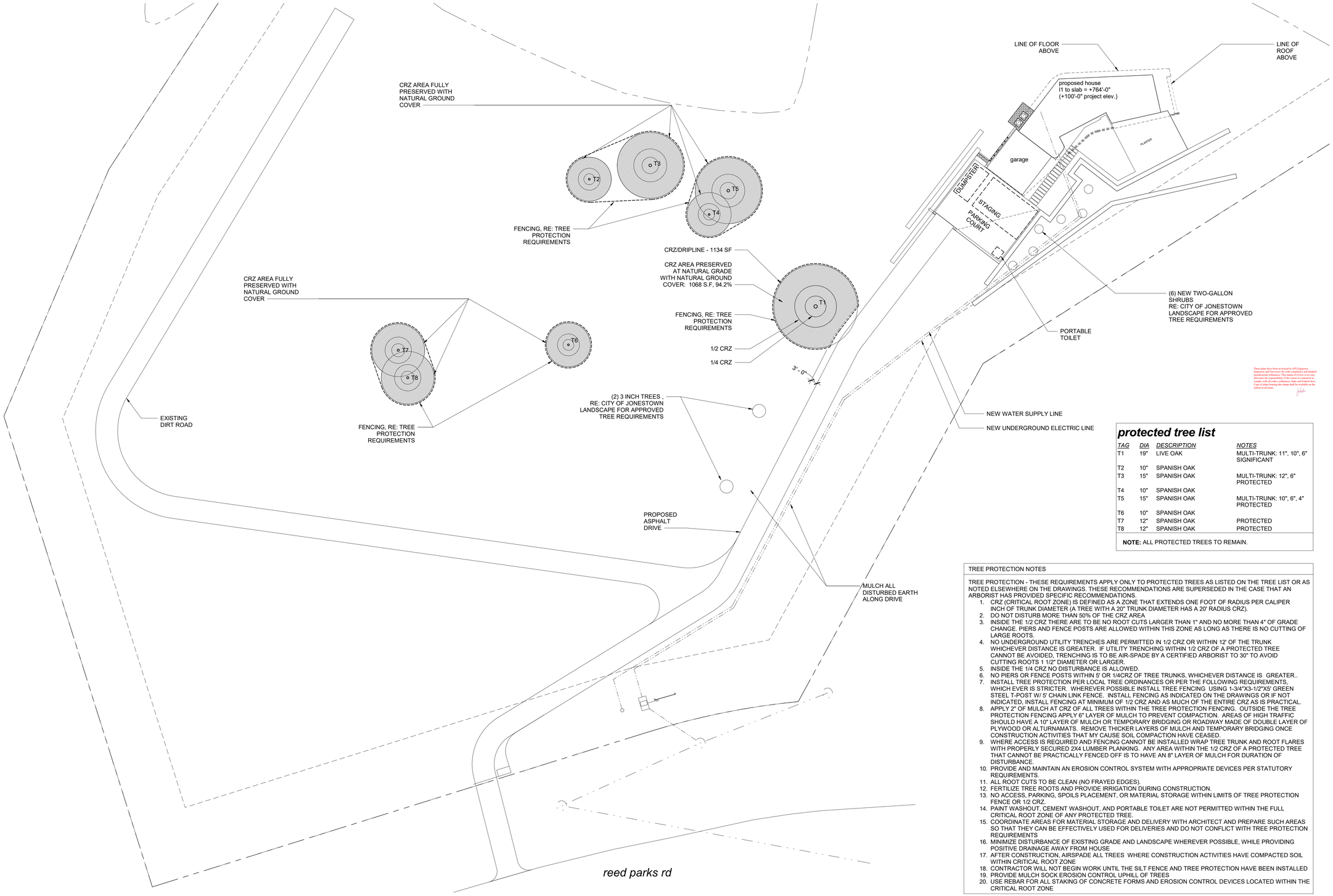
code diagrams & outdoor electrical

A0.20_



protected tree list

TAG	DIA	DESCRIPTION	NOTES
T1	19"	LIVE OAK	MULTI-TRUNK: 11", 10", 6" SIGNIFICANT
T2	10"	SPANISH OAK	
T3	15"	SPANISH OAK	MULTI-TRUNK: 12", 6" PROTECTED
T4	10"	SPANISH OAK	
T5	15"	SPANISH OAK	MULTI-TRUNK: 10", 6", 4" PROTECTED
T6	10"	SPANISH OAK	
T7	12"	SPANISH OAK	PROTECTED
T8	12"	SPANISH OAK	PROTECTED

NOTE: ALL PROTECTED TREES TO REMAIN.

TREE PROTECTION NOTES

TREE PROTECTION - THESE REQUIREMENTS APPLY ONLY TO PROTECTED TREES AS LISTED ON THE TREE LIST OR AS NOTED ELSEWHERE ON THE DRAWINGS. THESE RECOMMENDATIONS ARE SUPERSEDED IN THE CASE THAT AN ARBORIST HAS PROVIDED SPECIFIC RECOMMENDATIONS.

1. CRZ (CRITICAL ROOT ZONE) IS DEFINED AS A ZONE THAT EXTENDS ONE FOOT OF RADIUS PER CALIPER INCH OF TRUNK DIAMETER (A TREE WITH A 20" TRUNK DIAMETER HAS A 20' RADIUS CRZ).
2. DO NOT DISTURB MORE THAN 50% OF THE CRZ AREA
3. INSIDE THE 1/2 CRZ THERE ARE TO BE NO ROOT CUTS LARGER THAN 1" AND NO MORE THAN 4" OF GRADE CHANGE. PIERS AND FENCE POSTS ARE ALLOWED WITHIN THIS ZONE AS LONG AS THERE IS NO CUTTING OF LARGE ROOTS.
4. NO UNDERGROUND UTILITY TRENCHES ARE PERMITTED IN 1/2 CRZ OR WITHIN 12' OF THE TRUNK WHICHEVER DISTANCE IS GREATER. IF UTILITY TRENCHING WITHIN 1/2 CRZ OF A PROTECTED TREE CANNOT BE AVOIDED, TRENCHING IS TO BE AIR-SPADE BY A CERTIFIED ARBORIST TO 30" TO AVOID CUTTING ROOTS 1 1/2" DIAMETER OR LARGER.
5. INSIDE THE 1/4 CRZ NO DISTURBANCE IS ALLOWED.
6. NO PIERS OR FENCE POSTS WITHIN 5' OR 1/4CRZ OF TREE TRUNKS, WHICHEVER DISTANCE IS GREATER..
7. INSTALL TREE PROTECTION PER LOCAL TREE ORDINANCES OR PER THE FOLLOWING REQUIREMENTS, WHICH EVER IS STRICTER. WHEREVER POSSIBLE INSTALL TREE FENCING USING 1-3/4"X3-1/2"X5' GREEN STEEL T-POST W/ 5' CHAIN LINK FENCE. INSTALL FENCING AS INDICATED ON THE DRAWINGS OR IF NOT INDICATED, INSTALL FENCING AT MINIMUM OF 1/2 CRZ AND AS MUCH OF THE ENTIRE CRZ AS IS PRACTICAL.
8. APPLY 2" OF MULCH AT CRZ OF ALL TREES WITHIN THE TREE PROTECTION FENCING. OUTSIDE THE TREE PROTECTION FENCING APPLY 6" LAYER OF MULCH TO PREVENT COMPACTION. AREAS OF HIGH TRAFFIC SHOULD HAVE A 10" LAYER OF MULCH OR TEMPORARY BRIDGING OR ROADWAY MADE OF DOUBLE LAYER OF PLYWOOD OR ALTURNAMATS. REMOVE THICKER LAYERS OF MULCH AND TEMPORARY BRIDGING ONCE CONSTRUCTION ACTIVITIES THAT MY CAUSE SOIL COMPACTION HAVE CEASED.
9. WHERE ACCESS IS REQUIRED AND FENCING CANNOT BE INSTALLED WRAP TREE TRUNK AND ROOT FLARES WITH PROPERLY SECURED 2X4 LUMBER PLANKING. ANY AREA WITHIN THE 1/2 CRZ OF A PROTECTED TREE THAT CANNOT BE PRACTICALLY FENCED OFF IS TO HAVE AN 8" LAYER OF MULCH FOR DURATION OF DISTURBANCE.
10. PROVIDE AND MAINTAIN AN EROSION CONTROL SYSTEM WITH APPROPRIATE DEVICES PER STATUTORY REQUIREMENTS.
11. ALL ROOT CUTS TO BE CLEAN (NO FRAYED EDGES).
12. FERTILIZE TREE ROOTS AND PROVIDE IRRIGATION DURING CONSTRUCTION.
13. NO ACCESS, PARKING, SPOILS PLACEMENT, OR MATERIAL STORAGE WITHIN LIMITS OF TREE PROTECTION FENCE OR 1/2 CRZ.
14. PAINT WASHOUT, CEMENT WASHOUT, AND PORTABLE TOILET ARE NOT PERMITTED WITHIN THE FULL CRITICAL ROOT ZONE OF ANY PROTECTED TREE.
15. COORDINATE AREAS FOR MATERIAL STORAGE AND DELIVERY WITH ARCHITECT AND PREPARE SUCH AREAS SO THAT THEY CAN BE EFFECTIVELY USED FOR DELIVERIES AND DO NOT CONFLICT WITH TREE PROTECTION REQUIREMENTS
16. MINIMIZE DISTURBANCE OF EXISTING GRADE AND LANDSCAPE WHEREVER POSSIBLE, WHILE PROVIDING POSITIVE DRAINAGE AWAY FROM HOUSE
17. AFTER CONSTRUCTION, AIRSPADE ALL TREES WHERE CONSTRUCTION ACTIVITIES HAVE COMPACTED SOIL WITHIN CRITICAL ROOT ZONE
18. CONTRACTOR WILL NOT BEGIN WORK UNTIL THE SILT FENCE AND TREE PROTECTION HAVE BEEN INSTALLED
19. PROVIDE MULCH SOCK EROSION CONTROL UPHILL OF TREES
20. USE REBAR FOR ALL STAKING OF CONCRETE FORMS AND EROSION CONTROL DEVICES LOCATED WITHIN THE CRITICAL ROOT ZONE

1 *landscaping and tree plan*
1" = 20'-0" *A4.11*

kos residence

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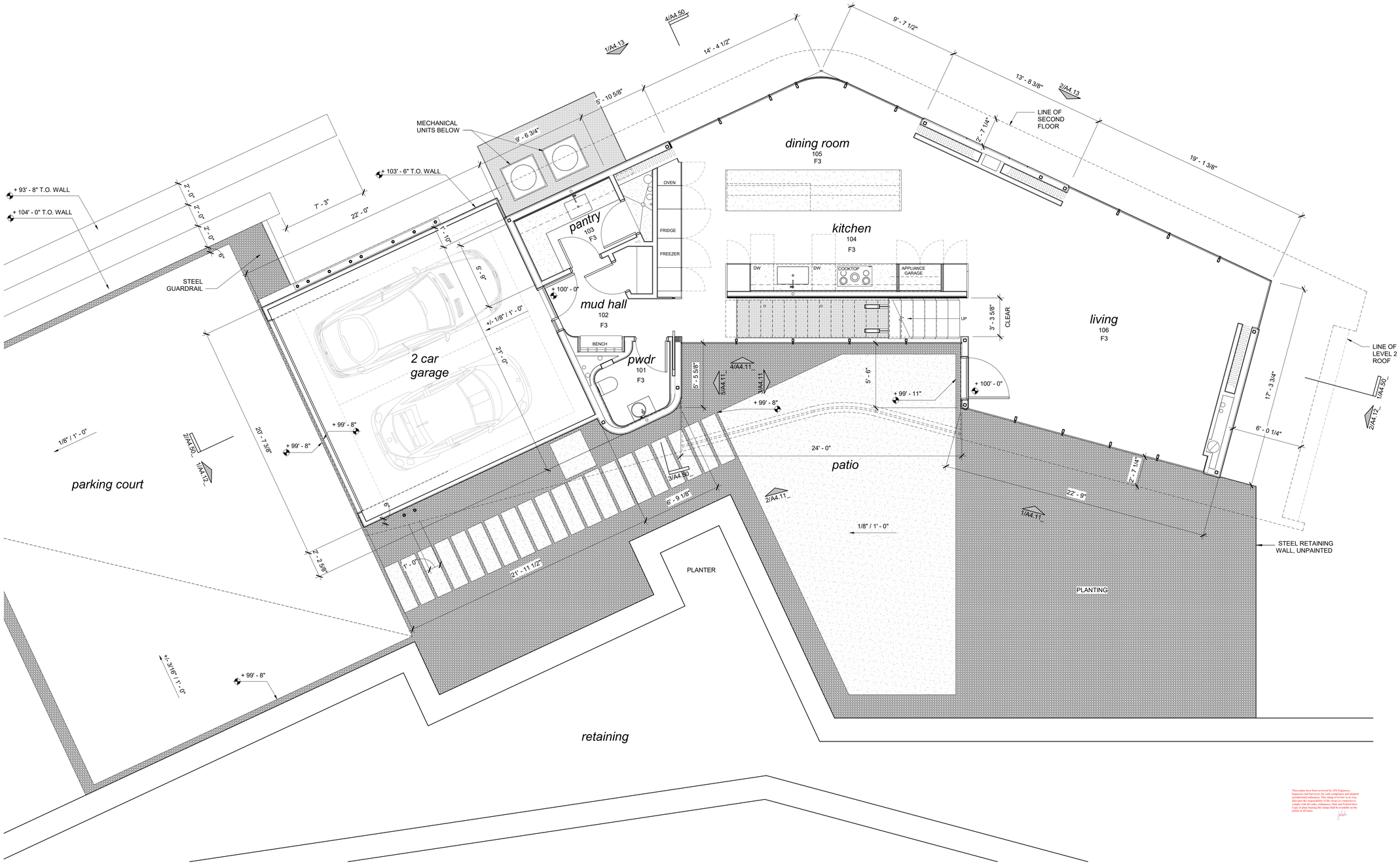
landscape and tree protection

A0.30



1	level 1 floor plan
	1/4" = 1'-0"

kos residence

17363 E Reed Parks Rd.
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architecture LLP

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DD PRICING SET	06.16.2023
SEPTIC PERMIT	08.11.2023
BUILDING PERMIT	12.15.2023

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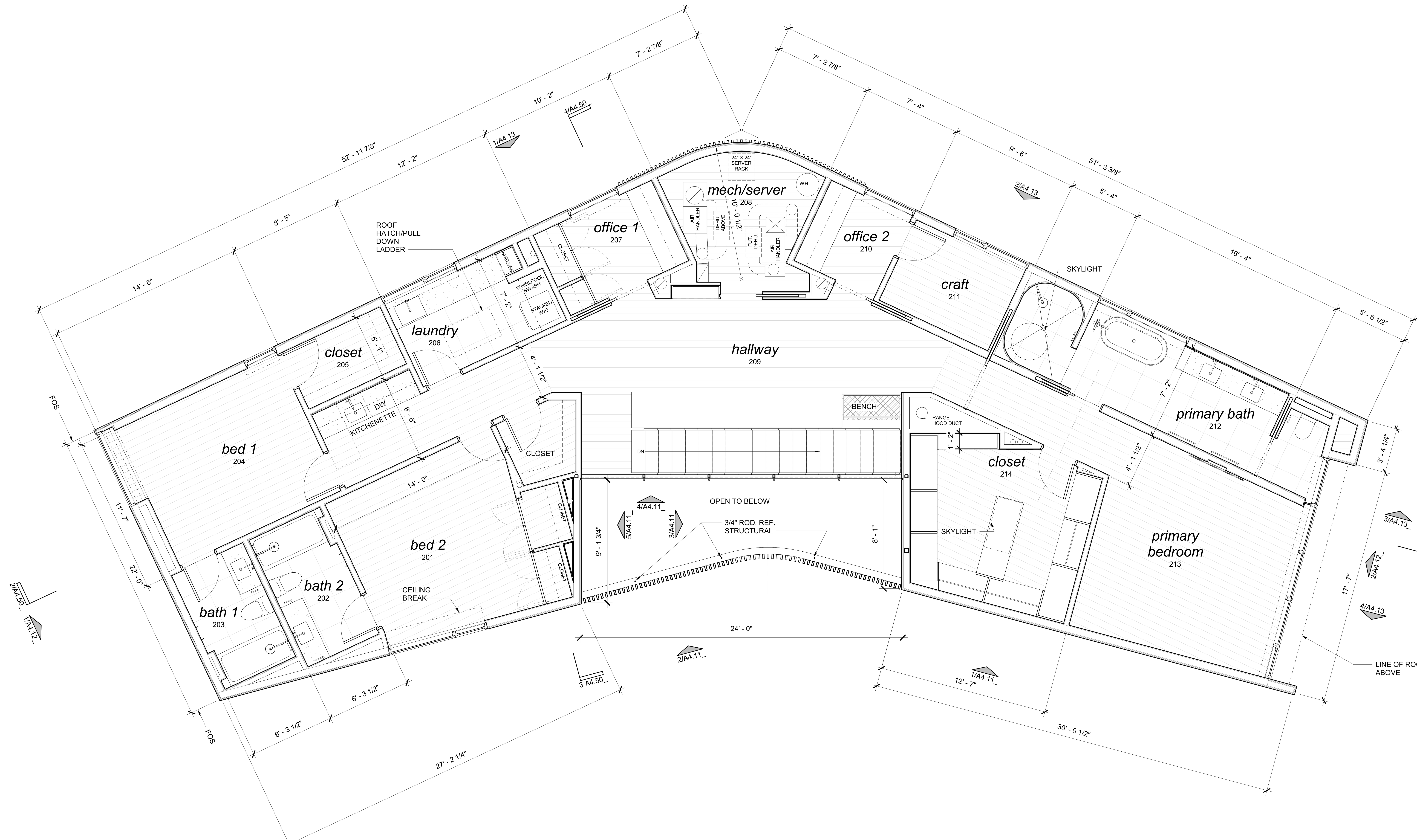
level 1 floor plan

A2.11



NOTE: ROOF TO BE WHITE THERMOPLASTIC OVERLAY (TPO)

1	level 2 floor plan 1/4" = 1'-0"

kos residence

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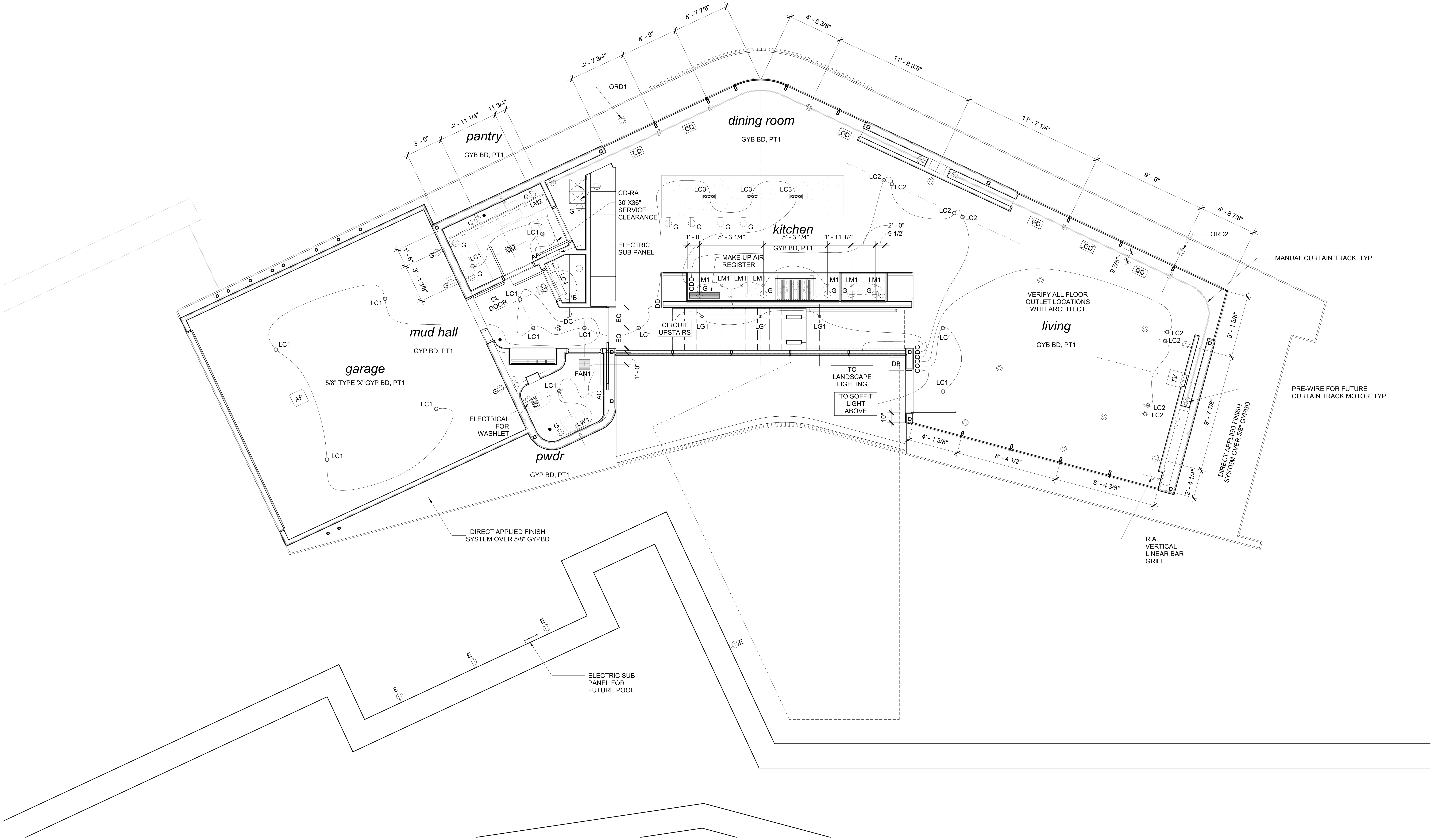
level 2 floor plan

A2.21_



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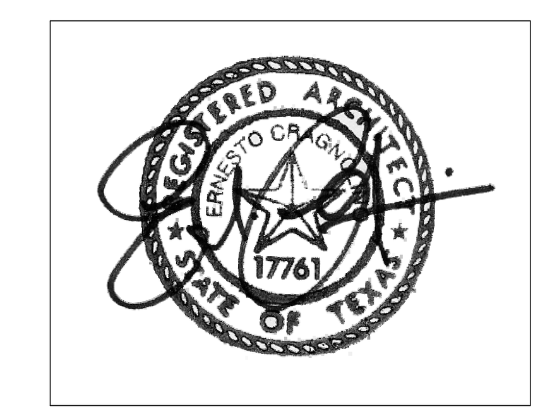

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	DD PRICING SET	06.16.2023
	CONSTRUCTION	01.20.2023
1	PERMIT RESPONSE	01.26.2024

NOTES:
1. SWITCHES, RECEPTACLES AND ENTERTAINMENT BUNDLE COVER PLATES TO BE LUTRON DESIGNER SCREWLESS WALL PLATES.
2. PROVIDE WHOLE HOUSE SURGE PROTECTION.
3. PROVIDE STARLINK TERMINAL AT ROOF, RE: ROOF PLAN.
4. PROVIDE SPECTRUM CABLE SERVICE.
5. PROVIDE DATA WIRING (VERIFY TYPE WITH OWNER) BETWEEN STARLINK TERMINAL, SERVER CABINET, 1 WIFI CEILING ACCESS POINT (AP) PER FLOOR, 1 WIFI CEILING AP FOR CARPORT, 1 EXTERNAL WIFI AP, OFFICE 1&2, PRIMARY BEDROOM TV AND DOORBELL.
6. PROVIDE POE (POWER OVER ETHERNET) SECURITY CAMERAS WITH DATA WIRING (VERIFY TYPE WITH OWNER) TO THE SERVER CABINET. VERIFY NUMBER AND LOCATION WITH OWNER.
7. PROVIDE ALTERNATIVE PRICING FOR PROJECT USING INOVELLI RED DIMMER SWITCHES IN LIEU OF LUTRON SWITCHES AND DIMMERS.
8. PROVIDE ALTERNATIVE PRICING USING COMMERCIAL GRADE OUTLETS IN LIEU OF LUTRON.
9. PROVIDE KEYLESS ENTRY AT BOTH FRONT AND BACK DOORS, VERIFY SYSTEM WITH OWNER AND ARCHITECT.

lighting fixture list

KEY	*DESCRIPTION*
LC1	RECESSED DOWNLIGHT -3"
LC2	RECESSED DOWNLIGHT - ADJUSTABLE- 3"
LC3	RECESSED DOWNLIGHT - 3 GANG - ADJUSTABLE
LC4	LINEAR CEILING MOUNT UTILITY LIGHT - 2'L
LC5	LINEAR CEILING MOUNT UTILITY LIGHT - 4' L
LC6	7" ROUND SURFACE MOUNT LED DOWNLIGHT
LG1	RECESSED LANDSCAPE UPLIGHT, ROUND TRIM
LM1	DOWNLIGHT - FIXED
LM2	LED TAPE LIGHT AT MILLWORK
LW1	WALL MOUNT HIGH OUTPUT LED TAPE LIGHT

SEE PROJECT MANUAL FOR FULL SPECIFICATIONS

switch list

MARK	*MANUFACTURER*	*DESCRIPTION*
A	LUTRON	SINGLE POLE
B	LUTRON	3 WAY GENERAL PURPOSE SWITCH
C	LUTRON	SINGLE POLE DIMMER
D	LUTRON	3 WAY DIMMER
J	LEVITON (1865)	JAMB SWITCH
M	SOMFY(DECOFLEX)	MOTORIZED SHADE CONTROL

device list

MARK	MANUFACTURER	MODEL	DESCRIPTION
	LUTRON	DESIGNER STYLE	DUPLEX OUTLET
	LUTRON	DESIGNER STYLE	SINGLE OUTLET
	LUTRON	DESIGNER STYLE	SWITCHED DUPLEX OUTLET
G	LUTRON	DESIGNER STYLE	GROUND FAULT INTERRUPT OUTLET
P	MOCKETT	PCS34 90/94	COUNTERTOP POP UP OUTLET
	ARLINGTON	FLBC4580NL	RECESSED FLOOR OUTLET
R	ARLINGTON	FLBR5420	RECESSED FLOOR OUTLET AT FRAMED FLOORS
TV	ARLINGTON	TVB810	TELEVISION MOUNTING BOX, MOUNT 60" AFF UNO
E	ARLINGTON	IN-BOX	EXTERIOR RECESSED GFI OUTLET
EC	THOMAS & BETTS	DKG-PRO	RED DOT DECK GROMMET PRO
S	NEST	PROTECT	SMOKE/CARBON MONOXIDE DETECTOR
T	AMERICAN STANDARD	UX360	SMART THERMOSTAT
DB	REOLINK	VIDEO DOORBELL POE	ETHERNET POWERED VIDEO DOORBELL WITH CHIME/CAMERA
AP	TP-LINK	EAP610	WIRELESS ACCESS POINT - CEILING MOUNT
			ETHERNET CABLE PATCH PANEL

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

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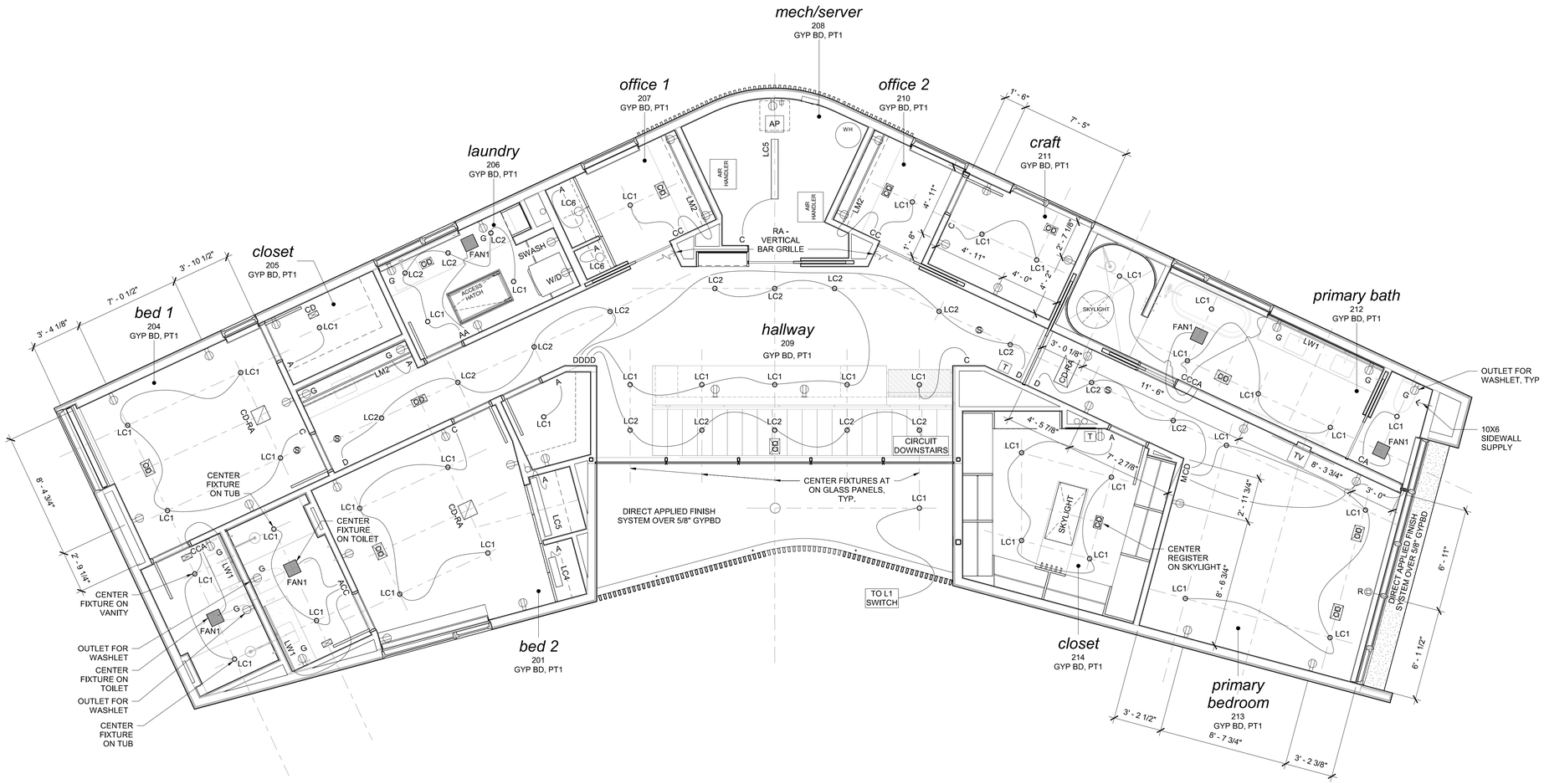
rcp/electrical plan - level 1

A3.11_



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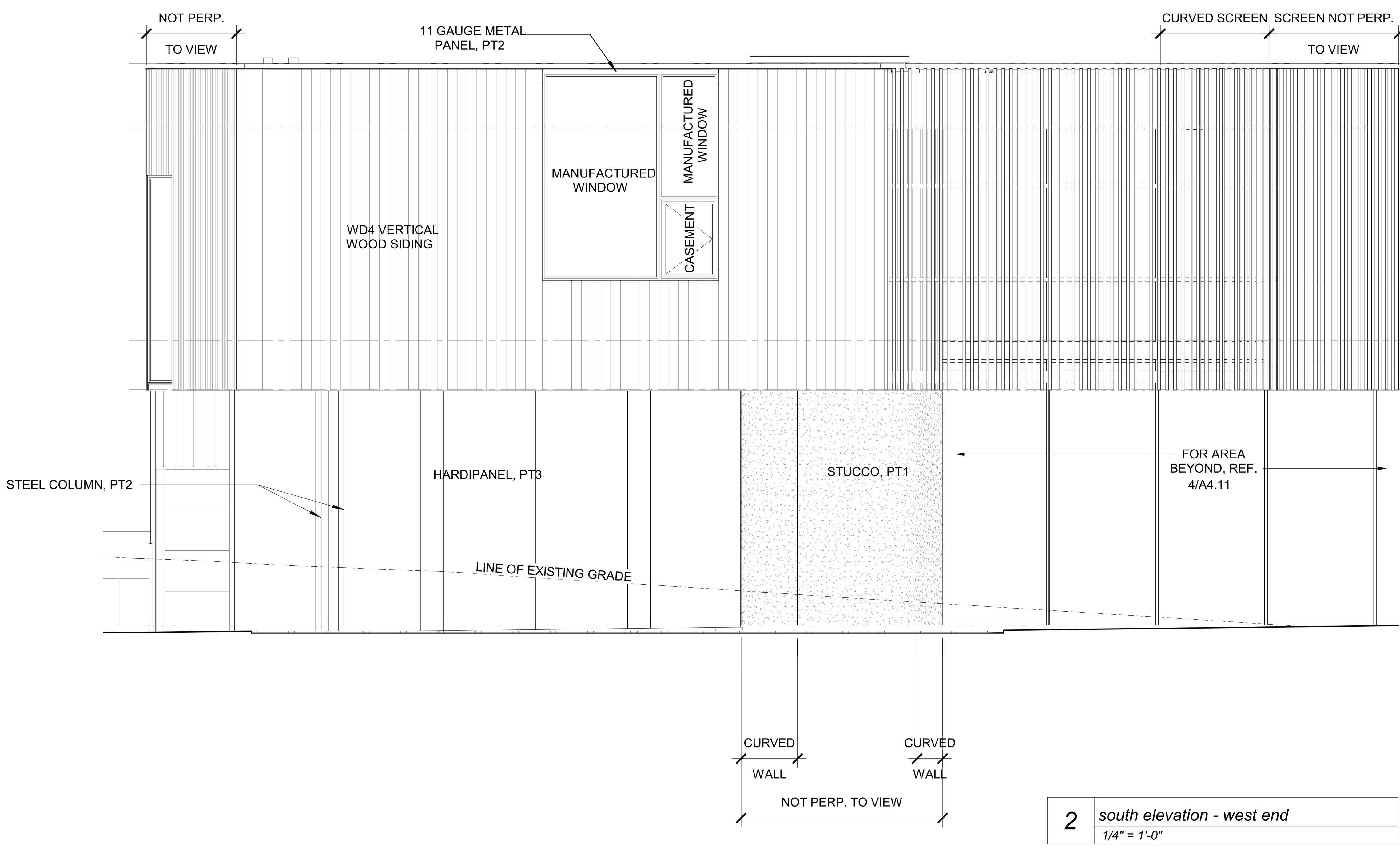
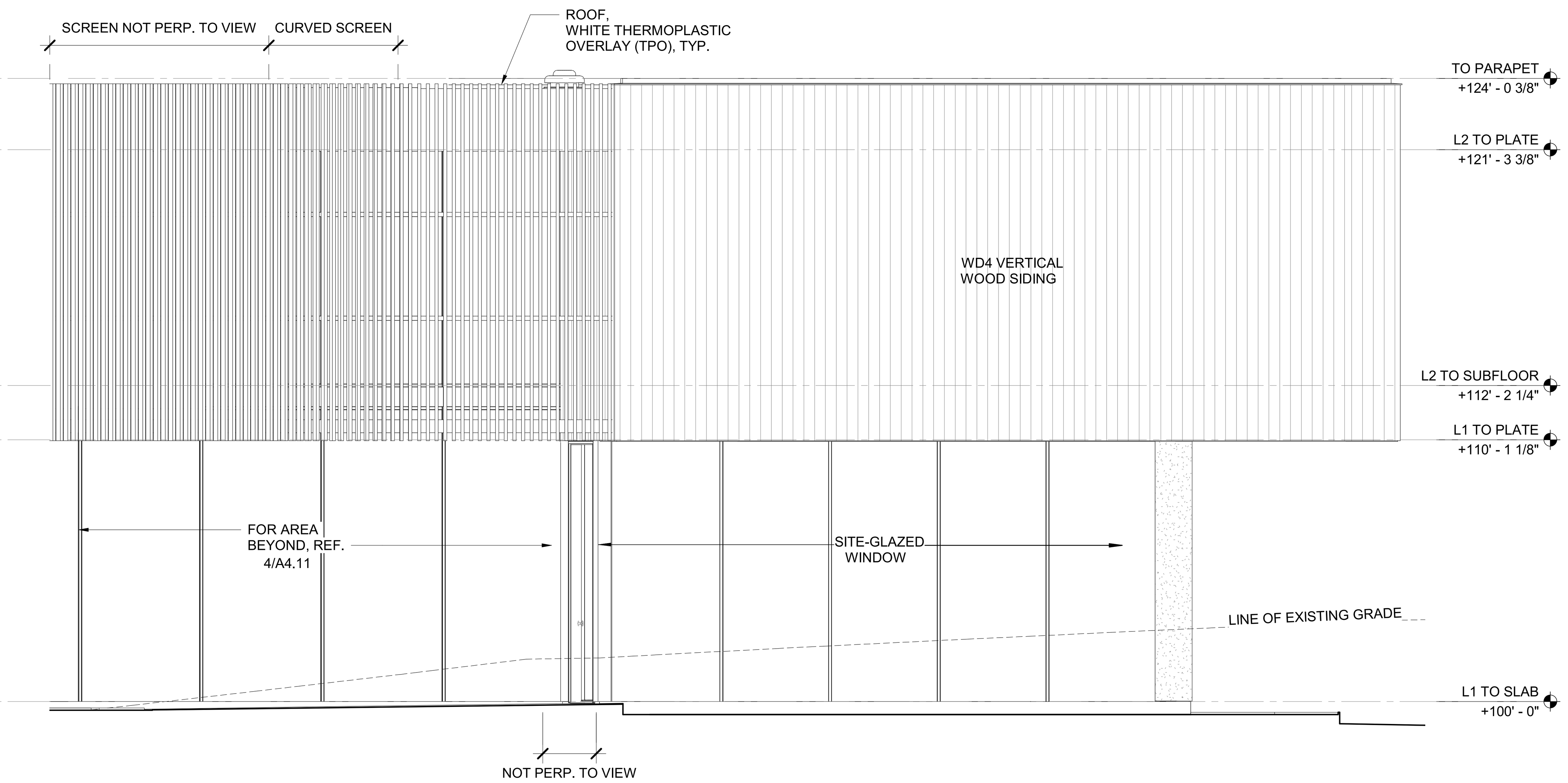
rcp/electrical plan - level 2

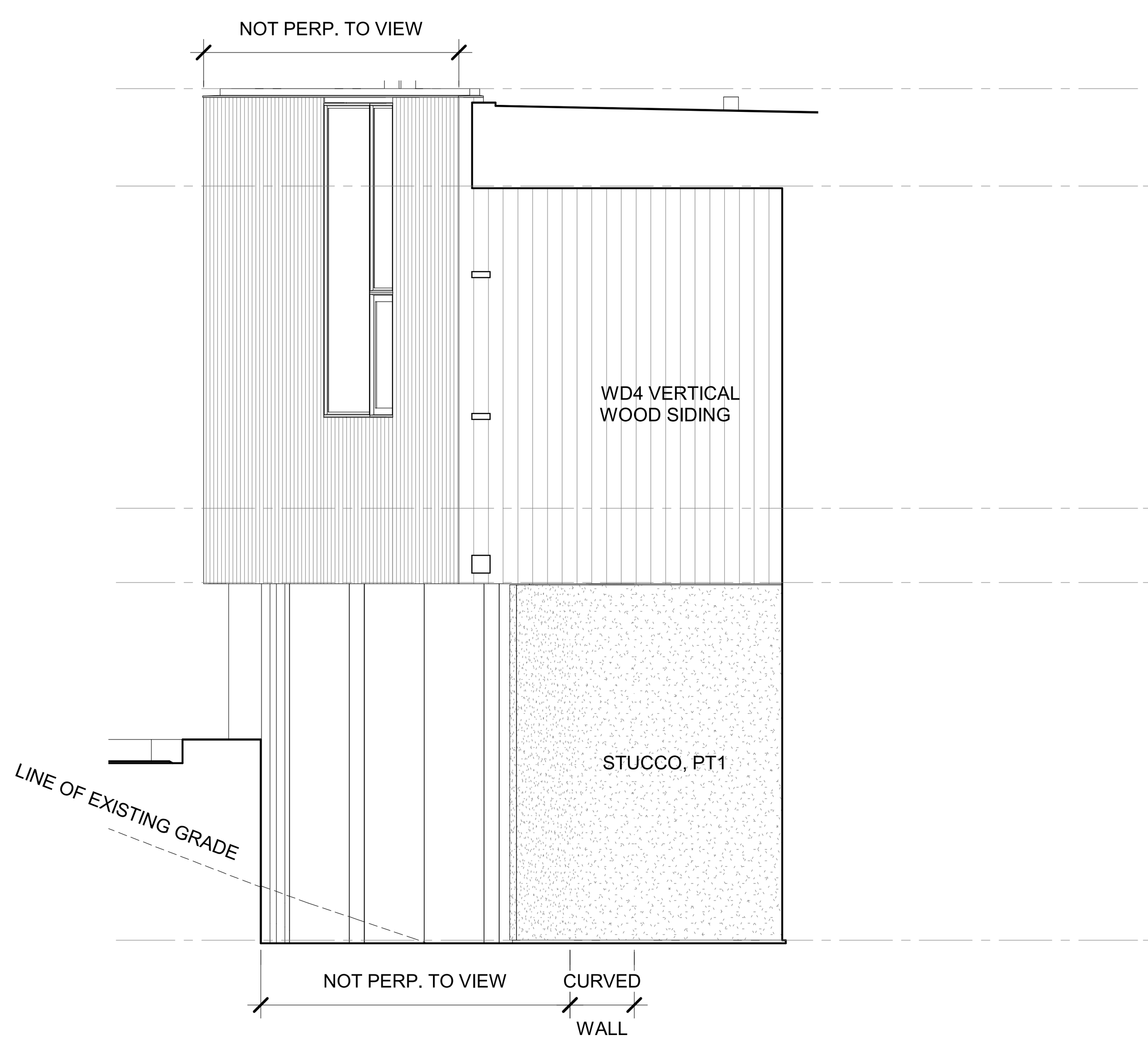
A3.21_



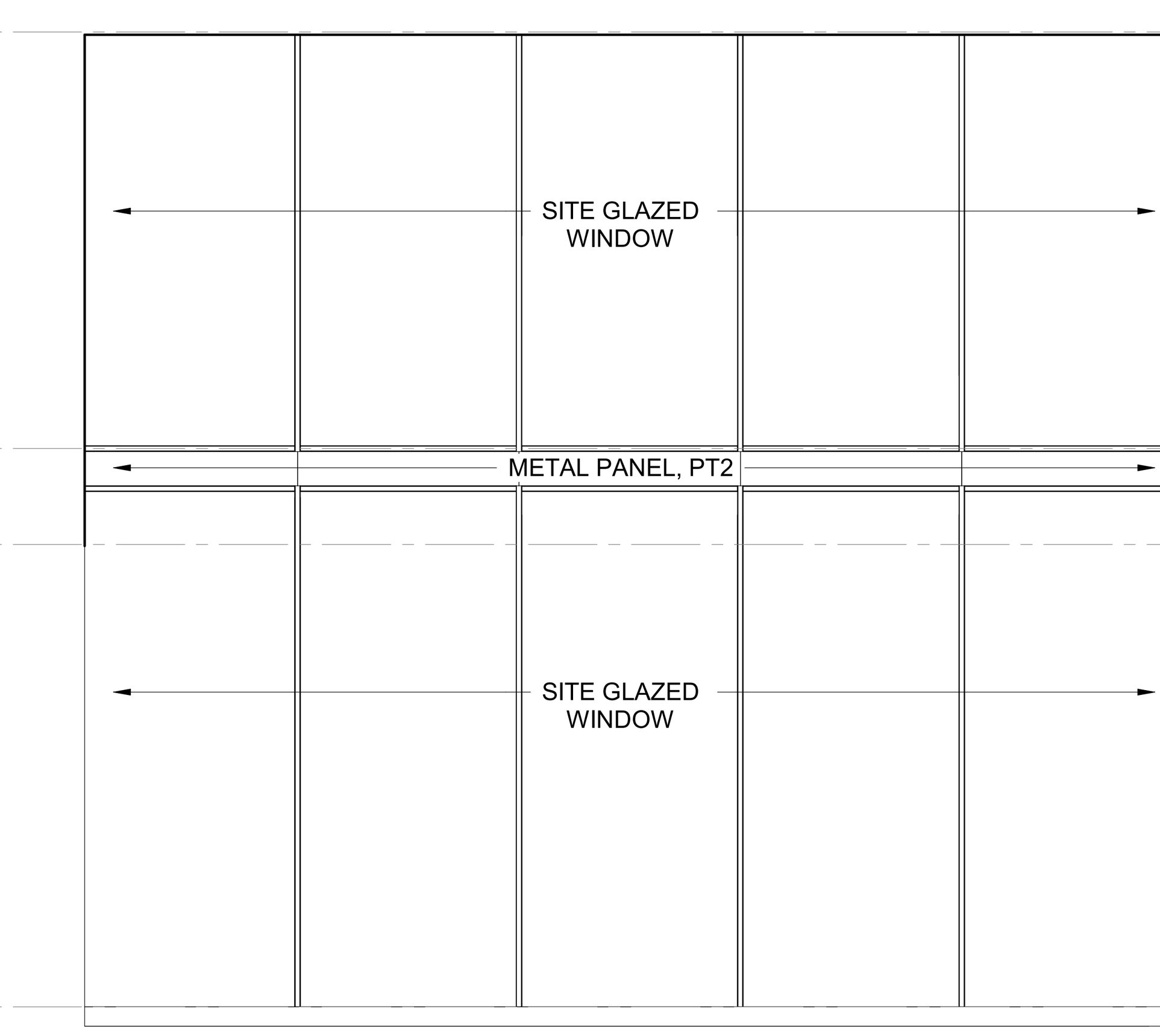
2 south elevation - west end
1/4" = 1'-0"



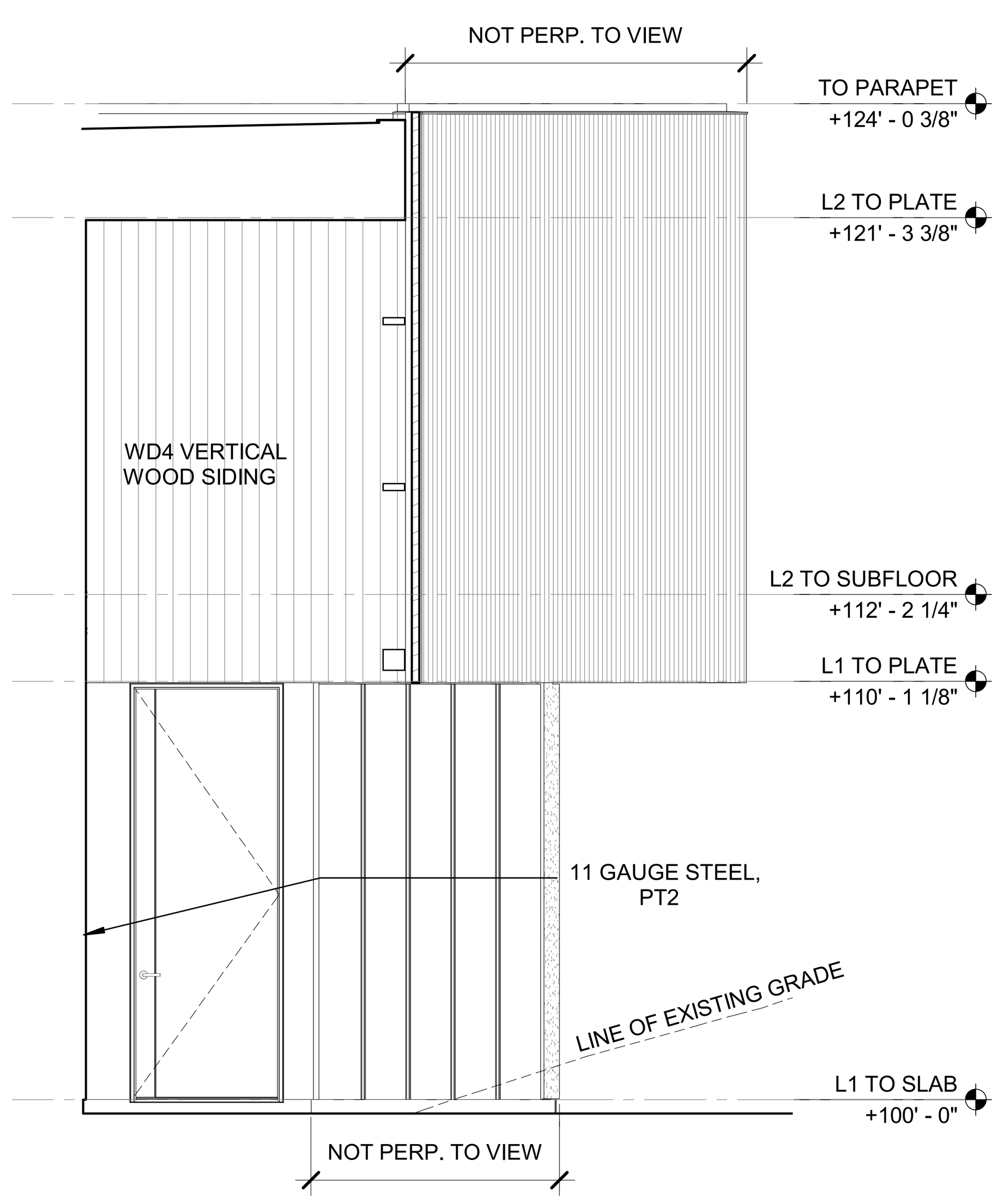
1 south elevation - east end
1/4" = 1'-0"



5 west elevation - entry
1/4" = 1'-0"



4 south elevation - entry
1/4" = 1'-0"



3 east elevation - entry
1/4" = 1'-0"

kos residence

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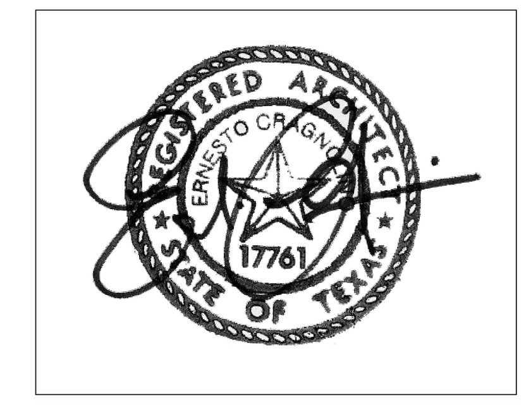

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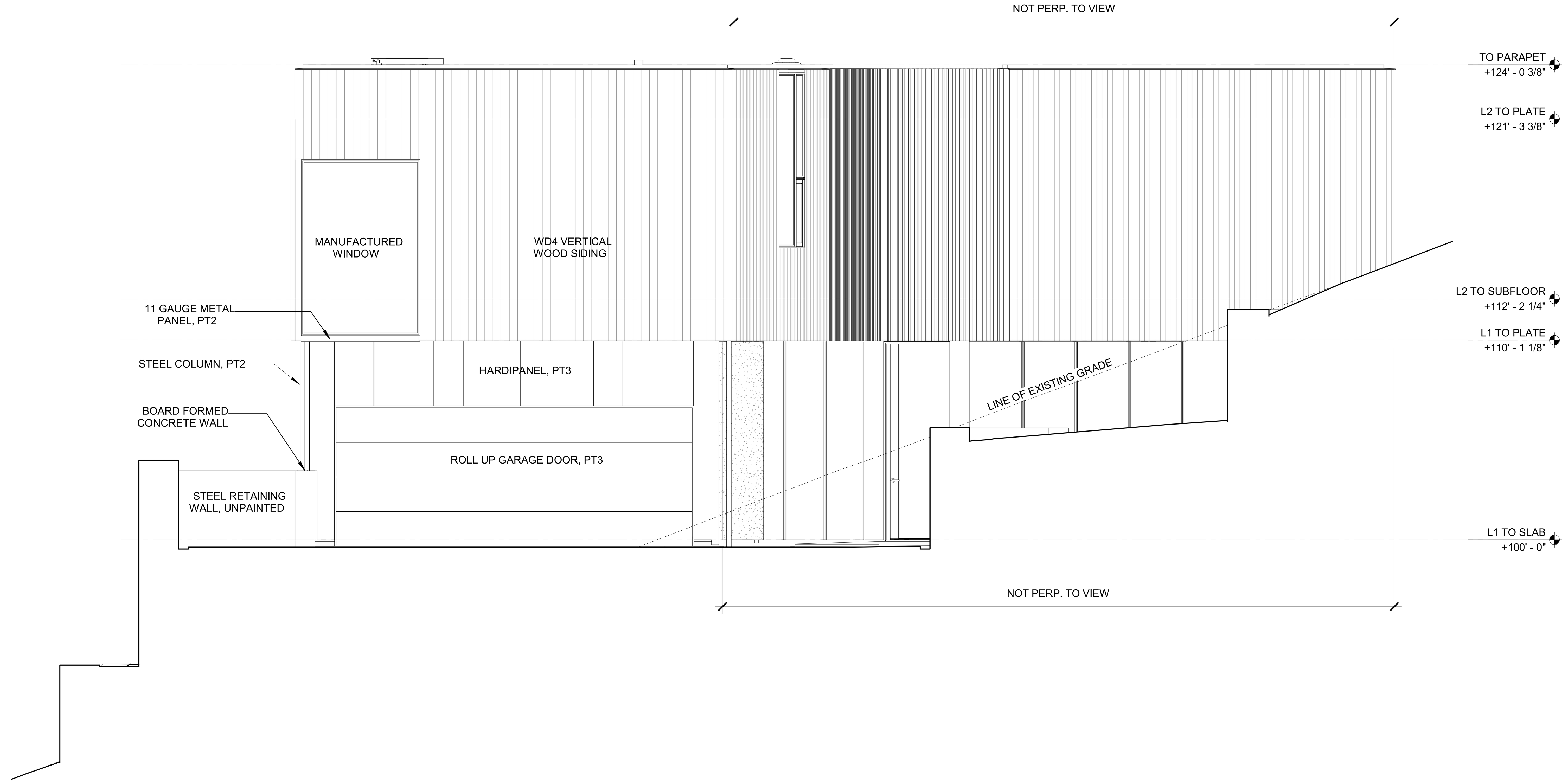
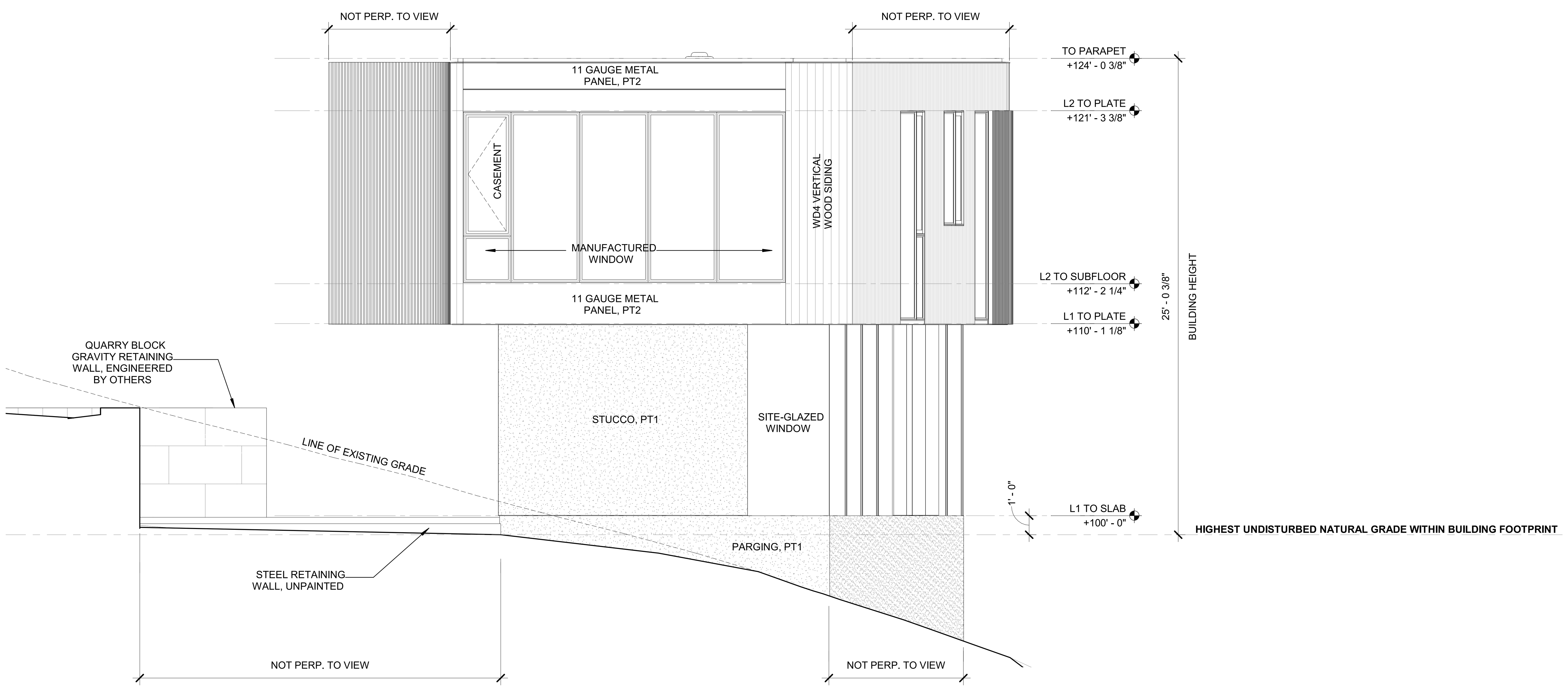
elevations

A4.11_



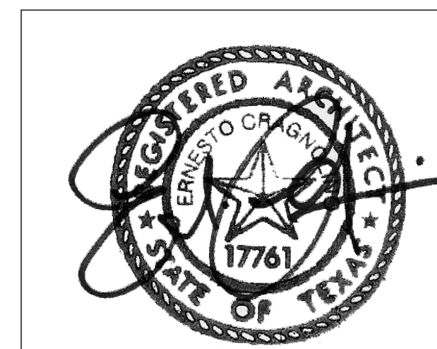
1	west elevation 1/4" = 1'-0"



2	east elevation 1/4" = 1'-0"

kos residence

17363 E Reed Parks Rd.
Jonestown, Texas 78645



alterstudio
architecture LLP

1801 lavaca st #106
austin, texas 78701
512 499 8007

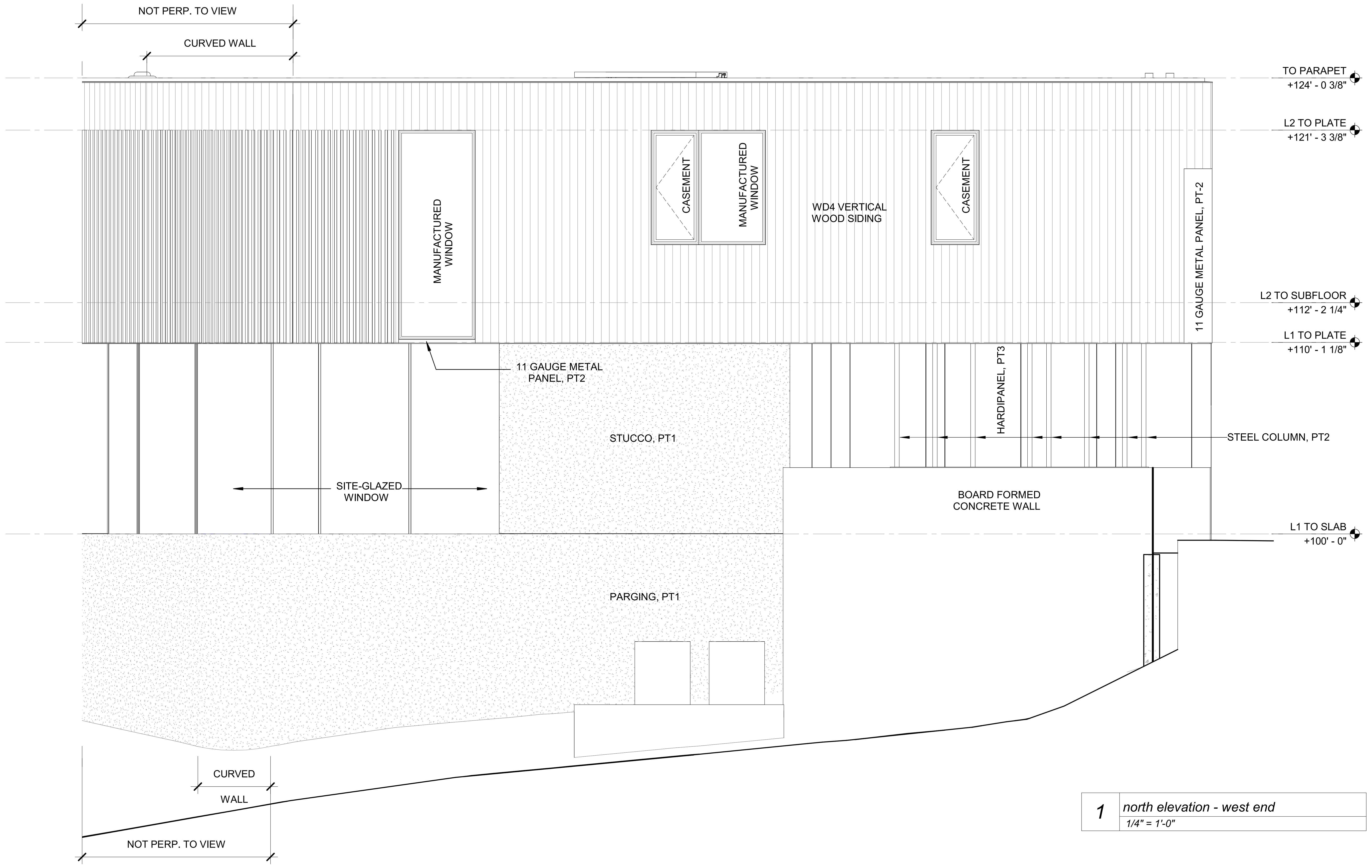
DD PRICING SET	06.16.2023
BUILDING PERMIT	12.15.2023

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

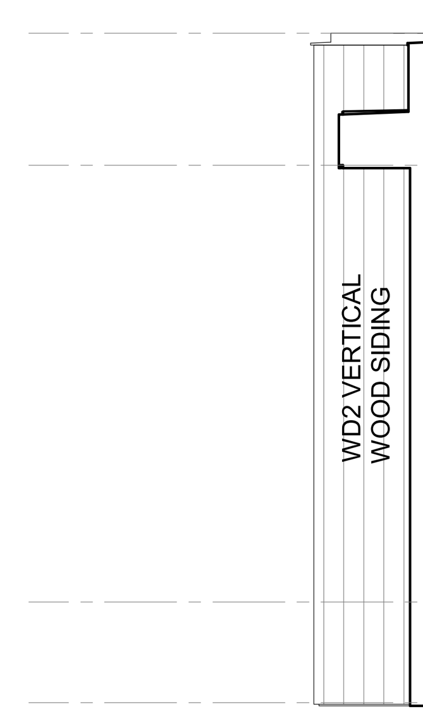
HALF OF NOTED SCALE WHEN PRINTED ON 12X18.
DO NOT SCALE DRAWINGS.
CONTACT ARCHITECT IN CASE OF DISCREPANCIES.
THIS SHEET IS ONLY ONE COMPONENT OF THE TOTAL DOCUMENT PACKAGE WHICH CONSISTS OF ALL DRAWINGS AND SPECIFICATIONS.

elevations

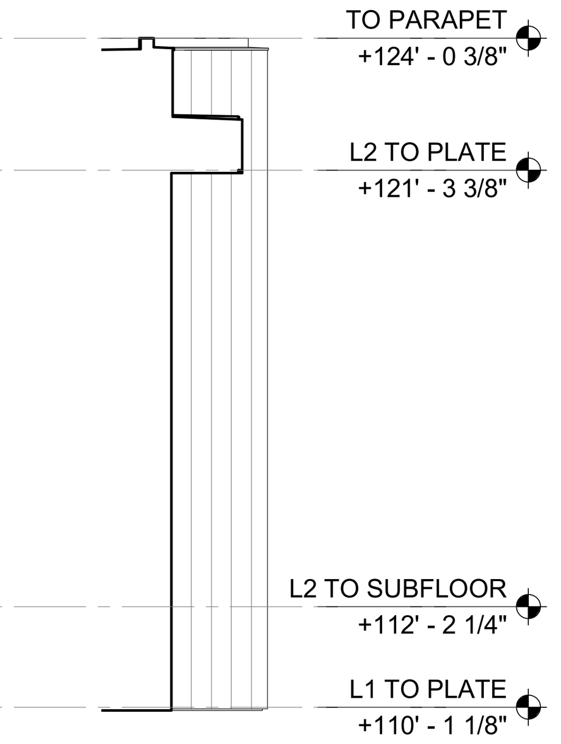
A4.12_



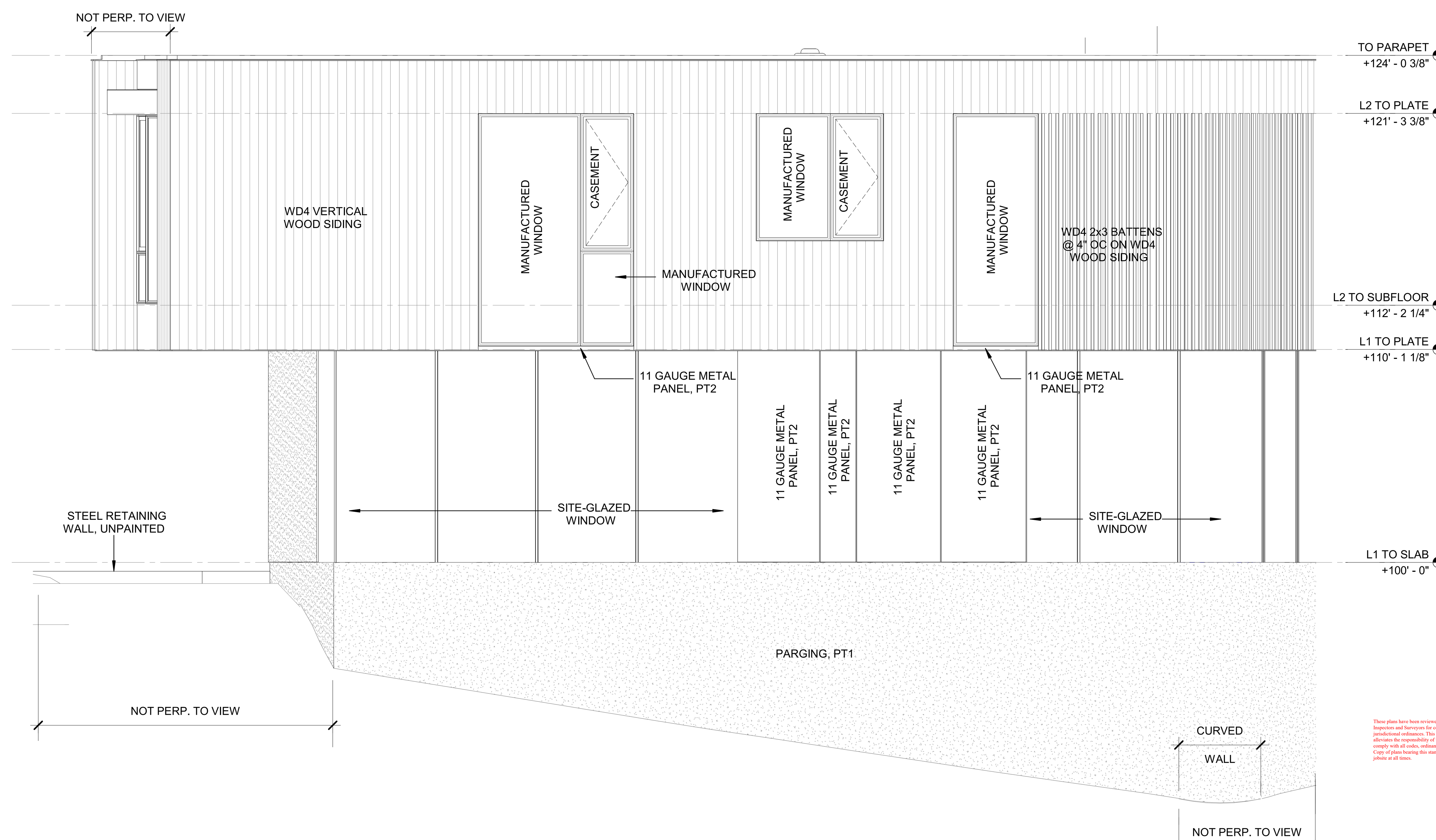
1	*north elevation - west end*
	1/4" = 1'-0"



4	*elevation - l2 fin - south*
	1/4" = 1'-0"



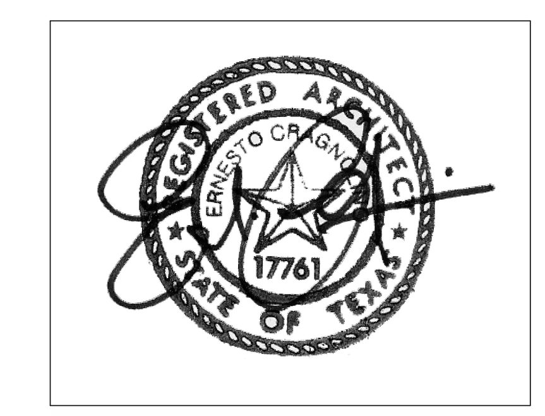
3	*elevation - l2 fin - north*
	1/4" = 1'-0"



2	*north elevation - east end*
	1/4" = 1'-0"

kos residence

17363 E Reed Parks Rd.
Jonestown, Texas 78645



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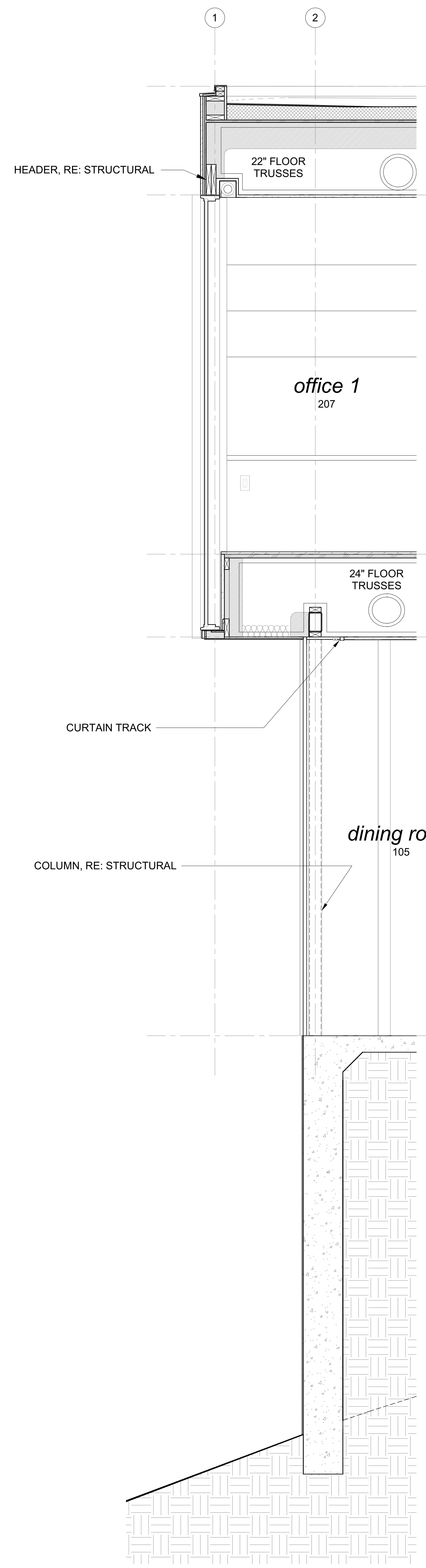
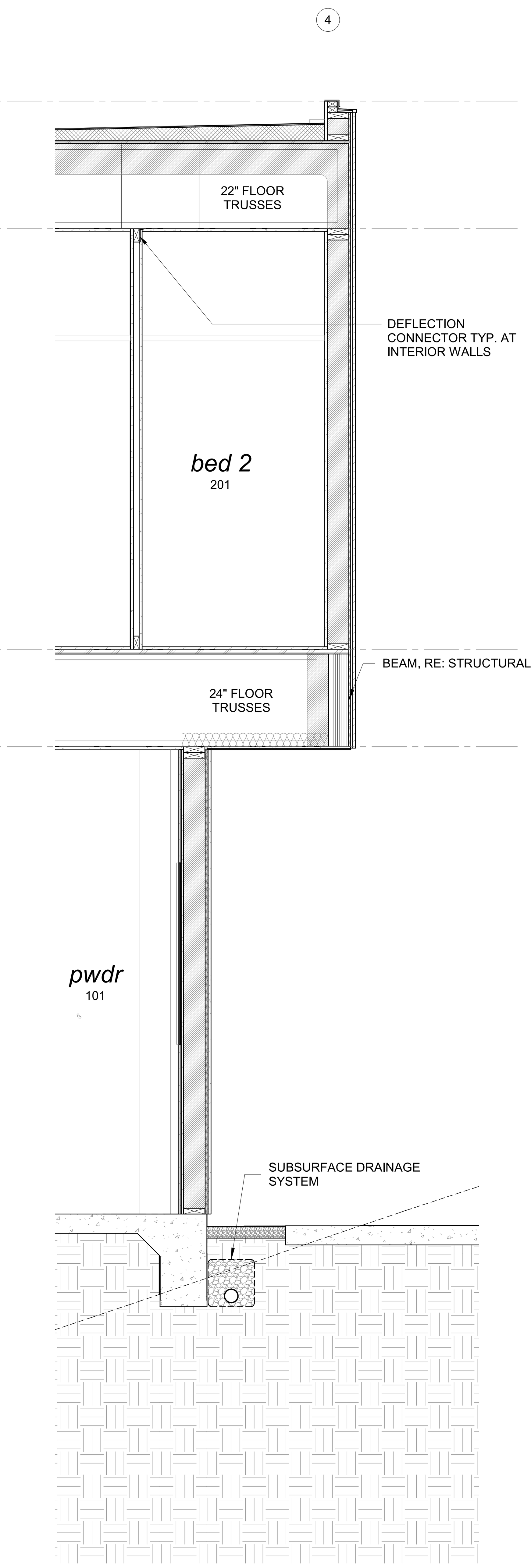
elevations

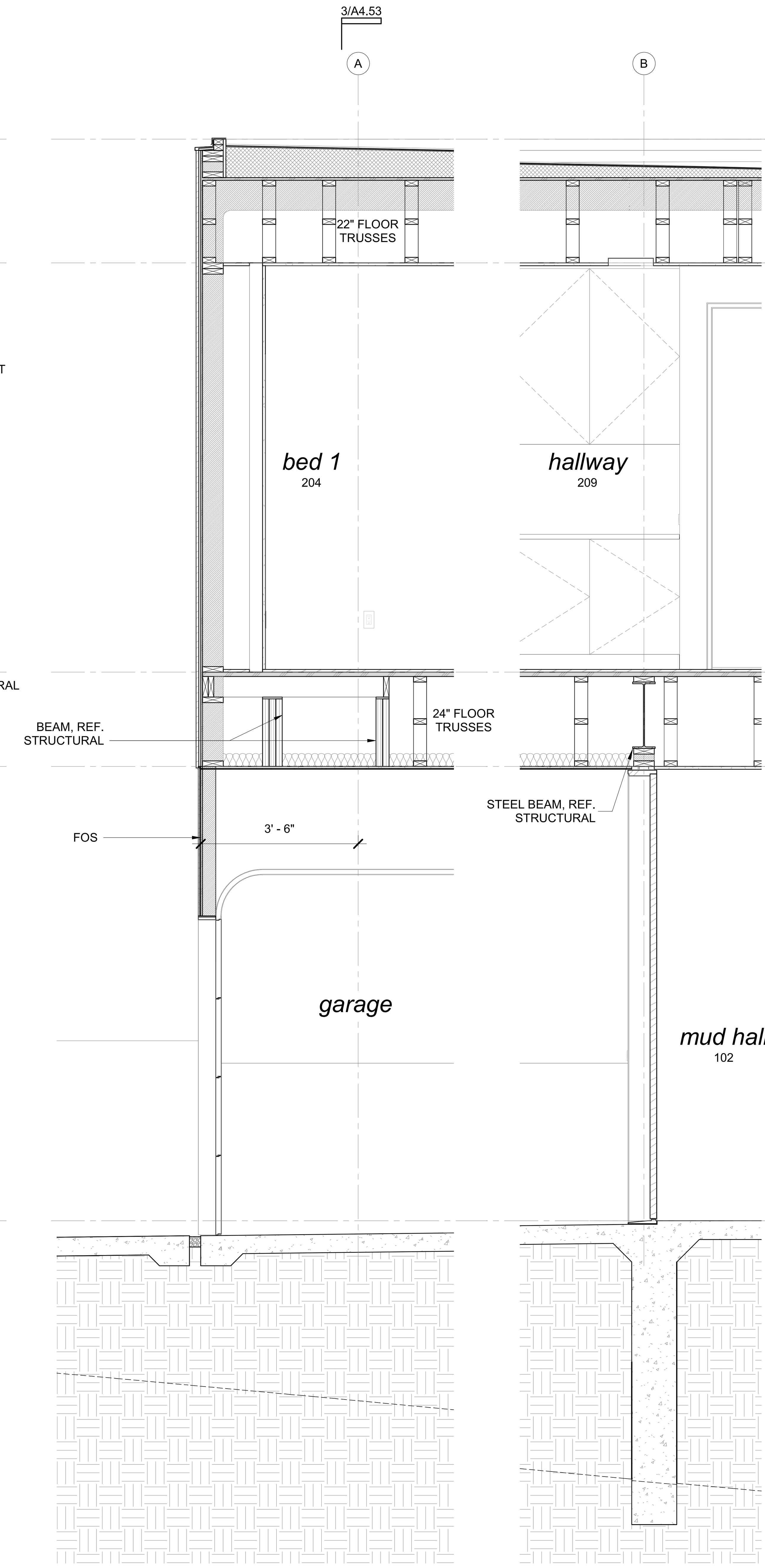
A4.13_



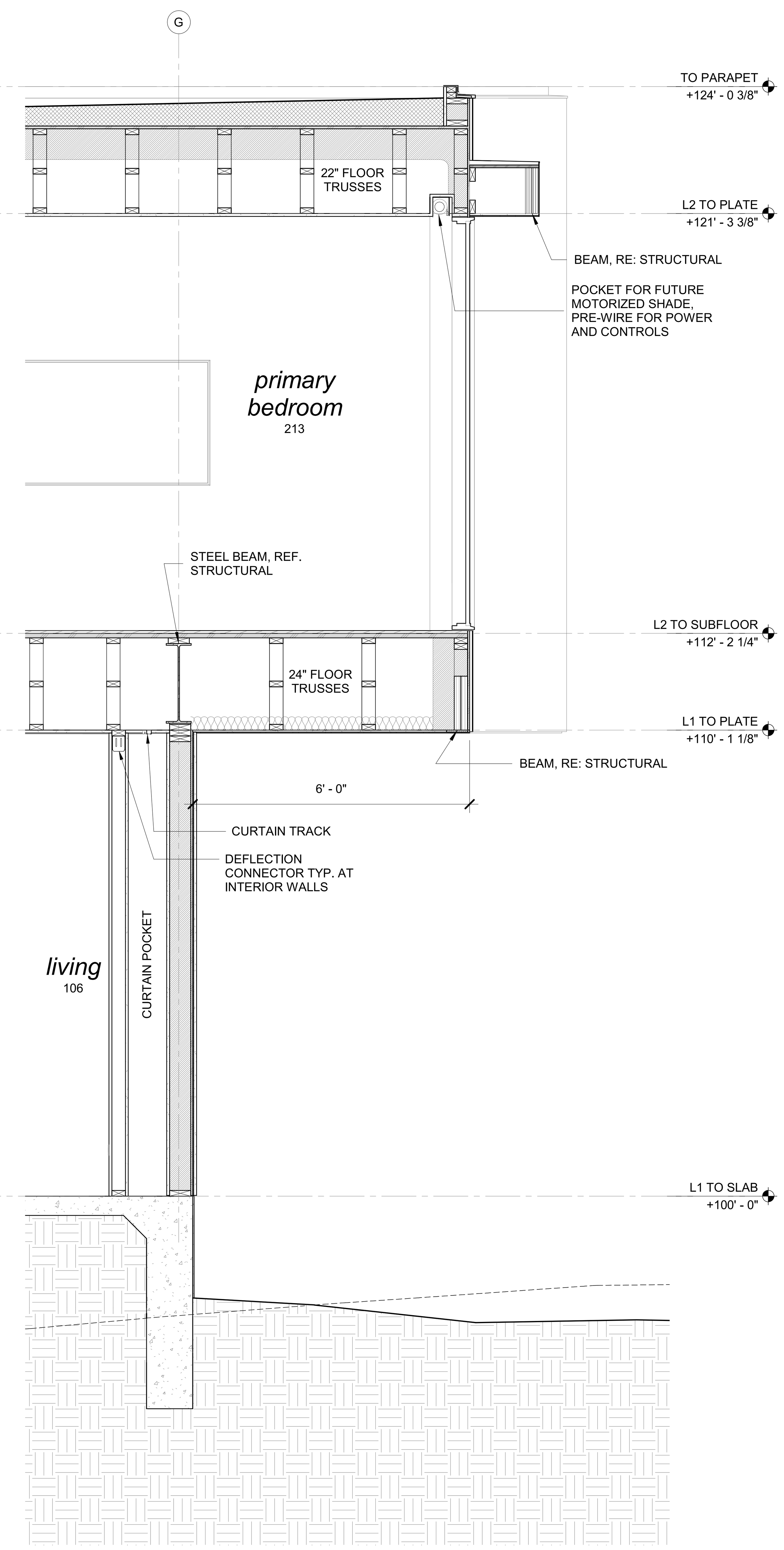
4 wall section - office 1/kitchen
1/2" = 1'-0" A2.11_



3 wall section bed 2/powder
1/2" = 1'-0" A2.11_



2 wall section - bed 1/hallway/mud
1/2" = 1'-0" A2.11_



1 wall section - primary bedroom/living
1/2" = 1'-0" A2.11_

kos residence

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Jonestown, Texas 78645

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austin, texas 78701
512 499 8007

BUILDING PERMIT 12.15.2023

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

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wall sections

A4.50_

GENERAL

1. Dimensions refer to rough surfaces. The contractor must verify all dimensions and elevations prior to start of construction. The engineer shall be notified of any discrepancies or inconsistencies.
2. All drawings are considered part of the contract documents. The contractor shall be responsible for review and coordination of all drawings and specifications prior to start of construction. Any discrepancies that occur shall be brought to the attention of the engineer prior to the start of construction so that clarifications can be issued. Any work in conflict with contract documents or any code requirements shall be corrected by the contractor at his own expense and at no expense to the owner or structural engineer.
3. All work shall conform to the minimum standards of the building code as well as any other regulating authority over any portion of the work including those additional codes and standards listed in the structural notes and specifications.
4. The engineer shall not control and shall not be responsible for construction means, methods, techniques, sequences, or procedures; for safety precautions and programs in connection with the work, for the acts or omissions of the contractor, subcontractor, or for any persons performing the work, or for the failure of any of them to carry out the work in accordance with the contract documents.
5. Site observations by field representatives of the engineer are solely for the purpose of determining if the work of the contractor is proceeding in accordance with the structural contract drawings. This limited site observation should not be constructed as exhaustive or continuous to check the quality of the work, but rather an effort to guard the owner against defects or deficiencies in the work of the contractor.
6. All structures require periodic maintenance to extend life span and to ensure structural integrity from exposure to the environment. A planned program of maintenance shall be established by the building owner. This program shall include items such as painting of structural steel, protective coating for concrete, sealants, caulked joints, expansion joints, control joints, spalls, and cracks in concrete.
7. Refer to Architectural, Mechanical, Electrical and Plumbing drawings for additional information not shown in the structural drawings. Notify engineer of any discrepancies.
8. Contractor shall coordinate the requirements for building equipment supported on or from the structure. Submittals identify all equipment supported on or from the structure. Submittals identify all equipment including size, dimensions, clearances, accessibility, weights, and reactions. Any deviations from specified equipment shall be noted on the submittals.
9. Shop drawings shall be prepared for all structural items and submitted for review by the Engineer. Contract Drawings shall not be reproduced and used as shop drawings. All items deviating from the Contract Drawings or from previously submitted shop drawings shall be noted.
10. The details designated as "Typical Details" apply generally to the Drawings in all areas where conditions are similar to those described in the details.
11. The design and provision of all temporary supports required for the execution of the contract such as guys, braces, shores, reshores, falsework, supports and anchors are not included in these drawings and shall be the responsibility of the Contractor. Temporary supports shall not result in the overstress or damage to the structure.

REQUIRED SUBMITTALS

1. CONCRETE REBAR SHOP DRAWINGS
2. CAST-IN-PLACE HOLD DOWN ANCHORS
3. STEEL STRUCTURAL EMBEDS
4. STEEL STRUCTURAL SHOP DRAWINGS
5. PRE-ENGINEERED WOOD TRUSS SHOP DRAWINGS

REQUIRED OBSERVATIONS BY ENGINEER OF RECORD

The structural engineer of record, or his designate, shall provide structural observation of the structural system for general conformance to the approved plans and specifications at significant construction stages:

1. PREPOUR OF FOUNDATION
2. STEEL FRAMING
3. WOOD FRAMING, PRIOR TO BUILDING WRAP

The structural observation is an integral component of the oversight of the construction of the project. If the observations are not performed due to negligence of the owner or contractor, or the contractor does not address the issues raised by the engineer of record at the structural observation, the engineer of record is released of any claims regarding the structural design.

SUBSTITUTIONS

All requests for substitutions of materials or details shown in the contract documents shall be submitted for approval during the bidding period. Once bids are accepted, proposed substitutions will be considered only when they are officially submitted with an identified savings to be deducted from the contract.

BEYOND SCOPE OF STRUCTURAL ENGINEER

The following items are beyond the scope of the structural engineer and are therefore the responsibility of others. The client is responsible for arranging for the design of these systems. Any mention of these items on these drawings is for information purposes only and does not relieve the client of these responsibilities.

1. Drainage systems including surface drainage, any area inlets, grate drains, french drains, and subgrade drainpipes.
2. Waterproofing systems including vapor barriers, roofing, flashing, waterproofing, and drip edges.
3. Ventilation of crawlspace and attic
4. Glazing design and attachment

CODES

All work shall be performed in accordance with applicable sections of the 2015 edition of the International Residential Code (IRC 2015), and all referenced codes, specifications, and standards listed below.

1. Structural Concrete: ACI 318-19 "Building Code Requirements for Reinforced Concrete"; American Concrete Institute.
2. Structural Steel: ANSI/AISC 360-16" Specification for Structural Steel Buildings", as published in the Manual of Steel Construction 15th Edition; American Institute of Steel Construction.
3. Wood Framing: ANSI/AWC NDS-2018 "National Design Specification for Wood Construction with 2018 Supplement"; American Forest and Paper Association.
4. Brick and Concrete Masonry: TMS 402-2016 "Building Code Requirements for Masonry Structures"; Masonry Standards Joint Committee.

LOADS

1. Wind Loads – Main Wind Force Resisting System:

Wind Load Design Variables	Value
Basic Wind Speed (3 second gust, mph)	108
Exposure Category	B
Internal Pressure Coefficient, Cpi	+/- 0.18
Topographic Factor, Kzt	1.0

2. Earthquake Loads – Seismic design lateral Loads on structural frames are based on the following:
   a. Seismic Importance Factor 1.0
   b Mapped Spectral Response Accelerations
      S/S 0.064g
      S/1 ..... 0.032g
   c. Site Class ..... D
   d. Spectral Response Coefficients
      S/DS 0.068
      S/D1 ..... 0.052
   e. Seismic Design Category ..... A

3. Live Loads – Single Family

Location/Element	Live Load (psf)	Remarks & Footnotes (c)
Handrails & Pedestrian Guardrails	50 plf or 200 lb	(a)
Residential	40	
Balconies & Decks	----	1.5 times the live load for area served. Not req'd to exceed 100 psf.
Stairs & Exits – one + two family dwellings only	40 psf or 300 lb	Stair treads per note (b)
Roofs	20 psf or 300 lb	Area load is reducible. Point load per note (b), See below for Snow Load
Roof Decks/Gardens/Assembly	100	Live load (Reducible) is separate from landscape materials.

(a) Top rail shall be designed to resist 50 PLF line load or 200 lb point load applied in any direction at any point. Intermediate rails (all those except the handrail), balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 LB on an area not to exceed 1 ft square. These three loads are to be considered separately with worst case used for design.
(b) Place 300 lb concentrated load over 2"x2" area at any point to produce maximum stress. Area load and concentrated load are to be considered separately with worst case used for design.
(c) Unless otherwise noted, point loads to be distributed over a 2.5ft x 2.5ft area and located to produce maximum load effects on structural members.

4. Dead Loads:

Location/Element	Dead Load (psf)	Remarks
Roofing (TPO)	8	
Roofing (Metal)	5	
Wood Soffit	10	
Roof Total Top Chord Bottom Chord	15 psf 10 psf 5 psf	For pre-fabricated wood roof truss design.
Roof Total Top Chord Bottom Chord	25 psf 15 psf 10 psf	For open web steel joist design, 500 lb (a).
Brick Veneer	50	
Floor Dead (Finish)	25	
Gypcrete Topping	15	1 ½" per Architect
Concrete Topping	38	3" per Architect

(a) Point load to be applied at any panel point on the top or bottom chord of each open web steel joist (wherever it produces the highest stress).

5. Snow Loads:

Snow Load Design Variables	Value
Flat Roof Snow Load, psf	20
Ground Snow Load, psf	5
Snow Importance Factor	1.0

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BUILDING PAD (REMOVE & REPLACE)

1. Building pad preparation information is based on a geotechnical report provided by Capital Geotechnical Services PLLC dated April 26, 2023.
2. Prior to excavating for building pads or placing any fill soils, all organic materials, existing pavements, and otherwise unsuitable materials shall be removed from planned building areas to a depth of 6" below grade. Site stripping shall include the limits of any proposed building and abutting sidewalks or flatwork, plus a horizontal distance of 3 feet beyond.
3. Concrete slab to be built over a minimum of 12" of select compacted fill.
4. Bottom of exterior grade beams shall be founded on 24" BELOW GRADE on the downslope side of the building and 12" minimum at other locations, unless noted otherwise on the foundation details.
5. Bottom of grade beams shall have a slope less than or equal to 1 in 10. Under no circumstances shall concrete beams be placed on sloping grade greater than 1 in 10. Bottom of grade beams shall be free of loose deleterious fill material including topsoil, loose rocks, crushed rock, base material, water, or moist soil.
6. Place imported select fill in approximately 8-inch loose lifts, watered as required and compacted to 95 percent of maximum dry density (as defined in ASTM D 698) at a moisture content within -3 to +3 percent of optimum moisture content. Compacted thickness of each lift should not exceed 6 inches.
7. Grade adjustments within the building limits shall be accomplished with select fill soils meeting TxDOT standard specifications Item 247, Type A, Grade 4 (Crushed Limestone Base Material). All structural fill shall be placed on prepared surfaces in lifts not to exceed eight inches loose measure with compacted thickness not to exceed six inches. The fill shall be compacted to at least 95 percent of the ASTM 698 maximum dry density at a moisture content ranging between -2 and +3 percent of optimum moisture content.
8. Where not covered by concrete flatwork or pavements, provide 2-foot-thick clay caps at overbuild areas along the perimeters of slabs-on-grade over building pads, to protect from moisture intrusion. Caps shall slope away from buildings.
9. Provide a 10-mil vapor barrier placed according to manufacturer's recommendations between the bottom of slab and the top of the select fill. Moisture barrier shall not be draped continuous across the bottom of grade beams.
10. Foundation slab concrete should be placed within 2 weeks of the completion of trench excavations and the moisture barrier should be installed before any notable rainfall event. If the bearing soils are softened by surface water intrusion or disturbance, the softened soils must be removed from the foundation excavation bottom prior to concrete placement. Exposure to the environment may weaken the soils at the grade beam bearing level if the foundation excavations remain open for an extended duration.

CONCRETE FOOTINGS

1. Foundations have been designed based on a geotechnical report provided by Capital Geotechnical Services PLC dated April 26, 2023.
2. Concrete footing design is based on the following allowable net bearing capacities:
   a. Bearing 18" minimum into compacted select fill ..... 2,500 psf
   b. Bearing 6" minimum into limestone ..... 3,750 psf
3. Bearing stratum shown on the footing details is 30" minimum embedment into existing grade.
4. Footings not specifically located on the plan shall be located on centerline of pilaster or column above. Where no pilaster or column occurs, locate on centerline of wall or beam.
5. Elevation of top of footings, unless noted otherwise on drawings, is at the bottom of the deepest intersecting beam or wall supported by the footing.
6. Footing excavations shall be to neat lines and shall be free of loose or wet materials.
7. Concrete should be placed within 2 weeks of the completion of footing excavations and the moisture barrier should be installed before any notable rainfall event. If the bearing soils are softened by surface water intrusion or disturbance, the softened soils must be removed from the foundation excavation bottom prior to concrete placement. Exposure to the environment may weaken the soils at the grade beam bearing level if the foundation excavations remain open for an extended duration.
8. See plans and schedules for footing sizes, reinforcing and depths.
9. All footings shall be inspected by a representative of Fort Structures in order to ensure that the proposed bearing material has been reached in accordance with the plans and that the footing has been constructed to specified size, with detailed reinforcing, and to specified tolerances.

CAST IN PLACE CONCRETE

1. Comply with the provisions of the following latest codes, specifications, and standards, except as otherwise shown or specified:
   a. ACI 301 "Specifications for Structural Concrete for Buildings".
   b. ACI 311 "Recommended Practice for Concrete Inspection".
   c. ACI 318 "Building Code Requirements for Reinforced Concrete".
   d. ACI 347 "Recommended Practice for Concrete Formwork".
   e. ACI 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete".
   f. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
2. Cast in place concrete shall meet the following requirements:

Use/Location	Strength f'c (psi)	Testing Age (days)	Max Aggregate Size	Exposure Class	Type	Slump
Drilled Piers	3000	28	1"	-	C33	3"-5"
Footings	3000	28	1"	-	C33	3"-5"
Slabs on Grade	3000	28	1"	A	C33	3"-5"
Basement Walls	3000	28	1"	A	C33	3"-5"
Site Retaining Walls	3000	28	1"	A	C33	3"-5"

3. Provide 3 percent plus or minus 1 ½ percent of entrained air in concrete permanently exposed to the weather.
4. Contractor shall develop and submit a hot weather concreting plan for approval. Follow ACI 305 recommendations in developing hot weather concreting plan.
5. Proper consolidation shall be achieved through externally vibrating the forms, vibrating the wet concrete or by other appropriate means.
6. Embedded conduits, pipes, and sleeves shall meet the requirements of ACI 318-19, Section 6.3, including the following:
   a. Conduits and pipes embedded within a slab, wall, or beam (other than those passing through) shall not be larger in outside dimension than 1/3 the overall thickness of the slab, wall, or beam in which they are embedded.
   b. Conduits, pipes, and sleeves shall not be spaced closer than three diameters on center.
7. Concrete pours shall not exceed 8000 square feet or 100 linear feet on each side without prior approval by the Architect for each pour or noted on plan.
8. Submittal: Submit proposed mix designs in accordance with ACI 301, chapter 3.9. Each proposed mix design shall be accompanied by a record of past performance based on at least 30 consecutive strength tests, or by three laboratory trial mixtures with confirmation tests.
9. Contractor shall coordinate all exposed concrete with architectural finish and specifications. Contractor shall submit concrete curing procedure for all architecturally exposed concrete.
10. The contractor is responsible for correction of concrete work which does not conform to the specified requirements, including strength, tolerances, and finishes. Correct deficient concrete as directed by the architect.

CONCRETE REINFORCEMENT

1. Reinforcing steel shall be deformed new billet steel bars in accordance with ASTM A615 Grade 60.
2. Detailing of reinforcing steel shall conform to the American Concrete Institute Detailing Manual.
3. All hooks and bends in reinforcing bars shall conform to ACI detailing standards unless shown otherwise.
4. Provide reinforcing bars in accordance with the bar bending diagram if bar types are specified. In unscheduled beams, slabs, columns, and walls detail reinforcing as follows:
   a. Lap top reinforcing bars at mid span.
   b. Lap bottom reinforcing bars at the supports.
   c. Lap vertical bars in columns and walls only at floor lines, unless noted otherwise.
   d. Refer to lap splice schedule for splice length requirement.
   e. Reinforcement labeled as continuous shall be lap spliced 38 bar diameters as a minimum, unless otherwise noted.
   f. Provide standard hooks in top bars at cantilever and discontinuous ends of beams, walls, and slabs.
   g. Provide corner bars for all horizontal bars at the inside and outside faces of intersecting beams or walls. Corner bars are not required if top, bottom, or horizontal bars are hooked.
5. Welding of reinforcing steel will not be permitted.
6. Heat shall not be used in the fabrication or installation of reinforcement.
7. Reinforcing steel clear cover shall be as follows:
   a. Concrete cast against earth ..... 3"
   b. Concrete exposed to earth or weather ..... 2"
   c. Ties in columns and beams ..... 1 ½"
   d. Bars in slabs ..... ¾"
   e. Bars in walls ..... ⅜"
8. Submittal: Submit shop drawings for fabrication, bending, and placement of concrete reinforcement. Comply with ACI 315 "Details and Detailing of Concrete Reinforcement". Do not reproduce the Contract Drawings for use as shop drawings.

STRUCTURAL STEEL

1. Structural Steel shall conform to ASTM A992 or A572, grade 50 except where A36 is noted on plan, except that miscellaneous plates, angles, and channels may be A572, grade 50 or A36. Steel pipe shall conform to ASTM Specification A 501 or ASTM A 53, Type E or S, Grade B. Steel tube shall conform to ASTM Specification A 500, Grade B, Fy 46 ksi.
2. Anchor bolts shall conform to ASTM F1554 grade 36 ksi.
3. Column base plates shall be grouted with a non-shrink, high strength nonmetallic grout conforming to ASTM C827, and shall have a compressive strength at 28 days of 5000 psi. Pre-grouting of base plates will not be permitted.
4. Studs shall be Nelson stud type S3L (Fu=65 ksi) or acceptable equal. Studs shall be made from cold drawn steel conforming to ASTM A108.
5. Deformed bar anchors shall be Nelson D2L or KSM deformed bar anchors (or acceptable equal) and shall be made from cold drawn wire per STM A490 conforming to ASTM A108 with minimum yield strength of 70 ksi. Anchors shall be automatically and welded with suitable welding equipment in the shop or in the field. Welding shall be in accordance with the recommendations of Nelson Stud Company or KSM Welding Company.
6. Structural steel detailing, fabrication, and erection shall conform to the AISC "Specification for Steel Buildings" and the AISC "Code of Standard Practice for Steel Buildings and Bridges" except that paragraph 4.2.1 "the owner's acceptance of all responsibility for the design adequacy of any connections designed by the fabricator" is deleted. Typical connection details are indicated in the drawings. The fabricator shall prepare drawings based on these details. If alternate connection designs are used, the fabricator shall have a registered professional engineer prepare the connection designs. Such connection shall bear the engineer's seal and shall be submitted with shop drawings.
7. Splicing of structural steel members is prohibited without prior approval of the Engineer as to location and type of splice to be made. Any member having splice not shown and detailed on shop drawings will be rejected.
8. All welds denoted as moment connection or full penetration weld shall be ultrasonically or x-ray certified by an independent testing agency.
9. Contractor shall coordinate structural steel fireproofing requirements. All interior structural steel, including steel joists, scheduled, or indicated to receive spray applied fireproofing shall be delivered to the project site unprimed. Steel exposed to corrosive conditions after installation shall be primed with a protective coating which does not diminish the bond between the spray applied fireproofing, and the steel substrate. Any primer, and/or coating applied to structural steel shall be approved for use in the applicable U.L. Fire Resistance Assembly used on the project. Contractor shall protect any unprimed structural steel from detrimental effects of corrosion, as required, until the steel is enclosed and protected by the new construction.
10. Shop painting: Paint structural steel with one coat of manufacturer's standard red oxide primer applied at a rate to provide a uniform dry film thickness of 2.5 mils. Ref. Arch for Finish Coat
11. Submittal: Provide drawings showing details for fabrication and shop assembly of members, erection plans and details. Include details of connections, camber, weld profiles and sizes and spacing. Shop and erection drawings shall not be made using reproductions of the contract drawings.
12. Contractor must fabricate and erect steel in accordance with OSHA Safety requirements, 29 CF part 1926 Safety for Steel Erection, Final Rule.

STRUCTURAL STEEL CONNECTIONS

1. Welding shall conform to ANSI/AWS D1.1, latest edition.
2. Bolts conform to ASTM A325. Bolts shall be designed using values for bearing type bolts with thread allowed in the shear plane.
3. For connections not specifically addressed by these notes or the Drawings, provide fillet welds at all contact surfaces sufficient to develop the tensile strength of the smaller member at the joint.
4. Moment connections indicated on Drawings as "MC" shall be welded to develop the full capacity of the member on both sides of supporting member.
5. Roof edges angles shall be continuous and shall be spliced only at supports. Splices shall be butt-welded to develop full capacity of the member.
6. Fillet welds with no size specified shall be 3/16", or minimum size required by AISC, whichever is larger.

WOOD FRAMING

1. All sawn lumber and pre-manufactured wood products shall be identified by the grade mark or a certificate of inspection issued by the certifying agency.
2. Unless otherwise noted, all structural framing lumber shall be clearly marked No. 2 grade Southern Yellow Pine (SYP), except that non-loadbearing interior walls may be stud grade SYP, Douglas Fir-Larch (Doug Fir), or Spruce-Pine-Fir (SPF).
3. All wood stud walls shall be full height without intermediate plate line. Exterior, load-bearing wood stud walls shall be 2x6 studs at 16 inches on center.
4. Finger Jointed Studs are acceptable at interior, non-load bearing stud walls only.
5. All load bearing walls greater than 10'-0" in height shall have solid 2x blocking at 4'-0" o.c. maximum vertically. End nail with 2-16d nails or side toenail with 2-16d nails.
6. Provide double studs at all wall corners and on each side of all openings, unless noted or detailed otherwise.
7. Place a single plate at the bottom and a double plate at the top of all stud walls. Exterior sill plates shall be bolted to the foundation with 1/2" anchor bolts with a minimum embedment of 8" spaced at 4'-0" on center. Provide a minimum of two bolts per plate segment. Sill plates in contact with concrete or masonry shall be pressure treated with a preservative.
8. Where shown, wood connectors shall be Simpson Strong-tie as specified in the latest catalog. Connectors by other manufacturers may be substituted provided such connectors have the current ICC approval for equal or greater load capacities and is submitted for approval by the Engineer of Record. Connectors shall be installed per the manufacturer's directions.
   a. Where connectors are used in exposed or exterior applications, and when connectors are in contact with preservative treated (PT) lumber, connectors are to be hot dipped galvanized (HDG), mechanically galvanized (ASTM B695, Class 40 or greater) stainless steel, or zinc galvanizing equal or greater to ZMAX Simpson finish.
9. Fasteners shall conform to IRC 602 "Fastener Schedule" unless otherwise noted. Nail according to IRC. Nails shall be common. Alternate nails may be used upon review and approval by structural engineer of record. Staples for the nailing or rated sheathing is subject to review and approval by the structural engineer of record.
10. Moisture content of all sawn lumber shall have a maximum of 19%, with the exception of pressure treated wood sill plates. Moisture content can be lower than 19%. Refer to architect's drawings and project specifications and with cladding installer for maximum recommended moisture content.
11. Preservative Treated (PT) wood materials are to be used per IRC. "Decay and Termite Protection" shall conform to the appropriate standards of the American Wood Preservers Association (AWPA) for sawn lumber. Fasteners, anchors, and connectors touching treated wood shall be either stainless steel or hot-dipped galvanized.
12. Refer to the architectural drawings for additional wood framing members. Provide additional wood framing members shown on the architectural drawings even though they may not be shown on the structural drawings.

WOOD STRUCTURAL PANEL SHEATHING

1. Floor sheathing: 1 1/8" APA-rated, tongue and groove plywood Sturd-I-Floor sheathing with an Exposure 1 rating. Floor sheathing shall be glued to the wood support members with a wet use adhesive, in addition to being nailed to the supports per wood framing typical details. Stagger joints in sheathing.
2. Roof sheathing: 5/8" APA rated sheathing with an exposure 1 rating. Panels shall be continuous over two or more spans with the long dimension oriented perpendicular to the framing members. Nail with 8d common nails at 6" on center at supported edges and 12" on center at intermediate supports. Stagger joints in sheathing.
3. Wall sheathing: All exterior wall framing shall be braced by 4'-0" wide x 1/2" thick panels of APA rated sheathing with an exposure 1 rating extending from the top plate to the sill plate. Where wall is taller than 8'-0", provide multiple panels as required to extend from sill plate to top plate. Provide 2x blocking as required to support all panel edges. Nail with 10d common nails at 6" on center at supported edges and 12" on center at intermediate supports. REFER TO WALL BRACING PLAN FOR ADDITIONAL INFORMAION

COMPOSITE WOOD MEMBERS

1. Engineered lumber shall have the following minimum design properties:

	Fb (psi)	Fv (psi)	E (psi)
Microllam (LVL)	2600	285	2,000,000
SYP GlueLam (24F-1.8)	2400	200	1,800,000
Parallam (PSL)	2900	290	2,000,000

2. Do not notch joists or beams. Drill holes through webs of engineered wood members for mechanical, electrical, or plumbing services in accordance with the recommendations of the engineered wood product manufacturer.
3. Multiple wood beams up to three members thick shall be nailed together with three rows of 16d nails at 12" on center. Four or more multiple wood beams and any multiple wood beams utilizing beams thicker than 13/4" shall be bolted together with 1/2" diameter bolts top and bottom at supports and ends of the beam, then at 24" on center, staggered top and bottom for the full length of the beam OR (4)-SDS25600 (1/4" x 6") Simpson screws @ 16" o.c.
4. Where multiples of two 13/4" Microllam LVL beams are noted on the drawings, contractor may provide single 31/2" beams in lieu of double 13/4" beams.

PREFABRICATED METAL PLATE CONNECTED WOOD TRUSSES

1. Trusses shall be designed by the Contractor in accordance with the Truss Plate Institute "Design Standard for Metal Plate Connected Wood Truss Construction" (ANSI/TPI 1-95) and shall conform to IRC Section 502.11.
2. Submittals: Submit product data and proof of ICBO approval for framing members and fasteners that have been designed by others. Submit calculations prepared by an engineer licensed in the state of Texas for all members and connections designed by others along with their respective shop drawings. All necessary bridging, blocking, and blocking panels and web stiffeners shall be detailed and furnished by the supplier. Temporary and permanent bridging shall be installed in conformance to the manufacturer's installation requirements.
   a. Metal plate connected roof truss shop drawings shall provide detailed description of shapes, bearing points, hips, and valleys as shown in the drawings. Provide special trusses such as jack-trusses, girder trusses and step-down trusses to match drawings. Provide all truss connection details and required connection materials. Provide all truss reactions on shop drawings.
   b. Metal plate connected floor truss shop drawings shall provide detailed description of shapes, bearing points, and step downs. Provide all truss connection details and required connection materials. Provide all truss reactions on shop drawings.
3. Truss members shall be clamped in a mechanical or hydraulic jig with sufficient pressure to bring members into reasonable contact at all joints during application of connector plates.
4. Provide adequate erection bracing in accordance with Truss Plate Institute publication HIB-91.
5. Truss Manufacturer shall provide permanent bracing as required by the design of the trusses. Erection bracing may remain in place as permanent bracing where it does not interfere with the architectural finishes.
6. All timber truss members shall be Southern Yellow Pine with a maximum moisture content of 19%. Chord members shall be No. 2 or better and web members shall be No. 3 or better.
7. Connection plates shall be manufactured by a WTCA member plate manufacturer. Plates shall be 20 gauge minimum, ASTM A446 grade A steel, with a G60 galvanized coating.
8. Trusses shall be designed in accordance with the following requirements:
   a. Top chords shall be designed to resist the local bending induced by the floor or roof uniform load on the top chord.
   b. Limit live load deflection of floor trusses to L/480. Total load deflections shall be limited to L/360.
   c. Truss members and connections shall be proportioned with a maximum allowable stress increase for duration of load as follows:
      i. Roof Loads ..... 25 percent
      ii. Trusses shall be designed for the superimposed dead and live loads as noted in the Structural Notes and as indicated on the drawings. Dead loads shall not be less than the following:
         Floor Top Chord ..... 25 psf
         Floor Bottom Chord ..... 5 psf
         Roof Top Chord ..... 10 psf
         Roof Bottom Chord ..... 5 psf
9. Connect roof trusses to bearing wall or beam support at each end with a type H2.5 framing anchor as manufactured by the Simpson Company or approved equal.

ADHESIVE ANCHORS

1. Adhesive anchors shall only be used where specified on the drawings. The Contractor shall obtain approval from the engineer of record prior to using the anchors for missing or misplaced cast-in-place anchors.
2. Unless otherwise noted, size and depth of the adhesive anchors specified on the drawings are based on HAS rods and the following epoxy systems:
   a. CONCRETE EPOXY
      i. Hilti HIT RE-500 V3
      ii. DeWalt PurePro 110+
      iii. Simpson Set-3G
   b. MASONRY EPOXY
      i. Hilti HIT-HY 270
3. Substitution of expansion anchor products with similar capacities shall be submitted to the engineer of record for approval.
4. Adhesive anchors of the size and embedment shown on the Drawings shall be installed in accordance with the Contract Documents, the manufacturer's recommendations, and the manufacturer's current ICBO report for the anchor. If conflicts exist between these referenced documents, the most stringent requirements shall govern.
5. Contractor shall locate all existing reinforcing steel and other embedded items contained in the concrete using non-destructive methods and shall position anchor locations to avoid conflicts with existing embedded items. Anchor locations can be adjusted by a maximum of 1 inch from detailed locations to avoid conflicts, unless noted otherwise.
6. Based on field verified locations of reinforcing steel and embedded items, the Contractor shall create templates for each anchor group. Submit template dimensions for review prior to fabrication of connection plates.
7. Holes for anchors shall be drilled in a continuous operation using the bit type and size recommended by the anchor manufacturer. Holes shall be drilled perpendicular to the concrete surface and shall not be enlarged or redirected at any point along its length. All debris shall be blown out of the holes with compressed air after drilling.
8. All abandoned holes shall be filled with non-shrink grout.
9. Holes in connection plates shall be no more than 1/16" larger than the anchor diameter. If larger holes are required for erection purposes, Contractor shall provide 1/4" x 3" x 3" plate washers sufficiently welded to the connection plate to transfer the specified load.
10. Installation of adhesive anchors shall be continuously inspected by the testing agency to ensure that holes are of specified size, and that bolts are properly installed.

PERMIT DOCUMENTS

FORT STRUCTURES
FIRM REGISTRATION NO. 18034
WWW.FORTSTRUCTURES.COM

PROJECT NO: 23005

12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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STRUCTURAL GENERAL NOTES

SHEET TITLE

S0.01

SHEET NUMBER

FORT STRUCTURES SHEET SERIES LEGEND

SHEET SERIES	DESCRIPTION
S0	STRUCTURAL NOTES
S1	AXONOMETRIC VIEWS
S2	PLANS
S3	ELEVATIONS & BUILDING SECTIONS
S4	FOUNDATION DETAILS
S5	ELEVATED CONCRETE DETAILS
S6	CMU DETAILS/3D PRINTED DETAILS
S7	STEEL DETAILS
S8	WOOD DETAILS
S9	COLD-FORMED STEEL DETAILS

STRUCTURAL SHEET LIST (23005)

Sheet Total: 18

FORT STRUCTURES DRAWING LEGEND

TAG	DESCRIPTION	SYMBOL	DESCRIPTION
GB1.0	GRADE BEAM (REFER TO GRADE BEAM SCHEDULE)		POST-TENSIONED LIVE END
F2.0	FOOTING (REFER TO FOOTING SCHEDULE)		POST-TENSIONED DRAPE
SF2.0	STRIP FOOTING (REFER TO FOOTING SCHEDULE)		POST-TENSIONED DEAD END
P24	DRILLED STRAIGHT SHAFT PIER (REFER TO SCHEDULE)		MATCHLINE
P24/UR48	DRILLED STRAIGHT SHAFT PIER WITH UNDERREAM (REFER TO SCHEDULE)		SHORING INDICATION
SDP6	STEEL DRIVEN PILE (REFER TO PLANS & DETAILS)	[A]	ABOVE INDICATION
PC-X	PIER/PILE CAP (REFER TO SCHEDULE)	@	"AT" SYMBOL WHEN INDICATING A SPACING
S	FOOTING/GRADE BEAM STEP	℄	CENTERLINE INDICATION
BT-XX	POST-TENSIONED GRADE BEAM W/ TENDON LENGTH (REFER TO SCHEDULE)	⌀	DIAMETER INDICATION
ST-XX	POST-TENSIONED SLAB ON GRADE W/ TENDON LENGTH (REFER TO SCHEDULE)	[E]	EXISTING INDICATION
CS-WSP	CONTINUOUSLY SHEATHED-WOOD STRUCTURAL PANEL (REFER TO SCHEDULE)		MOMENT CONNECTION
4'-0" HD-X HD-X	SHEAR WALL POINTS TO NAILING PATTERN SIDE (REFER TO SCHEDULE)	±	PLUS OR MINUS INDICATION
XXXX (E)Type Name	STEEL/CONCRETE COLUMN (REFER TO SCHEDULE)	FLUSH	FLUSH FLOOR INDICATION
BP-X	BASEPLATE (REFER TO DETAIL SCHEDULE)		SLOPE/RAMP DOWN INDICATION
SP-X	SADDLE PLATE (REFER TO DETAIL SCHEDULE)		SLOPE/RAMP UP INDICATION
SR-X	STUD RAIL (REFER TO DETAILS)	X"	STEP DOWN INDICATION
1TB	REINFORCEMENT TYPE (REFER TO SCHEDULE)		ROOF RIDGE INDICATION
MD-X	METAL DECK SPAN DIRECTION (REFER TO SCHEDULE)		ROOF VALLEY INDICATION
RT-X	RIM TRACK (REFER TO SCHEDULE)		
T/XXX = X'-X"	TOP ELEVATION OF ELEMENT		
B/XXX = X'-X"	BOTTOM ELEVATION OF ELEMENT		
XX/SX.XX	SECTION VIEW (DETAIL NUMBER/SHEET NUMBER)		
XX/SX.XX	CALLOUT VIEW (DETAIL NUMBER/SHEET NUMBER)		
XX/SX.XX	ELEVATION VIEW (DETAIL NUMBER/SHEET NUMBER)		
1	REVISION DELTA (REFER TO REVISION SCHEDULE)		

FORT STRUCTURES MATERIAL PATTERN LEGEND

	ADDITIONAL LOADING (PLANS)		GRADING (PLANS/DETAILS)		PLYWOOD (DETAILS)
	CFS BEARING WALL (PLANS)		GRADING UNDISTURBED (PLANS/DETAILS)		POUR STRIP (PLANS)
	CFS NON-BEARING WALL (PLANS)		GRATING (PLANS)		PRECAST CONCRETE (PLANS/DETAILS)
	CMU BEARING (PLANS/DETAILS)		GRAVEL (DETAILS)		ROCK (DETAILS)
	CMU NON-BEARING (PLANS/DETAILS)		GROUT (DETAILS)		STEEL (DETAILS)
	CAST-IN-PLACE CONCRETE BEARING (PLANS/DETAILS)		3D PRINTED BEARING WALL (PLANS/DETAILS)		WOOD BEARING WALL (PLANS)
	CAST-IN-PLACE CONCRETE NON-BEARING (PLANS/DETAILS)		3D PRINTED CORE (PLANS)		WOOD NON-BEARING WALL (PLANS)
	CRITICAL ROOT ZONE FOR NO IMPACTS (PLANS)		MASONRY BEARING (PLANS/DETAILS)		
	EXISTING (PLANS/DETAILS)		MASONRY NON-BEARING (PLANS/DETAILS)		
	FILL (DETAILS)		OVER-FRAMING (PLANS)		

FORT STRUCTURES ABBREVIATIONS

AB	ANCHOR BOLT	GA	GAGE	R	RADIUS
ADDL	ADDITIONAL	GALV	GALVANIZE(D)	RCP	REINFORCED CONCRETE PIPE
ADH	ADHESIVE	GC	GENERAL CONTRACTOR	RD	ROOF DRAIN
ADJ	ADJACENT	GEN	GENERAL	RECT	RECTANGULAR
ALT	ALTERNATE	GEOTECH	GEOTECHNICAL	REF	REFER/REFERENCE
APPROX	APPROXIMATE(LY)	GL	GLUE LAMINATED TIMBER	REINF	REINFORCE(ING)ED)(MENT)
AR	ANCHOR ROD	GR	GRADE	REM	REMAINDER
ARCH	ARCHITECT(URAL)	GR BEAM	GRADE BEAM	REQ	REQUIRE(D)
		GYP	GYPSUM BOARD	RET	RETAINING
B or BOT	BOTTOM			RF	ROOF
B/	BOTTOM OF	HD	HOLD-DOWN	RND	ROUND
BCB	BOTTOM CHORD BEARING	HDR	HEADER	RO	ROUGH OPENING
BF	BACK FACE	HGR	HANGER	RT	RIM TRACK
BFM	BRACE FRAME	HI	HIGH		
BL	BUILDING LINE	HK	HOOK(S)	SCHED	SCHEDULE(D)
BLDG	BUILDING	HORIZ	HORIZONTAL	SDP	STEEL DRIVEN PILE
BLKG	BLOCKING	HP	HIGH POINT	SF	SQUARE FOOT
BO	BLOCK-OUT	HSS	HOLLOW STRUCTURAL SECTION	SHTHG	SHEATHING
BP	BASE PLATE	HT	HEIGHT	SIM	SIMILAR
BRDG	BRIDGING	HTD	HOT DIP(PED)	SLBB	SHORT LEG BACK TO BACK
BRG	BEARING			SMF	SPECIAL MOMENT FRAME
BRL	BRICK LEDGE	IBC	INTERNATIONAL BUILDING CODE	SOG	SLAB ON GRADE
BTW	BETWEEN	ID	INSIDE DIAMETER	SP	SADDLE PLATE
BWL	BRACE WALL LINE	IE	INVERT ELEVATION	SPA	SPACE(S)(D)(ING)
		I/F	INSIDE FACE	SPEC	SPECIFICATION(S)
c	CAMBER	INT	INTERIOR	SPECD	SPECIFIED
CANT	CANTILEVER	INTERM	INTERMEDIATE	SPINE	SOUTHERN PINE
CBORE	COUNTERBORE			SQ	SQUARE
CG	CENTER OF GRAVITY	JT	JOINT	SR	STUDRAIL
CIP	CAST-IN-PLACE			SS	STAINLESS STEEL
CJ	CONSTRUCTION JOINT	k	KIPS	STAGG	STAGGER(ED)
CJP	COMPLETE JOINT PENETRATION			STD	STANDARD
CLG	CEILING	L	ANGLE	STIFF	STIFFENER
CLR	CLEAR(ANCE)	LF	LINEAL FOOT	STIR	STIRRUPS
CLT	CROSS-LAMINATED TIMBER	LL	LIVE LOAD	STL	STEEL
CMU	CONCRETE MASONRY UNIT	LLBB	LONG LEG BACK-TO-BACK	STR	STRAIGHT
COL	COLUMN	LLH	LONG LEG HORIZONTAL	STRUCT	STRUCTURE(AL)
COM	COMPRESSION	LLV	LONG LEG VERTICAL	SUPT	SUPPORT(S)
CONC	CONCRETE	LOC	LOCATION		
COND	CONDITION	LONGIT	LONGITUDINAL	T	TOP
CONST	CONSTRUCTION	LP	LOW POINT	T/	TOP OF
CONT	CONTINUOUS	LSH	LONG SIDE HORIZONTAL	T&B or TB	TOP AND BOTTOM
CONX	CONNECTION(S)	LSL	LAMINATED STRAND LUMBER	TC AX LD	TOP CHORD AXIAL LOAD
COORD	COORDINATE	LSV	LONG SIDE VERTICAL	TCB	TOP CHORD BEARING
CP	COVER PLATE	LVL	LAMINATED VENEER LUMBER	TCX	TOP CHORD EXTENSION
CRZ	CRITICAL ROOT ZONE	LWT	LIGHTWEIGHT	TDS	TIE DOWN SYSTEM
CSINK	COUNTERSINK			T&G	TONGUE AND GROOVE
CTJ	CONTROL JOINT	M	MOMENT	THK	THICK(NESS)
CTRD	CENTERED	MATL	MATERIAL	THRD	THREADED
		MAX	MAXIMUM	TPG	TOPPING
DR BEAM	DROP(PED) BEAM	mc	MOMENT CONNECTION(S)	TRANSV	TRANSVERSE
DBA	DEFORMED BAR ANCHOR(S)	MECH	MECHANICAL	TYP	TYPICAL
DBL	DOUBLE	MEZZ	MEZZANINE		
DEMO	DEMOLISH	MFR	MANUFACTURE(R)	UBC	UNIFORM BUILDING CODE
DEV	DEVELOPMENT	MID	MIDDLE	UMU	UNREINFORCED MASONRY UNIT
DFIR	DOUGLAS FIR	MIN	MINIMUM	UNO	UNLESS NOTED OTHERWISE
DIAG	DIAGONAL	MISC	MISCELLANEOUS	UR	UNDER-REAM
DIM	DIMENSION(S)	MTL	METAL		
DIST	DISTRIBUTED			V	SHEAR FORCE
DL	DEAD LOAD	NF	NEAR FACE	VERT	VERTICAL
DN	DOWN	NIC	NOT IN CONTRACT	VIF	VERIFY IN FIELD
DP	DEPTH/DEEP	NLT	NAIL LAMINATED TIMBER	VOL	VOLUME
DTL	DETAIL(S)(D)	No	NUMBER		
DWG	DRAWING(S)	NOM	NOMINAL	W	WIDE
DWL	DOWEL(S)	NS	NON-SHRINK	W/	WITH
		NTS	NOT TO SCALE	WB	WIND BRACE
EA	EACH	NW	NORMAL WEIGHT	WHS	WELDED HEADED STUD
EF	EACH FACE			WL	WIND LOAD
EJ	EXPANSION JOINT	OC	ON CENTER	W/O	WITHOUT
EL	ELEVATION	OD	OUTSIDE DIAMETER	WP	WORK POINT
ELEC	ELECTRICAL	O/F	OUTSIDE FACE	WPR	WATER PROOFING
ELEV	ELEVATOR	OH	OPPOSITE HAND	WS	WATER STOP
EMBED	EMBEDMENT	OPNG	OPENING(S)	WWF	WELDED WIRE FABRIC
ENG	ENGINEER(D)	OPP	OPPOSITE		
EOR	ENGINEER OF RECORD	OSB	ORIENTED STRAND BOARD	XS	EXTRA STRONG
EQ	EQUAL	OVHG	OVERHANG	XXS	EXTRA EXTRA STRONG
EQPT	EQUIPMENT	OWSJ	OPEN WEB STEEL JOIST		
EW	EACH WAY	OWWJ	OPEN WEB WOOD JOIST		
EXIST	EXISTING				
EXP	EXPANSION	P	AXIAL LOAD		
EXT	EXTERIOR	PAF	POWDER ACTUATED FASTENER		
		PC	PIER/PILE CAP		
F/	FACE OF	P/C	PRECAST CONCRETE		
FAB	FABRICATE(ION)(OR)	PCF	POUNDS PER CUBIC FOOT		
FD	FLOOR DRAIN	PCY	POUNDS PER CUBIC YARD		
FF	FINISHED FLOOR	PEN	PENETRATION		
FIN	FINISH(ED)	PERF	PERFORATED		
FL	FLOOR	PERP	PERPENDICULAR		
FLG	FLANGE	PJP	PARTIAL JOINT PENETRATION		
FND	FOUNDATION	PL	PLATE		
FP	FIREPROOF(ING)	PLF	POUNDS PER LINEAR FOOT		
FRM	FRAMING	PLYWD	PLYWOOD		
FRT	FIRE RETARDANT TREATED	PREFAB	PREFABRICATED		
FS	FAR SIDE	PRELIM	PRELIMINARY		
FSTN	FASTEN(ER)(ED)	PSF	POUNDS PER SQUARE FOOT		
FTF	FACE TO FACE	PSI	POUNDS PER SQUARE INCH		
FTG	FOOTING	PSL	PARALLEL STRAND LUMBER		
		PT	PRESSURE TREATED		
		P-T	POST-TENSION(ED)		

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FORT STRUCTURES

FIRM REGISTRATION NO. 18034
WWW.FORTSTRUCTURES.COM

PROJECT NO: 23005

12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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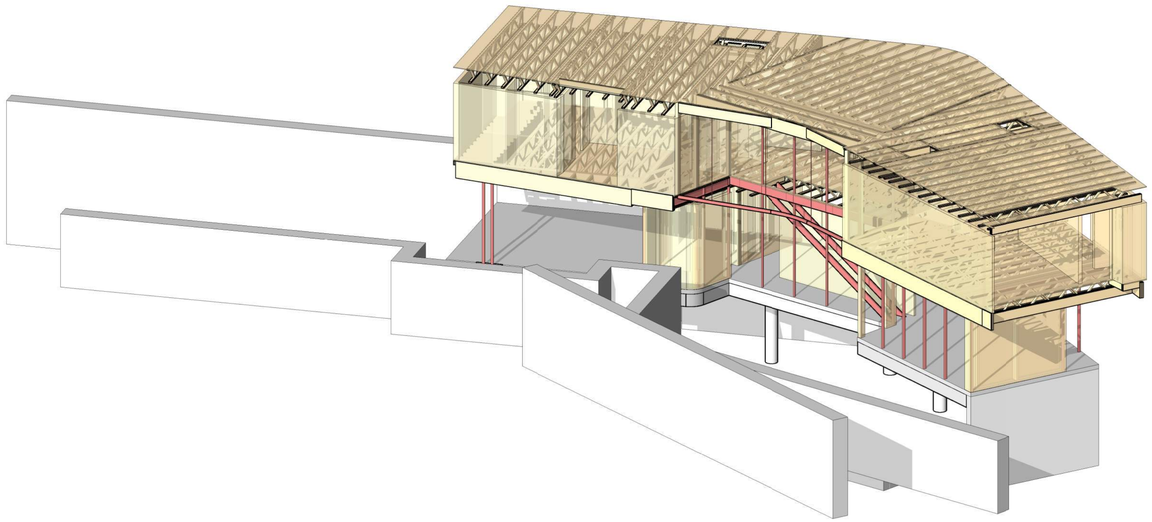
ABBREVIATIONS & LEGENDS

SHEET TITLE

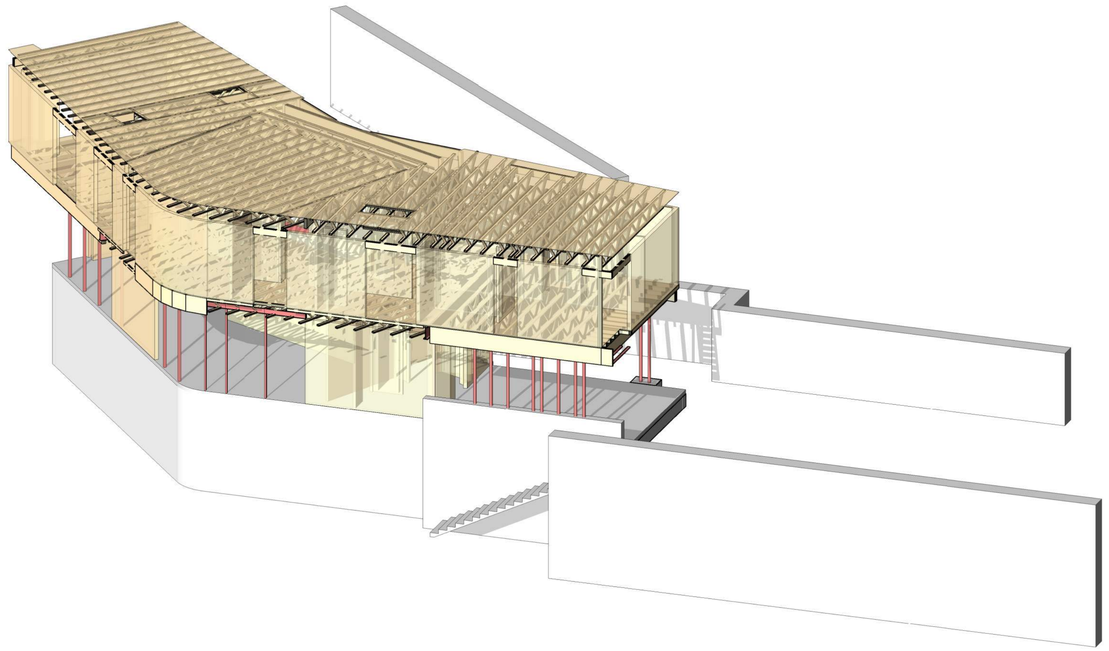
S0.03

SHEET NUMBER

AXONOMETRIC VIEWS
Axonometric views are for **REFERENCE ONLY** and are provided solely as a **VISUAL AID**. All structural information shall **ONLY** be obtained from the plans and details.



AXONOMETRIC 01
SCALE : NTS



AXONOMETRIC 02
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FIRM REGISTRATION NO. 18034
WWW.FORTSTRUCTURES.COM

PROJECT NO: 23005

STATE OF TEXAS
SAMUEL YOUNG
99208
REGISTERED PROFESSIONAL ENGINEER

12/15/2023
SEAL

ALTERSTUDIO
ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

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ENG: S. Young
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AXONOMETRIC VIEWS
SHEET TITLE

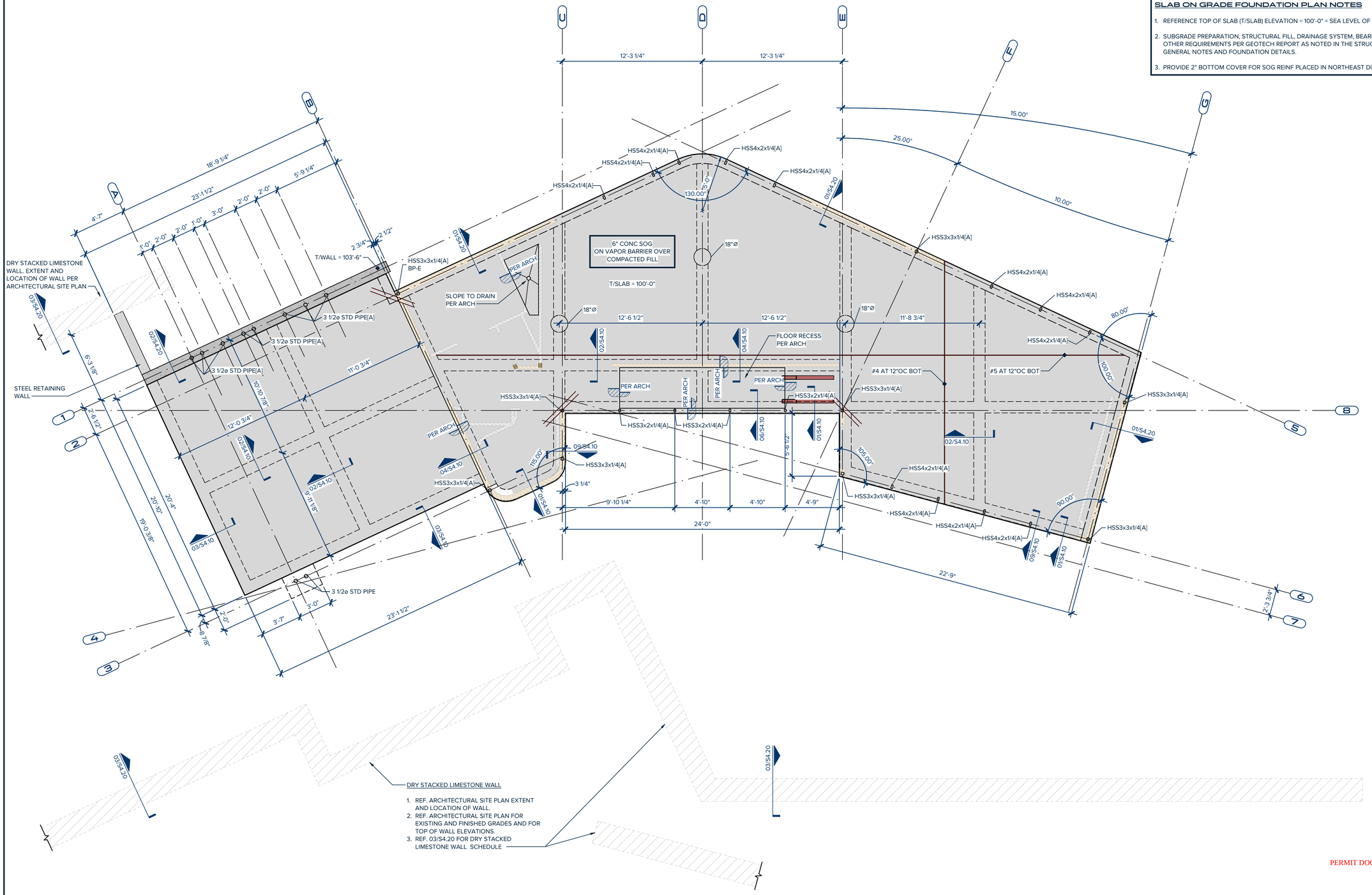
S1.01
SHEET NUMBER

COMMON PLAN NOTES

1. STRUCTURAL GENERAL NOTES, ABBREVIATIONS, AND LEGEND PER S1 SHEET SERIES.
2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, SLOPES, DRAINS, DEPRESSIONS, CURBS, PENETRATIONS, ETC. WITH ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS PRIOR TO CONSTRUCTION.
3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

SLAB ON GRADE FOUNDATION PLAN NOTES

1. REFERENCE TOP OF SLAB (T/SLAB) ELEVATION = 100'-0" = SEA LEVEL OF 764.00'.
2. SUBGRADE PREPARATION, STRUCTURAL FILL, DRAINAGE SYSTEM, BEARING AND OTHER REQUIREMENTS PER GEOTECH REPORT AS NOTED IN THE STRUCTURAL GENERAL NOTES AND FOUNDATION DETAILS.
3. PROVIDE 2" BOTTOM COVER FOR SOG REINF PLACED IN NORTHEAST DIRECTION.



DRY STACKED LIMESTONE WALL

1. REF. ARCHITECTURAL SITE PLAN EXTENT AND LOCATION OF WALL.
2. REF. ARCHITECTURAL SITE PLAN FOR EXISTING AND FINISHED GRADES AND FOR TOP OF WALL ELEVATIONS.
3. REF. 03/S4.20 FOR DRY STACKED LIMESTONE WALL SCHEDULE

PERMIT DOCUMENTS

FOUNDATION PLAN

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

FORT STRUCTURES
FIRM REGISTRATION NO. 18034
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PROJECT NO: 23005

STATE OF TEXAS
SAMUEL YOUNG
99208
LICENSED PROFESSIONAL ENGINEER

12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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FOUNDATION PLAN

SHEET TITLE

S2.02

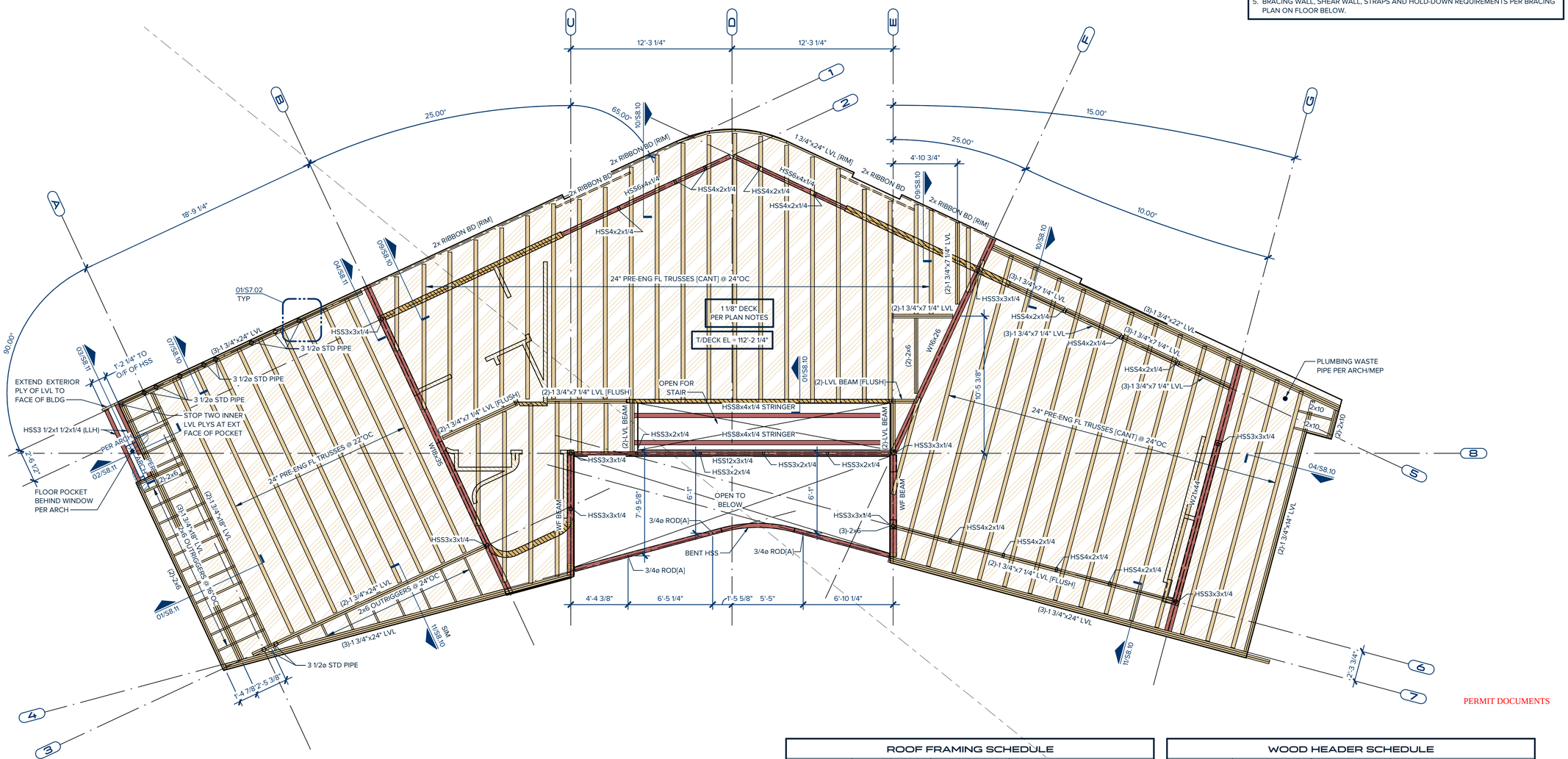
SHEET NUMBER

COMMON PLAN NOTES

1. STRUCTURAL GENERAL NOTES, ABBREVIATIONS, AND LEGEND PER S1 SHEET SERIES.
2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, SLOPES, DRAINS, DEPRESSIONS, CURBS, PENETRATIONS, ETC. WITH ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS PRIOR TO CONSTRUCTION.
3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

WOOD FRAMING PLAN NOTES

1. PRE-ENGINEERED TRUSSES TO BE DESIGNED BY TRUSS MANUFACTURER AND SHALL COORDINATE TRUSS DESIGN AND PROFILES WITH HVAC UNIT SIZES AND LOCATIONS. SUBMITTAL INFORMATION, DESIGN CRITERIA, RIM JOIST AND BLOCKING REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
2. DECK AND ATTACHMENT PER PLAN AND STRUCTURAL GENERAL NOTES.
3. ALL WOOD EXPOSED TO CONCRETE, WEATHER, OR WITHIN 8" OF FINISHED GRADE SHALL BE PRESSURE- TREATED.
4. REFERENCE TYPICAL WOOD DETAILS FOR HANGER SCHEDULE.
5. BRACING WALL, SHEAR WALL, STRAPS AND HOLD-DOWN REQUIREMENTS PER BRACING PLAN ON FLOOR BELOW.



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ROOF FRAMING SCHEDULE

MEMBER TYPE	MEMBER SIZE	SPACING	ADDITIONAL INFORMATION
RAFTERS	2x8	24"OC	UNO, XX'-X" MAX SPAN
RIDGE	2x10	-	UNO, XX'-X" MAX SPAN
HIPS/VALLEYS	2x10	-	UNO

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.

WOOD CEILING JOIST SCHEDULE

SPAN	MEMBER SIZE	SPACING	ADDITIONAL INFORMATION
< 9'-0"	2x6	24"OC	TYP, UNO
< 12'-0"	2x8	24"OC	TYP, UNO
< 14'-0"	2x10	24"OC	TYP, UNO

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.
2. ALL CEILING JOISTS ARE NOT DESIGNED TO SUPPORT ATTIC LOADING OR MECHANICAL LOADING.

WOOD HEADER SCHEDULE

SUPPORTING	SPAN < 3'-6"	SPAN < 6'-6"	ADDITIONAL INFORMATION
ROOF	2x4 WALL - (2)-2x6 2x6 WALL - (3)-2x6	2x4 WALL - (2)-2x8 2x6 WALL - (3)-2x8	• ALL HEADERS TO BE SUPPORTED BY (2)-2x STUD PACK, MINIMUM.
FLOOR	2x4 WALL - (2)-2x10 2x6 WALL - (3)-2x10	2x4 WALL - (2)-2x12 2x6 WALL - (3)-2x12	• HDR ON PLAN INDICATES SCHEDULED HEADERS

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.

WOOD STUD WALL SCHEDULE

WALL TYPE	HEIGHT < 10'-0"	10'-0" > HEIGHT < 12'-0"	12'-0" > HEIGHT < 14'-0"	ADDITIONAL INFORMATION
EXT WALLS	2x6 @ 16"OC	2x6 @ 12"OC	1 3/4x5 1/2"LSL @16"OC	TYP, UNO
INT WALLS	2x4 @ 16"OC	2x4 @ 12"OC	2x6 @ 16"OC	TYP, UNO

NOTES
1. ALL LOAD BEARING WALLS ARE INDICATED ON FRAMING PLANS.
2. ALL LOAD BEARING WALL STUDS SHALL BE GRADE NO2 SOUTHERN PINE OR DOUGLAS-FIR, MINIMUM.
3. ALL OTHER NON-BEARING WALL STUDS SHALL BE 2x4 @ 16"OC, STUD GRADE SOUTHERN PINE OR DOUGLAS-FIR.

LEVEL 02 FRAMING PLAN
SCALE : 1/4" = 1'-0"

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STATE OF TEXAS · SAMUEL YOUNG · 99208 · REGISTERED PROFESSIONAL ENGINEER

12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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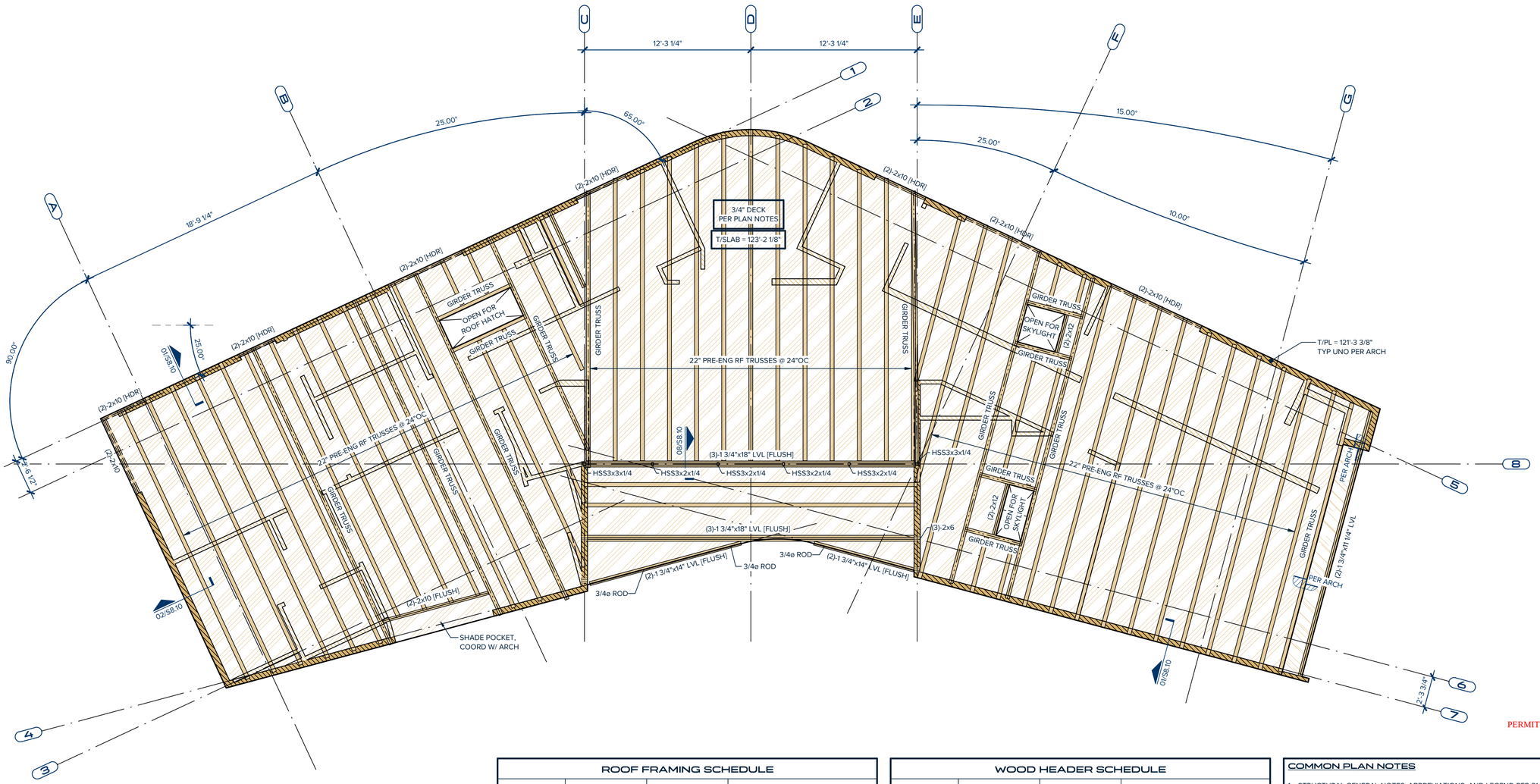
SCALE

LEVEL 02 FRAMING PLAN

SHEET TITLE

S2.03

SHEET NUMBER



PERMIT DOCUMENTS

ROOF FRAMING SCHEDULE

MEMBER TYPE	MEMBER SIZE	SPACING	ADDITIONAL INFORMATION
RAFTERS	2x8	24"OC	UNO, XX'-X" MAX SPAN
RIDGE	2x10	-	UNO, XX'-X" MAX SPAN
HIPS/VALLEYS	2x10	-	UNO

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.

WOOD CEILING JOIST SCHEDULE

SPAN	MEMBER SIZE	SPACING	ADDITIONAL INFORMATION
< 9'-0"	2x6	24"OC	TYP, UNO
< 12'-0"	2x8	24"OC	TYP, UNO
< 14'-0"	2x10	24"OC	TYP, UNO

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.
2. ALL CEILING JOISTS ARE NOT DESIGNED TO SUPPORT ATTIC LOADING OR MECHANICAL LOADING.

WOOD HEADER SCHEDULE

SUPPORTING	SPAN < 3'-6"	SPAN < 6'-6"	ADDITIONAL INFORMATION
ROOF	2x4 WALL - (2)-2x6 2x6 WALL - (3)-2x6	2x4 WALL - (2)-2x8 2x6 WALL - (3)-2x8	• ALL HEADERS TO BE SUPPORTED BY (2)-2x STUD PACK, MINIMUM.
FLOOR	2x4 WALL - (2)-2x10 2x6 WALL - (3)-2x10	2x4 WALL - (2)-2x12 2x6 WALL - (3)-2x12	• HDR ON PLAN INDICATES SCHEDULED HEADERS

NOTES
1. SPAN IS CLEAR SPAN BETWEEN SUPPORTS.

WOOD STUD WALL SCHEDULE

WALL TYPE	HEIGHT < 10'-0"	10'-0" > HEIGHT < 12'-0"	12'-0" > HEIGHT < 14'-0"	ADDITIONAL INFORMATION
EXT WALLS	2x6 @ 16"OC	2x6 @ 12"OC	1 3/4x5 1/2"LSL @16"OC	TYP, UNO
INT WALLS	2x4 @ 16"OC	2x4 @ 12"OC	2x6 @ 16"OC	TYP, UNO

NOTES
1. ALL LOAD BEARING WALLS ARE INDICATED ON FRAMING PLANS.
2. ALL LOAD BEARING WALL STUDS SHALL BE GRADE NO2 SOUTHERN PINE OR DOUGLAS-FIR, MINIMUM.
3. ALL OTHER NON-BEARING WALL STUDS SHALL BE 2x4 @ 16"OC, STUD GRADE SOUTHERN PINE OR DOUGLAS-FIR.

COMMON PLAN NOTES

1. STRUCTURAL GENERAL NOTES, ABBREVIATIONS, AND LEGEND PER S1 SHEET SERIES.
2. VERIFY ALL DIMENSIONS, ELEVATIONS, FINISH SURFACES, SLOPES, DRAINS, DEPRESSIONS, CURBS, PENETRATIONS, ETC. WITH ARCHITECTURAL AND OTHER CONSULTANT DRAWINGS PRIOR TO CONSTRUCTION.
3. ALL DUCTS, CHASES AND PIPES SHALL BE PER MECHANICAL, PLUMBING, ELECTRICAL AND SPRINKLER DRAWINGS.

WOOD FRAMING PLAN NOTES

1. PRE-ENGINEERED TRUSSES TO BE DESIGNED BY TRUSS MANUFACTURER AND SHALL COORDINATE TRUSS DESIGN AND PROFILES WITH HVAC UNIT SIZES AND LOCATIONS. SUBMITTAL INFORMATION, DESIGN CRITERIA, RIM JOIST AND BLOCKING REQUIREMENTS PER STRUCTURAL GENERAL NOTES.
2. DECK AND ATTACHMENT PER PLAN AND STRUCTURAL GENERAL NOTES.
3. ALL WOOD EXPOSED TO CONCRETE, WEATHER, OR WITHIN 8" OF FINISHED GRADE SHALL BE PRESSURE- TREATED.
4. REFERENCE TYPICAL WOOD DETAILS FOR HANGER SCHEDULE.
5. BRACING WALL, SHEAR WALL, STRAPS AND HOLD-DOWN REQUIREMENTS PER BRACING PLAN ON FLOOR BELOW.

ROOF FRAMING PLAN
SCALE : 1/4" = 1'-0"

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PROJECT NO: 23005

STATE OF TEXAS
SAMUEL YOUNG
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SEAL

ALTERSTUDIO
ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
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SCALE

ROOF FRAMING PLAN
SHEET TITLE

S2.04
SHEET NUMBER

SHEAR WALL SCHEDULE

TYPE MARK	SHEATHING (1)	EDGE NAILING (PEN) (2)	SILL PLATE NAILING (2)-ROWS (3)	ANCHOR BOLTS W/ WASHERS (4)
CS-WSP (TYP @ EXT)	15/32" APA RATED CDX	8d @ 6"OC	16d @ 6"OC	1/2"Ø x8" @ 48"OC
LIB[8]	1x4 OR 1 1/4"x18 GA	(2)-8d @ EA STUD	(2)-8d @ EA STUD	1/2"Ø x8" @ 48"OC
A	15/32" APA RATED CDX	8d @ 6"OC	16d @ 6"OC	1/2"Ø x8" @ 48"OC
B	15/32" APA RATED CDX	8d @ 4"OC	16d @ 6"OC	1/2"Ø x8" @ 36"OC

NOTES

1. PRIOR TO CONSTRUCTION OF SHEAR WALLS, REVIEW LATEST ARCHITECTURAL DRAWINGS AND NOTIFY STRUCTURAL ENGINEER OF ANY LOCATIONS WHERE MINIMUM SHEAR WALL LENGTHS ARE NOT MET. MINIMUM LENGTHS BASED ON OUTSIDE FACE TO OUTSIDE FACE OF TIEDOWN POSTS.
2. FIELD NAILING TO BE 8d @ 12"OC AT SHEAR WALL PLYWOOD PANELS, TYPICAL.
3. SEE PLANS FOR SHEAR WALL TIEDOWNS, SIZES AND LOCATIONS.
4. PLACE SHEATHING ON SIDE OF WALL WHERE SHEAR WALL SYMBOL OCCURS.
5. HORIZONTAL PLYWOOD SPLICES TO OCCUR AT RIBBON BAND. WHERE WALL HEIGHT DICTATES HORIZONTAL SPLICE AT WALL, PROVIDE 2x BLOCKING. DO NOT SPLICE AT DOUBLE 2x TOP PLATE.
6. USE 2x STUDS, DOUBLE TOP PLATE AND SINGLE SILL PLATE, UNO.
7. INSTALL (2)-2x STUDS OR 3x STUD AT EDGE OF PLYWOOD PANELS WHERE EDGE NAILING IS LESS THAN 6"OC.
8. LET-IN-BRACE (LIB) WALLS MUST HAVE 1/2" GYPSUM WALL BOARD INSTALLED ON SIDE OF WALL OPPOSITE THE BRACING MATTERIAL. INSTALL STRAPPING AT 45° TO 60° PER DETAIL 03/S8.03.

HOLD-DOWN SCHEDULE - FRAMING TO CONCRETE

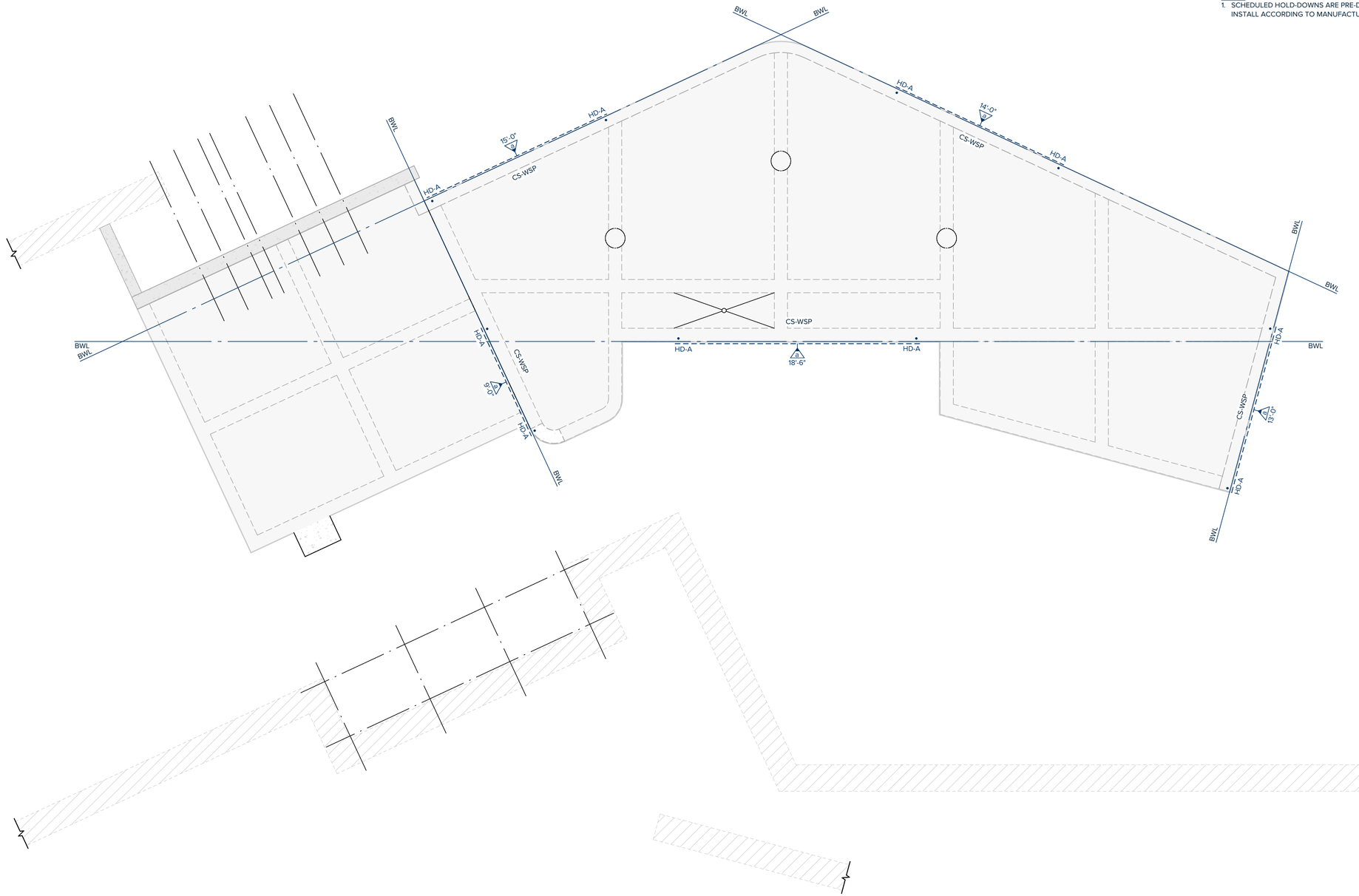
TYPE MARK	HOLD-DOWN TYPE	HOLD-DOWN ANCHOR BOLT	END POST
HD-A	SIMPSON HDU-5	5/8"Ø F1553 GR 35 ANCHOR BOLTS W/ 12" EMBED	(2)-2x6
HD-B	SIMPSON HDU-8	7/8"Ø F1553 GR 35 ANCHOR BOLTS W/ 12" EMBED	(3)-2x6
HD-C	SIMPSON HDU-11	1"Ø F1553 GR 35 ANCHOR BOLTS W/ 12" EMBED	(4)-2x6

HOLD-DOWN SCHEDULE - FRAMING TO WOOD

TYPE MARK	HOLD-DOWN TYPE	HOLD-DOWN ANCHOR BOLT	END POST
HD-D	SIMPSON LSTA36	18 GA x 1 1/4" x 36" STRAP, FSTN W/ (24)-10d SINKER NAILS	(2)-2x6
HD-E	SIMPSON MSTC52	16 GA x 3" x 52 1/4" STRAP, FSTN W/ (62)-16d SINKER NAILS	(2)-2x6
HD-F	(2)-SIMPSON MSTC52	(2)-16 GA x 3" x 52 1/4" STRAP, FSTN W/ (62)-16d SINKER NAILS	(4)-2x6
HD-G	SIMPSON MSTC48B3	14 GA x 3" x 45° STRAP W/ 3" SEAT WRAPPED UNDER BM, FSTN W/ (38)-10d SINKER NAILS	(4)-2x6

NOTES

1. SCHEDULED HOLD-DOWNS ARE PRE-DRILLED STEEL HOLD-DOWN ANCHORS BY "SIMPSON STRONG-TIE". INSTALL ACCORDING TO MANUFACTURER'S RECOMENDATIONS.



PERMIT DOCUMENTS

LEVEL 01 LATERAL BRACING PLAN

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

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STATE OF TEXAS
SAMUEL YOUNG
99208
LICENSED PROFESSIONAL ENGINEER

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SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

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SCALE

WIND BRACING PLAN

SHEET TITLE

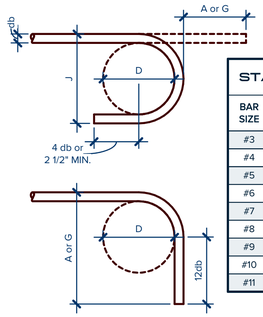
S3.01

SHEET NUMBER

REINFORCEMENT SPLICE LENGTH SCHEDULE

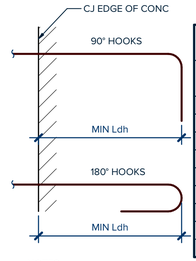
CLASS / BAR SIZE	f'c=3000 PSI		f'c=4000 PSI		f'c=5000 PSI		f'c=6000 PSI		f'c=7000 PSI		f'c=8000 PSI	
	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"	"A"	"B"
#3	1'-5"	1'-10"	1'-3"	1'-7"	1'-1"	1'-5"	1'-0"	1'-4"	1'-0"	1'-4"	1'-0"	1'-4"
#4	1'-10"	2'-5"	1'-7"	2'-1"	1'-5"	1'-10"	1'-4"	1'-8"	1'-3"	1'-7"	1'-2"	1'-6"
#5	2'-4"	3'-0"	2'-0"	2'-7"	1'-10"	2'-4"	1'-8"	2'-1"	1'-6"	2'-0"	1'-5"	1'-10"
#6	2'-9"	3'-7"	2'-5"	3'-1"	2'-2"	2'-9"	2'-0"	2'-7"	1'-10"	2'-4"	1'-8"	2'-2"
#7	4'-0"	5'-3"	3'-6"	4'-6"	3'-1"	4'-1"	2'-10"	3'-8"	2'-8"	3'-5"	2'-6"	3'-2"
#8	4'-7"	6'-0"	4'-0"	5'-2"	3'-7"	4'-7"	3'-3"	4'-3"	3'-0"	3'-11"	2'-10"	3'-8"
#9	5'-2"	6'-10"	4'-6"	5'-10"	4'-0"	5'-3"	3'-8"	4'-9"	3'-5"	4'-5"	3'-2"	4'-1"
#10	5'-10"	7'-8"	5'-1"	6'-7"	4'-6"	5'-10"	4'-1"	5'-4"	3'-10"	4'-11"	3'-7"	4'-8"
#11	6'-6"	8'-6"	5'-7"	7'-3"	5'-0"	6'-6"	4'-7"	5'-11"	4'-3"	5'-6"	4'-0"	5'-2"

NOTES:
1. WHERE SPLICE TYPE IS NOT INDICATED, USE CLASS "B" SPLICE.
2. LAP LENGTHS LISTED ABOVE APPLY UNDER THE FOLLOWING CONDITIONS:
   A. BEAM AND COLUMN BARS ARE SPACED AT LEAST 1 BAR DIAMETER ON CENTER WITH CLEAR COVER NOT LESS THAN 1 BAR DIAMETER.
   B. WALL AND SLAB BARS ARE SPACED AT LEAST 2 BAR DIAMETERS ON CENTER.
   C. FOR UNCOATED AND ZINC-COATED (GALVANIZED) REINFORCEMENT.
   D. FOR REINFORCEMENT THAT CONFORMS DEFORMED NEW BILLET STEEL BARS IN ACCORDANCE WITH ASTM A615 GRADE 60.
3. WHERE CLEAR COVER OR CLEAR SPACING FOR MASONRY REINFORCEMENT IS LESS THAN 5 BAR DIAMETERS, INCREASE SPLICE LENGTHS SHOWN BY MULTIPLYING LENGTHS BY MAXIMUM RATIO OF 5 BAR DIAMETERS TO CLEAR COVER OR SPACING.
4. FOR LIGHTWEIGHT CONCRETE, MULTIPLY TABULATIONS BY 1.3.
5. FOR HORIZONTAL TOP BARS WITH 12 INCHES OF CONCRETE CAST BELOW, MULTIPLY TABULATIONS BY 1.3.
6. WHERE A LARGER BAR LAPS A SMALLER BAR, THE SMALLER SCHEDULED LAP LENGTH APPLIES.
7. REFER TO "CONCRETE REINFORCEMENT" SECTION OF THE STRUCTURAL GENERAL NOTES FOR FURTHER INFORMATION.
8. FOR CMU REINFORCEMENT SPLICE LENGTH SCHEDULE, SEE CMU DETAILS.



STANDARD HOOK SCHEDULE

BAR SIZE	D	180° HOOK		90° HOOK
		A or G	J	A or G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	1'-0"	1'-7"	1'-2 3/4"	2'-0"



HOOK DEVELOPMENT LENGTH SCHEDULE, LDH

BAR SIZE	3000 PSI	4000 PSI	5000 PSI	6000 PSI	7000 PSI	8000 PSI
#3	9"	8"	7"	6"	6"	6"
#4	11"	10"	9"	8"	8"	7"
#5	1'-2"	1'-0"	11"	10"	9"	9"
#6	1'-5"	1'-3"	1'-1"	1'-0"	11"	11"
#7	1'-8"	1'-5"	1'-3"	1'-2"	1'-1"	1'-0"
#8	1'-10"	1'-7"	1'-5"	1'-4"	1'-3"	1'-2"
#9	2'-1"	1'-10"	1'-8"	1'-6"	1'-5"	1'-4"
#10	2'-4"	2'-0"	1'-10"	1'-8"	1'-7"	1'-6"
#11	2'-7"	2'-3"	2'-0"	1'-10"	1'-9"	1'-7"

NOTES:
1. TABULATED VALUES ARE BASED ON GRADE 60 REINFORCEMENT BARS AND NORMAL WEIGHT CONCRETE.
2. TABULATED VALUES APPLY TO REINFORCEMENT BARS MEETING MINIMUM CONCRETE COVER PER STRUCTURAL GENERAL NOTES ONLY.
3. FOR EPOXY-COATED HOOKS, MULTIPLY THE TABULATED VALUES BY 1.2.
4. FOR LIGHTWEIGHT CONCRETE, MULTIPLY THE TABULATED VALUES BY 1.3.

01 TYPICAL LAP SPLICE SCHEDULE

SCALE : NTS

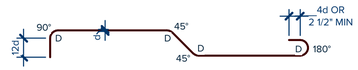
DOWEL SCHEDULE

MARK	SIZE	A	B
DWL A	#4	8"	3'-0"
DWL B	#4	2'-6"	3'-0"
DWL C	#4	-	4'-0"
DWL D	#4	8"	6'-0"
DWL E	#4	-	6'-0"

NOTES:
1. SCHEDULED DOWELS ARE MARKED "DWL" ON SECTIONS AND DETAILS.
2. DOWEL SPACING TO MATCH SLAB OR WALL REINFORCEMENT UNLESS NOTED OTHERWISE.

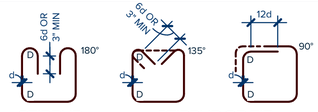
02 TYPICAL STANDARD HOOK SCHEDULE

SCALE : NTS

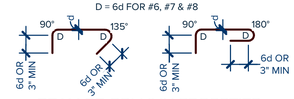


D = 6d FOR #3 THRU #8
D = 8d FOR #9, #10 & #11
D = 10d FOR #14 & #18

REINFORCEMENT EXCEPT COLUMN TIES & BEAM STIRRUPS



D = 4d FOR #3, #4 & #5
D = 6d FOR #6, #7 & #8

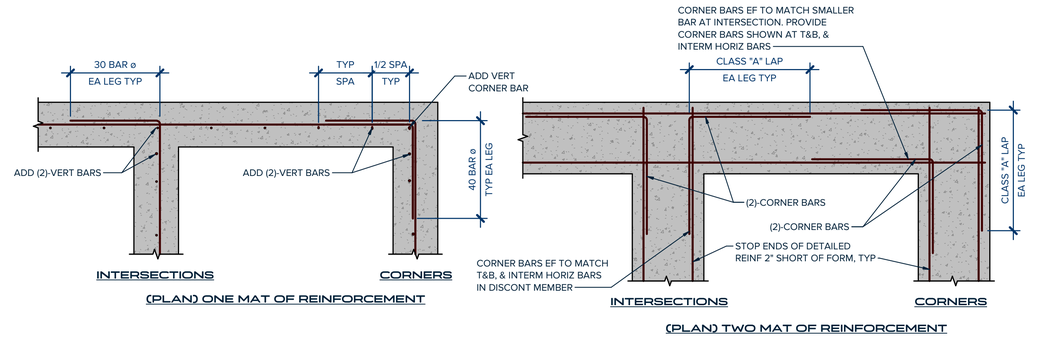


BEAM OR COLUMN CROSSTIES

BEAM STIRRUPS AND COLUMN

d = BAR DIAMETER, D = BEND DIAMETER

NOTES:
1. TIES AND CROSSTIES FOR SHEAR WALL BOUNDARY ELEMENTS SHALL BE DETAILED AS COLUMN TIES/CROSSTIES.



(PLAN) ONE MAT OF REINFORCEMENT

(PLAN) TWO MAT OF REINFORCEMENT

NOTES:
1. WHERE 90° HOOKS ARE SCHEDULED OR DETAILED FOR TOP BARS, CORNER BARS MAY BE OMITTED FOR THAT MAT.
2. MATCH SIZE, LOCATION AND NUMBER OF HORIZONTAL BEAM AND WALL BARS. WHERE MORE THAN (2)-TOP OR BOTTOM BARS, ONLY THE INSIDE BARS MUST MATCH.

03 TYPICAL STANDARD DOWEL SCHEDULE

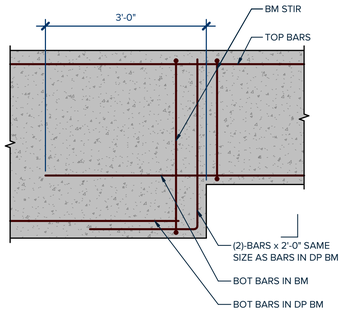
SCALE : NTS

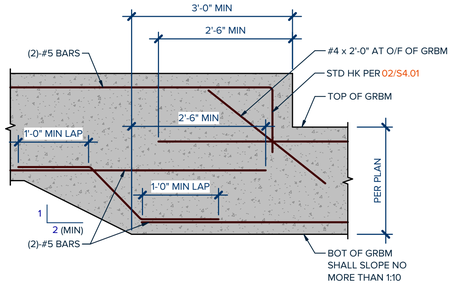
04 STANDARD HOOKS AND BENDS

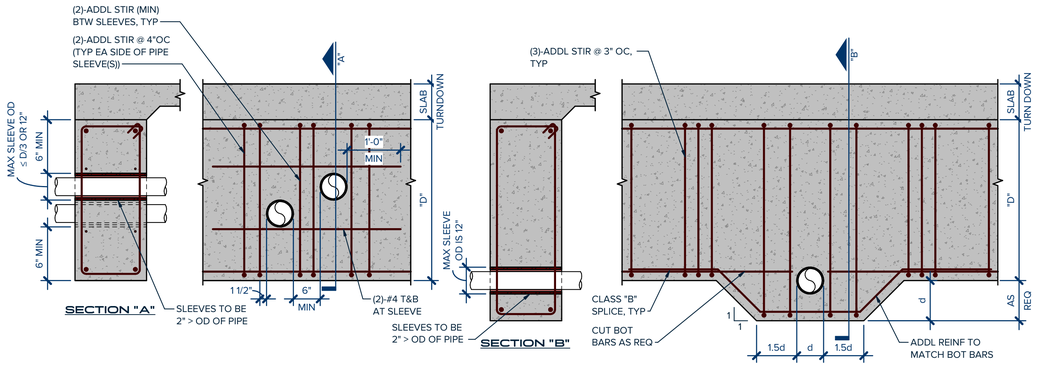
SCALE : NTS

05 TYPICAL WALL OR GRADE BEAM REINFORCEMENT

SCALE : NTS







PENETRATIONS THROUGH GRADE BEAM

PENETRATIONS THROUGH BOTTOM OF GRADE BEAM

06 TYPICAL STEP IN BOTTOM GRADE BEAM

SCALE : NTS

07 TYPICAL GRADE BEAM STEP

SCALE : NTS

08 TYPICAL HORIZONTAL PIPE PENETRATIONS

SCALE : NTS

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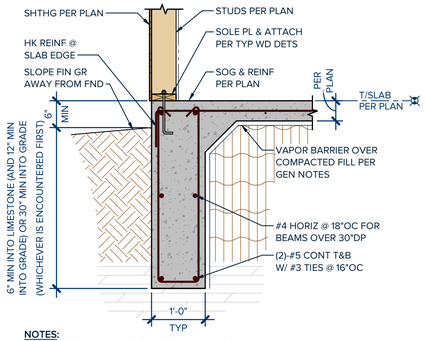
SCALE

TYPICAL FOUNDATION DETAILS

SHEET TITLE

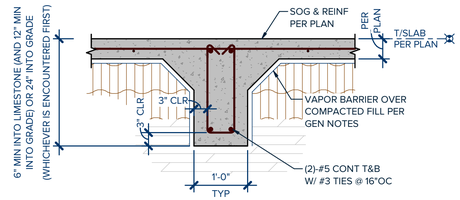
S4.01

SHEET NUMBER



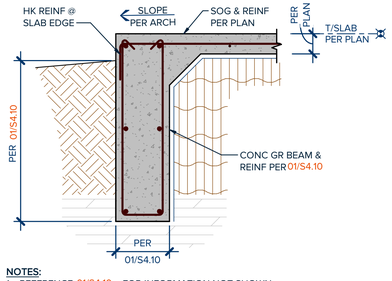
NOTES:
1. ENGINEER SHALL VERIFY DEPTH AND BEARING.
2. STEP BOTTOM OF GRADE BEAM AS REQUIRED. NO SLOPE GREATER THAN 1:10.
3. FOR EXTERIOR GRADE BEAMS MORE THAN 3'-0" ABOVE GRADE REFERENCE 05/S4.10 .

01 TYPICAL EXTERIOR GRADE BEAM
SCALE : 3/4" = 1'-0"



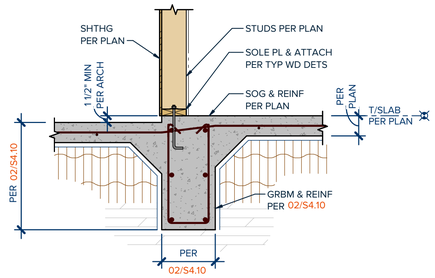
NOTES:
1. ENGINEER SHALL VERIFY DEPTH AND BEARING.
2. STEP BOTTOM OF GRADE BEAM AS REQUIRED. NO SLOPE GREATER THAN 1:10.
3. REFERENCE 01/S4.10 FOR INFORMATION NOT SHOWN.

02 TYPICAL INTERIOR GRADE BEAM
SCALE : 3/4" = 1'-0"



NOTES:
1. REFERENCE 01/S4.10 FOR INFORMATION NOT SHOWN.

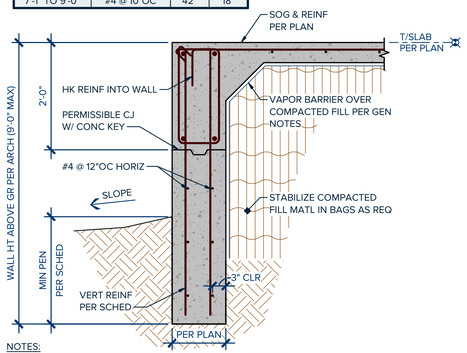
03 EXTERIOR GRADE BEAM AT SLOPE
SCALE : 3/4" = 1'-0"



NOTES:
1. REFERENCE 02/S4.10 FOR INFORMATION NOT SHOWN.

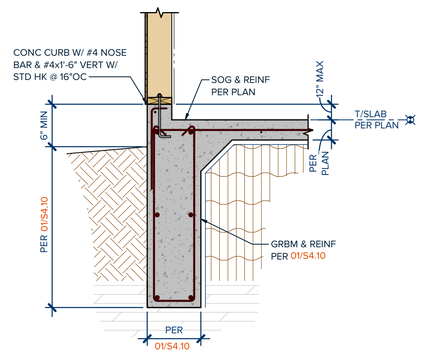
04 INTERIOR GRADE BEAM AT STEP
SCALE : 3/4" = 1'-0"

WALL HT	VERT REINF	MIN PEN	
		SOIL	ROCK
3'-1" TO 5'-0"	#4 @ 18"OC	24"	12"
5'-1" TO 7'-0"	#4 @ 16"OC	36"	12"
7'-1" TO 9'-0"	#4 @ 10"OC	42"	18"



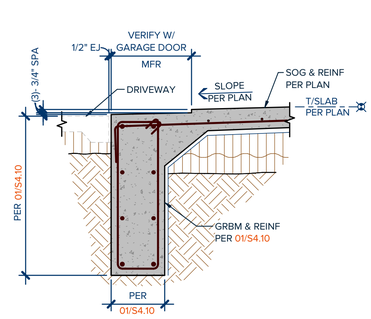
NOTES:
1. HOOKS OR CORNER BARS ARE REQUIRED AT ALL CORNERS.
2. IF WALL HT EXCEEDS 9'-0" CONTACT ENGINEER OF RECORD.

05 TYPICAL DEEP EXTERIOR GRADE BEAM/WALL
SCALE : 3/4" = 1'-0"



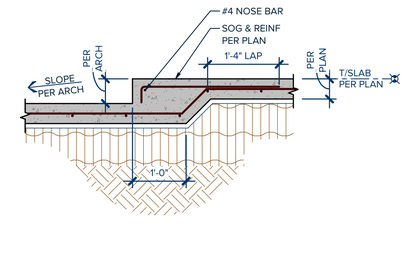
NOTES:
1. REFERENCE 01/S4.10 FOR INFORMATION NOT SHOWN.
2. CONTRACTOR TO PROVIDE WATERPROOFING AND DRAINAGE PIPE BEHIND CURB AS REQUIRED BY GRADE

06 TYPICAL EXTERIOR GRADE BEAM WITH CURB
SCALE : 3/4" = 1'-0"

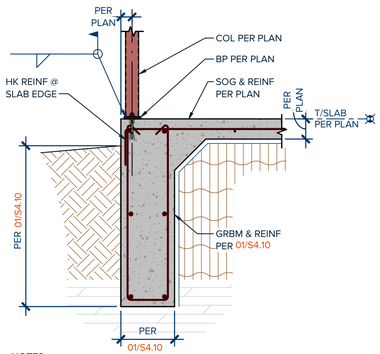


NOTES:
1. REFERENCE 01/S4.10 FOR INFORMATION NOT SHOWN.

07 EXTERIOR GRADE BEAM AT GARAGE DOOR
SCALE : 3/4" = 1'-0"

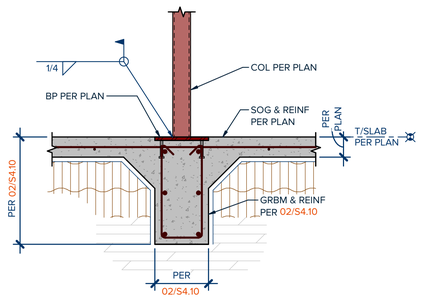


08 TYPICAL SLAB STEP
SCALE : 3/4" = 1'-0"



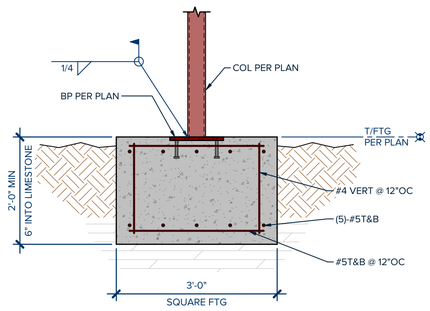
NOTES:
1. REFERENCE 01/S4.10 FOR INFORMATION NOT SHOWN.

09 EXTERIOR GRADE BEAM AT STEEL COLUMN
SCALE : 3/4" = 1'-0"



NOTES:
1. REFERENCE 02/S4.10 FOR INFORMATION NOT SHOWN.

10 INTERIOR GRADE BEAM WITH STEEL COLUMN
SCALE : 3/4" = 1'-0"



11 SPREAD FOOTING AT STEEL COLUMN
SCALE : 3/4" = 1'-0"

PERMIT DOCUMENTS

FORT STRUCTURES
FIRM REGISTRATION NO. 18034
WWW.FORTSTRUCTURES.COM

PROJECT NO: 23005

SAMUEL YOUNG 99208 LICENSED PROFESSIONAL ENGINEER STATE OF TEXAS

12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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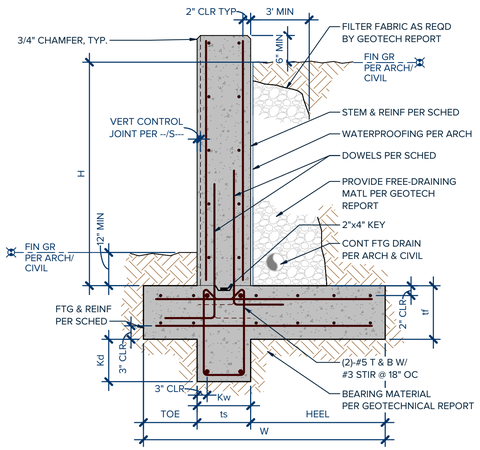
FOUNDATION DETAILS

SHEET TITLE

S4.10

SHEET NUMBER

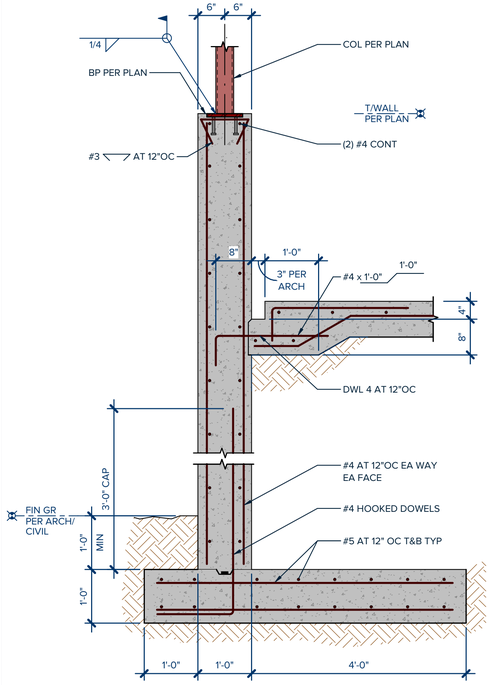


01 TYPICAL RETAINING WALL WITH KEY

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

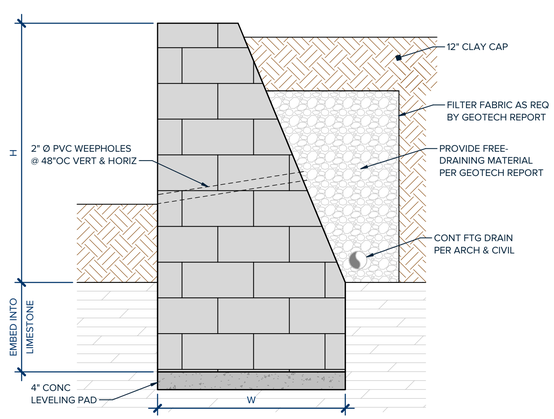
RETAINING WALL & FOOTING SCHEDULE

H	STEM/KEY SIZES		FOOTING SIZES				STEM REINFORCEMENT			FOOTING REINFORCEMENT	
	ts & Kw	Kd	TOE	HEEL	tf	W	VERTICAL	HORIZONTAL	DOWELS FROM FOOTING	T & B LONGITUDINAL	T & B SHORT DIRECTION
UP TO 6'-0"	8"	1'-0"	1'-0"	1'-10"	1'-0"	3'-6"	#4 @ 12"OC	#4 @ 16"OC	#4x3'-0"x1'-4" @ 12"OC	(3)-#4 EQ. SPACING	#5 @ 12"OC
6'-1" - 8'-0"	1'-0"	1'-0"	1'-0"	2'-6"	1'-4"	4'-6"	#5 @ 12"OC	#4 @ 16"OC	#4x4'-0"x1'-4" @ 12"OC	(4)-#4 EQ. SPACING	#5 @ 12"OC
8'-1" - 10'-0"	1'-0"	1'-0"	2'-0"	4'-6"	1'-4"	7'-0"	#5 @ 12"OC	#4 @ 16"OC	#5x4'-0"x1'-4" @ 12"OC	(4)-#4 EQ. SPACING	#5 @ 12"OC
10'-1" - 12'-0"	1'-4"	1'-6"	2'-0"	5'-2"	1'-4"	8'-6"	#5 @ 10"OC	#4 @ 12"OC	#5x4'-0"x1'-4" @ 10"OC	(5)-#4 EQ. SPACING	#5 @ 10"OC
12'-1" - 14'-0"	1'-4"	1'-6"	2'-0"	6'-8"	1'-4"	10'-0"	#5 @ 10"OC	#4 @ 12"OC	#5x4'-0"x1'-4" @ 10"OC	(7)-#4 EQ. SPACING	#5 @ 10"OC
14'-1" - 16'-0"	1'-4"	1'-6"	2'-0"	8'-8"	1'-4"	12'-0"	#5 @ 10"OC	#4 @ 12"OC	#5x4'-0"x1'-4" @ 10"OC	(8)-#4 EQ. SPACING	#5 @ 8"OC



02 PORTCH RETAINING WALL DETAIL

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



LIMESTONE RETAINING WALL SCHEDULE

H	W	EMBED INTO LIMESTONE
UP TO 5'-0"	2'-0"	#5 @ 12"OC
6'-0"	2'-6"	#5 @ 12"OC
7'-0"	3'-0"	#5 @ 12"OC
8'-0"	3'-6"	#5 @ 12"OC
9'-0"	4'-0"	#6 @ 12"OC
10'-0"	4'-6"	#6 @ 10"OC
11'-0"	5'-0"	#5 @ 12"OC
12'-0"	5'-6"	#5 @ 12"OC
13'-0"	6'-0"	#5 @ 12"OC
14'-0"	6'-8"	#5 @ 12"OC
15'-0"	7'-0"	#6 @ 12"OC

NOTES

1. MORTAR SHALL CONFORM TO ASTM C270, TYPE S, BY PROPORTION. MASONRY CEMENT SHALL NOT BE USED.

03 DRY STACKED LIMESTONE WALL SCHEDULE

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

PERMIT DOCUMENTS

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1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

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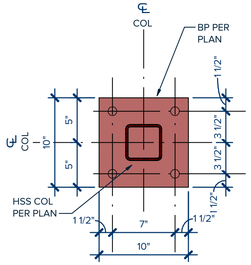
FOUNDATION DETAILS

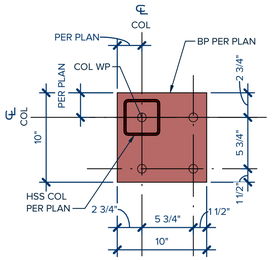
SHEET TITLE

S4.20

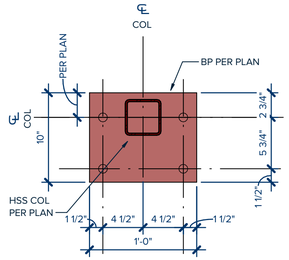
SHEET NUMBER



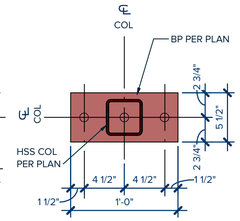
BP-A



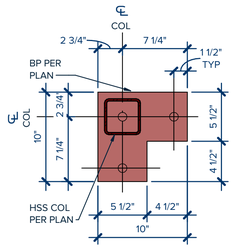
BP-B



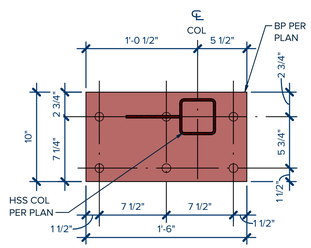
BP-C



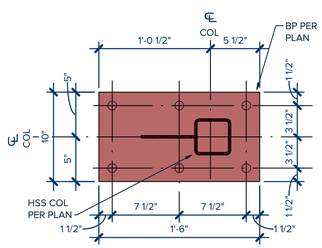
BP-D



BP-E

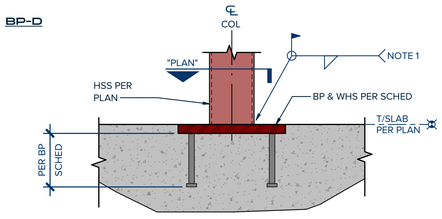


BP-F



PD-G

BASEPLATE SCHEDULE		
MARK	BASEPLATE THICKNESS	WELDED HEADED STUDS (WHS)
BP-A	3/4"	(4)-3/4"Ø x8" WHS
BP-B	3/4"	(4)-3/4"Ø x8" WHS
BP-C	3/4"	(4)-3/4"Ø x8" WHS
BP-D	3/4"	(6)-3/4"Ø x8" WHS
BP-E	3/4"	(6)-3/4"Ø x8" WHS
BP-F	3/4"	(6)-3/4"Ø x8" WHS
BP-G	3/4"	(6)-3/4"Ø x8" WHS

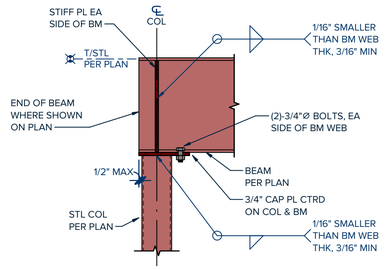


ELEVATION

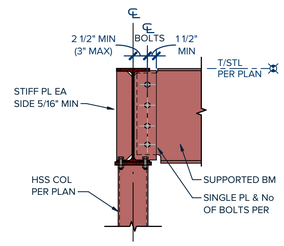
NOTES:
1. WELD TO BE MINIMUM SIZE REQUIRED BY AISC FOR THICKNESS OF BASE PLATE USED.
2. SEE DETAIL SCHEDULE FOR BASE PLATE DIMENSIONS.
3. EMBED PLATE TO BE INSTALLED LEVEL AND FULLY EMBEDDED INTO CONCRETE.

01 TYPICAL EMBEDDED BASEPLATE TO FOUNDATION CONNECTION (HSS COLUMN)

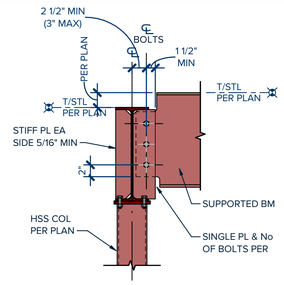
SCALE : 1 1/2" = 1'-0"



NOTES:
1. SEE PLAN FOR ROOF SLOPE. SLOPE CAP PLATES ACCORDINGLY.
2. STIFFENER PLATES SHALL BE EQUAL IN THICKNESS TO THE COLUMN WALL THICKNESS OR BEAM WEB THICKNESS, WHICHEVER IS GREATER.
3. CONNECT INTERSECTING BEAMS TO STIFFENER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.

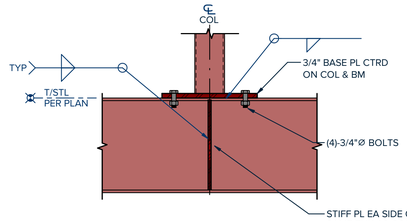


CONNECTION WITH TOP OF BEAMS AT SAME ELEVATION



CONNECTION WITH TOP OF BEAMS AT DIFFRENT ELEVATIONS

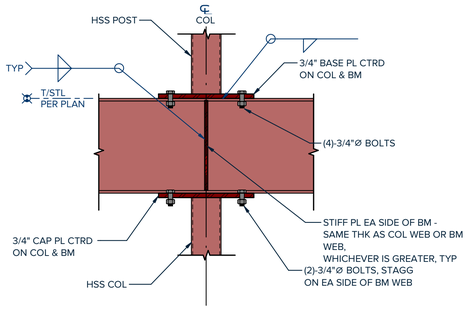
NOTES:
1. SEE ROOF PLAN FOR ROOF SLOPE. SLOPE CAP PLATES ACCORDINGLY.
2. STIFFNER PLATES SHALL BE EQUAL IN THICKNESS TO THE COL WALL THICKNESS OR BEAM WEB THICKNESS, WHICHEVER IS GREATER.
3. CONNECT INTERSECTING BEAMS TO STIFFNER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.



NOTES:
1. CONNECT INTERSECTING BEAMS TO STIFFENER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.

02 CAP PLATE BOLTED CONNECTION

SCALE : 1" = 1'-0"



NOTES:
1. CONNECT INTERSECTING BEAMS TO STIFFENER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.

03 CAP PLATE BOLTED CONNECTION

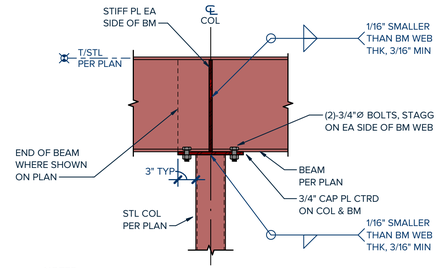
SCALE : 1" = 1'-0"

04 TYPICAL CONNECTION OF BEAMS OVER COLUMN

SCALE : 1" = 1'-0"

05 COLUMN SUPPORT ON BEAM CONNECTION

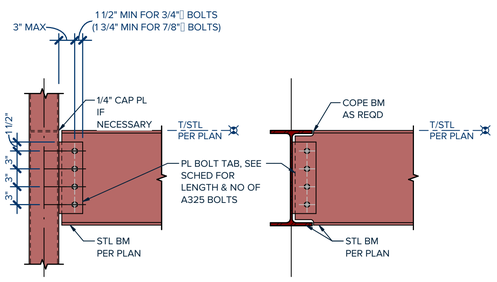
SCALE : 1" = 1'-0"



NOTES:
1. SEE PLAN FOR ROOF SLOPE. SLOPE CAP PLATES ACCORDINGLY.
2. STIFFENER PLATES SHALL BE EQUAL IN THICKNESS TO THE COLUMN WALL THICKNESS OR BEAM WEB THICKNESS, WHICHEVER IS GREATER.
3. CONNECT INTERSECTING BEAMS TO STIFFENER PLATES USING BOLTS IN SINGLE SHEAR DESIGNED FOR ECCENTRIC BEAM REACTION.

06 COLUMN SUPPORT ON BEAM CONNECTION

SCALE : 1" = 1'-0"



SIMPLE SHEAR CONNECTION SCHEDULE						
BEAM SIZE	NO OF ROWS OF BOLTS(n)	BOLT DIAMETER	PLATE TAB THICKNESS	MIN. TAB LENGTH	WELD SIZE BOTH SIDES	MAX BEAM REACTION (KIPS)
W8	2	3/4"	5/16"	6"	1/4"	12
W10	2			6"		16
W12	3			9"		24
W14	3			9"		30
W16	4			12"		40
W18	5			15"		50
W21	6	7/8"	3/8"	18"		73
W24	7			21"		85
W27-W33	8			24"		97
W36-W44	10			30"	5/16"	140

NOTES:
1. ALL OTHER CONNECTIONS DEVIATING FROM TYPICAL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER WORKING UNDER THE GUIDANCE OF THE CONTRACTOR. REFERENCE GENERAL NOTES UNDER "STRUCTURAL STEEL CONNECTIONS."
2. NOTED REACTIONS ARE FOR SERVICE LOADS.
3. SCHEDULED SHEAR PLATE CONNECTIONS APPLY TO RIGHT ANGLE CONNECTIONS AND SKEWED CONNECTIONS UP TO 30° FROM RIGHT ANGLE.
4. WORKLINES ARE ON CENTERLINES OF BEAMS AND COLUMNS, UNLESS NOTED OTHERWISE.
5. WELD CAPACITY BASED ON Exx = 70 KSI.

07 SIMPLE SHEAR CONNECTION

SCALE : 1" = 1'-0"

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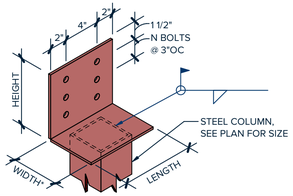
TYPICAL BASE PLATE & HSS COLUMNS STEEL DETAILS
SHEET TITLE

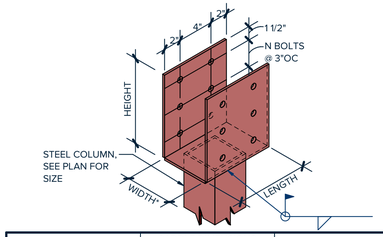
S7.01
SHEET NUMBER



BEAM SIZE	SADDLE DIMENSIONS			BOLT SPECS
	HEIGHT	WIDTH*	LENGTH	
(2)-2x8 TO (2)-2x12	6 1/2"	3"	8"	(4)-5/8"Ø THRU BOLTS
(3)-2x8 TO (3)-2x12	6 1/2"	4 1/2"		(4)-5/8"Ø THRU BOLTS
(2)-5 1/2" LVL	4"	3 1/2"		(2)-5/8"Ø THRU BOLTS
(3)-5 1/2" LVL	4"	5 1/4"		(2)-5/8"Ø THRU BOLTS
(2)-7 1/4" LVL TO (2)-12" LVL	6 1/2"	3 1/2"		(4)-5/8"Ø THRU BOLTS
(3)-7 1/4" LVL TO (3)-12" LVL	6 1/2"	5 1/4"		(4)-5/8"Ø THRU BOLTS
(2)-14" LVL TO (2)-18" LVL	9 1/2"	3 1/2"		(6)-5/8"Ø THRU BOLTS
(3)-14" LVL TO (3)-18" LVL	9 1/2"	5 1/4"		(6)-5/8"Ø THRU BOLTS
(2)-20" LVL TO (2)-24" LVL	12 1/2"	3 1/2"		(8)-5/8"Ø THRU BOLTS
(3)-20" LVL TO (3)-24" LVL	12 1/2"	5 1/4"		(8)-5/8"Ø THRU BOLTS

NOTES:
1. WIDTH*, INSIDE FACE TO INSIDE FACE OF PLATE SADDLE SHALL BE 1/4" THICK PLATE UNO.

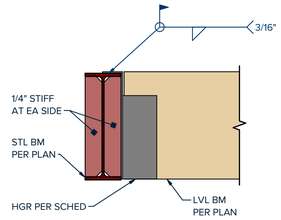
01 OPEN SADDLE OVER COLUMN
SCALE : NTS



BEAM SIZE	SADDLE DIMENSIONS			BOLT SPECS
	HEIGHT	WIDTH*	LENGTH	
(2)-2x8 TO (2)-2x12	6 1/2"	3"	8"	(4)-5/8"Ø THRU BOLTS
(3)-2x8 TO (3)-2x12	6 1/2"	4 1/2"		(4)-5/8"Ø THRU BOLTS
(2)-5 1/2" LVL	4"	3 1/2"		(2)-5/8"Ø THRU BOLTS
(3)-5 1/2" LVL	4"	5 1/4"		(2)-5/8"Ø THRU BOLTS
(2)-7 1/4" LVL TO (2)-12" LVL	6 1/2"	3 1/2"		(4)-5/8"Ø THRU BOLTS
(3)-7 1/4" LVL TO (3)-12" LVL	6 1/2"	5 1/4"		(4)-5/8"Ø THRU BOLTS
(2)-14" LVL TO (2)-18" LVL	9 1/2"	3 1/2"		(6)-5/8"Ø THRU BOLTS
(3)-14" LVL TO (3)-18" LVL	9 1/2"	5 1/4"		(6)-5/8"Ø THRU BOLTS
(2)-20" LVL TO (2)-24" LVL	12 1/2"	3 1/2"		(8)-5/8"Ø THRU BOLTS
(3)-20" LVL TO (3)-24" LVL	12 1/2"	5 1/4"		(8)-5/8"Ø THRU BOLTS

NOTES:
1. WIDTH*, INSIDE FACE TO INSIDE FACE OF PLATE SADDLE SHALL BE 1/4" THICK PLATE UNO.

02 CLOSED SADDLE OVER COLUMN
SCALE : NTS

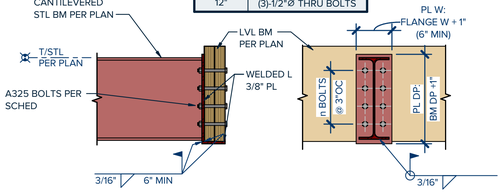


LVL TO STL CONX SCHEDULE	
BEAM DEPTH	SIMPSON HANGER
(4)-18" LVL	HGLTV418-2
(3)-18" LVL	HGLTV5.518
(2)-18" LVL	GLTV3.518
(3)-16" LVL	GLTV5.516
(2)-16" LVL	GLTV3.516
(3)-14" LVL	GLTV5.514
(2)-14" LVL	HW1414
(3)-12" LVL	GLTV5.512
(2)-12" LVL	HW1412

NOTES:
1. INSTALL ACCORDING TO MANUFACTURER SPECIFICATIONS. SUBSTITUTION MUST MEET EQUIVALENT LOADING, AND CONFIRMED WITH ENGINEER.

03 BEAM HANGER ON STEEL BEAM
SCALE : 1" = 1'-0"

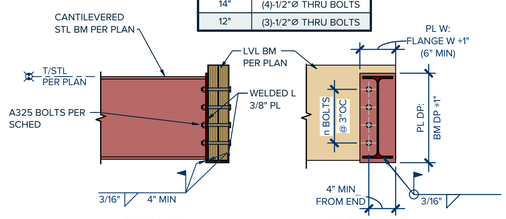
WF BEAM DEPTH	BOLTS EA SIDE OF WEB
21"	(7)-1/2"Ø THRU BOLTS
18"	(6)-1/2"Ø THRU BOLTS
16"	(5)-1/2"Ø THRU BOLTS
14"	(4)-1/2"Ø THRU BOLTS
12"	(3)-1/2"Ø THRU BOLTS



NOTES:
1. DO NOT PLACE LVL BEAM JOINT AT LOCATION OF THIS CONNECTION.

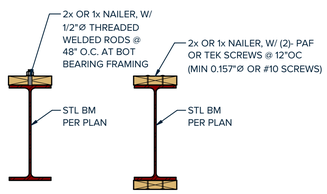
04 LVL BEAM TO CANT WF BEAM CONNECTION
SCALE : 1" = 1'-0"

WF BEAM DEPTH	BOLTS EA SIDE OF WEB
21"	(7)-1/2"Ø THRU BOLTS
18"	(6)-1/2"Ø THRU BOLTS
16"	(5)-1/2"Ø THRU BOLTS
14"	(4)-1/2"Ø THRU BOLTS
12"	(3)-1/2"Ø THRU BOLTS

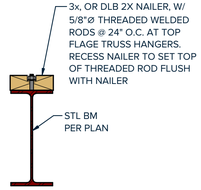


NOTES:
1. DO NOT PLACE LVL BEAM JOINT AT LOCATION OF THIS CONNECTION.

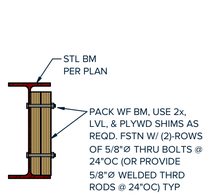
05 LVL BEAM TO CANT WF BEAM CONNECTION
SCALE : 1" = 1'-0"



06 WF BEAM NAILER
SCALE : 1" = 1'-0"



07 WF BEAM NAILER AT TRUSS HANGERS
SCALE : 1" = 1'-0"



08 WEB PACKING
SCALE : 1" = 1'-0"

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12/15/2023

SEAL

ALTERSTUDIO
ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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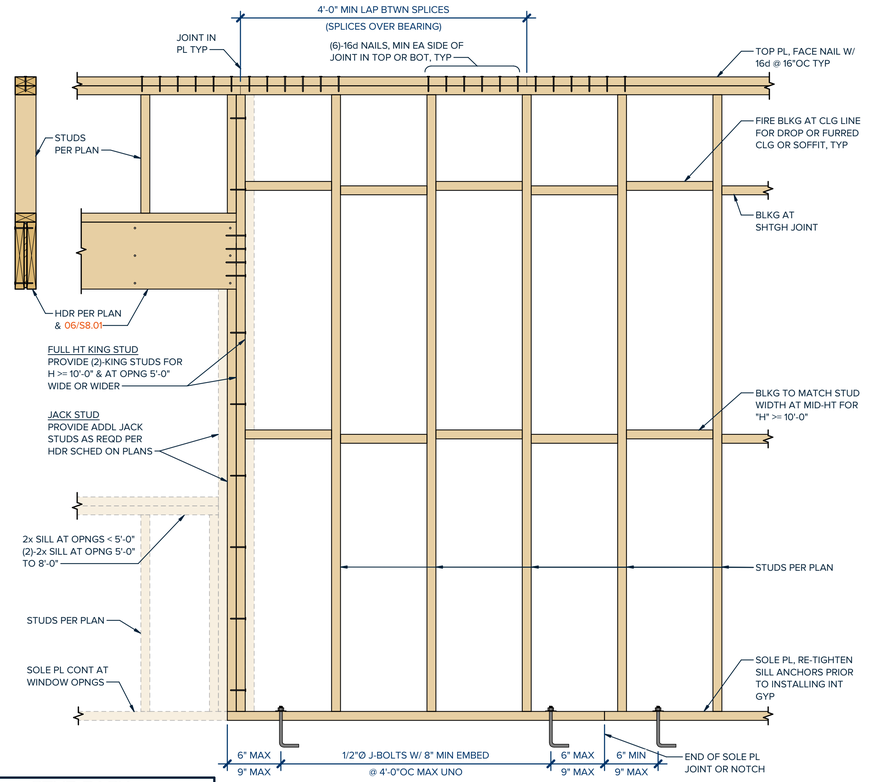
TYPICAL STEEL TO WOOD DETAILS
SHEET TITLE

S7.02
SHEET NUMBER

FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING OF FASTENERS
ROOF			
1	BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	(3)-8d (2-1/2"x0.113") / (3)-3"x0.131"[1]	—
2	CEILING JOISTS TO PLATE, TOE NAIL	(3)-8d (2-1/2"x0.113") / (3)-3"x0.131"[1]	—
3	CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS, FACE NAIL	(3)-10d / (4)-3"x0.131"[1]	—
4	COLLAR TIE TO RAFTER, FACE NAIL OR 11/4"x20 GAGE RIDGE STRAP	(3)-10d (3"x0.128") / (4)-3"x0.131"[1]	—
5	RAFTER OR ROOF TRUSS TO PLATE, TOE NAIL	(3)-16d BOX NAILS (3 1/2"x0.135") or (3)-10d COMMON NAILS (3"x0.148") (3)-3"x0.131"[1]	(2)-TOE NAILS ON ONE SIDE & (1)-TOE NAIL ON OPP SIDE OF EA RAFTER OR TRUSS
6	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS: TOE NAIL FACE NAIL	(4)-16d (3 1/2"x0.135") / (4)-3"x0.131"[1]	TOE NAIL
		(3)-16d (3 1/2"x0.135") / (3)-3"x0.131"[1]	END NAIL
WALL			
7	BUILT-UP STUDS-FACE NAIL	10d (3"x0.128") / 3"x0.131"[1]	24"OC / 16"OC
8	ABUTTING STUDS AT INTERSECTING WALL CORNERS, FACE NAIL	16d (3 1/2"x0.135") / 3"x0.131"[1]	12"OC
9	BUILT-UP HEADER, TWO PIECES WITH 1/2" SPACER	16d (3 1/2"x0.135")	16"OC ALONG EA EDGE
10	CONTINUED HEADER, TWO PIECES	16d (3 1/2"x0.135")	16"OC ALONG EA EDGE
11	CONTINUOUS HEADER TO STUD, TOE NAIL	(4)-8d (2 1/2"x0.113")	—
12	DOUBLE STUDS, FACE NAIL	10d (3"x0.128")	24"OC
13	DOUBLE TOP PLATES, FACE NAIL	16d (3"x0.128") / 3"x0.131"[1]	16"OC
14	DOUBLE TOP PLATES, MINIMUM 24-INCH OFFSET OF END JOINTS, FACE NAIL IN LAPPED AREA	(8)-16d (3 1/2"x0.135") (12)-3"x0.131"[1]	—
15	SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d (3 1/2"x0.135") / 3"x0.131"[1]	16"OC / 12"OC
16	SOLE PLATE TO JOIST OR BLOCKING AT BRACED WALL PANELS	(3)-16d (3 1/2"x0.135") / (4)-3"x0.131"[1]	(3)-EA @ 16"OC / (4)-EA @ 12"OC
17	STUD TO SOLE PLATE, TOE NAIL	(3)-8d (2 1/2"x0.113") or (2)-16d (3 1/2"x0.135") or (4)-3"x0.131"[1]	—
18	TOP OR SOLE PLATE TO STUD, END NAIL	(2)-16d (3 1/2"x0.135") / (3)-3"x0.131"[1]	—
19	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS, FACE NAIL	(2)-10d (3"x0.128") / (3)-3"x0.131"[1]	—
20	1" BRACE TO EACH STUD AND PLATE, FACE NAIL	(2)-8d (2 1/2"x0.113") (2)-STAPLES 1 3/4"	—
21	1"x6" SHEATHING TO EACH BEARING, FACE NAIL	(2)-8d (2 1/2"x0.113") (2)-STAPLES 1 3/4"	—
22	1"x8" SHEATHING TO EACH BEARING, FACE NAIL	(2)-8d (2 1/2"x0.113") (3)-STAPLES 1 3/4"	—
23	WIDER THAN 1"x8" SHEATHING TO EACH BEARING, FACE NAIL	(3)-8d (2 1/2"x0.113") (4)-STAPLES 1 3/4"	—
FLOOR			
24	JOIST TO SILL OR GIRDER, TOE NAIL	(3)-8d (2 1/2"x0.113") / (3)-3"x0.131"[1]	—
25	RIM JOIST TO TOP PLATE, TOE NAIL (ROOF APPLICATIONS ALSO)	8d (2 1/2"x0.113") / 3"x0.131"[1]	4"OC / 6"OC
26	RIM JOIST OR BLOCKING TO SILL PLATE, TOE NAIL	8d (2 1/2"x0.113") / 3"x0.131"[1]	4"OC / 6"OC
27	1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	(2)-8d (2 1/2"x0.113") (2)-STAPLES 1 3/4"	—
28	2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE NAIL	(2)-16d (3 1/2"x0.135")	—
29	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	(2)-16d (3 1/2"x0.135")	AT EA BEARING
30	BAND OR RIM JOIST TO JOIST, END NAIL	(3)-10d (3"x0.128") / (4)-3"x0.131"[1]	—
31	BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS	10d (3"x0.128") / (3)-3"x0.131"[1]	NAIL EA LAYER AS FOLLOWS: 24"OC @ T&B AND STAGG ON OPP SIDES. (2)-NAILS @ ENDS & @ EA SPLICE.
32	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	(3)-16d (3 1/2"x0.135")	AT EA JOIST OR RAFTER

NOTES:
1. 3"x0.131" COLLATED FASTENERS ARE APPROPRIATE FOR USE WITH PNEUMATIC NAILERS.



STUD PACK SCHEDULE AT HEADERS

NUMBER OF STUDS	KING STUDS	BEARING STUDS	OPENING WIDTH
(2)-2x	1	1	-
(3)-2x	1	2	-
(4)-2x	2	2	-
(5)-2x	2	3	-

NOTES:
1. SOLE PLATES FOR INTERIOR WALLS MAY BE ANCHORED BY USE OF 0.145"Ø POWDER-ACTUATED FASTENERS AT 32" ON CENTER MAXIMUM WITH 1 1/2" MINIMUM PENETRATION AT CONTRACTOR'S OPTION.
2. OPTIONAL ANCHORS SHALL NOT BE USED IN CURBS, ADJACENT TO DEPRESSED SLABS, IN EXTERIOR WALLS, OR IN SHEAR WALLS.
3. EACH SOLE PLATE PIECE SHALL HAVE (2)-BOLTS MINIMUM. HOLD-DOWN ANCHORS ARE NOT TO BE CONCIDERED AN ANCHOR BOLT.
4. **DO NOT** DRILL OVERSIZE HOLES THRU SILL PLATE.
5. CONTACT ENGINEER-OF-RECORD FOR POST-INSTALLED ANCHOR OPTIONS.

01 TYPICAL FASTENER SCHEDULE FOR WOOD STRUCTURAL MEMBERS

SCALE : NTS

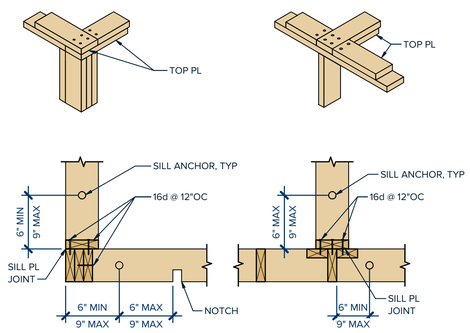
LUMBER HANGER SCHEDULE

MEMBER SIZE	FACE MOUNT HANGER	MEMBER SIZE	FACE MOUNT HANGER
2x8	LUS 28	1 3/4"x11 1/4" LVL	LUS 210
(2)-2x8	LUS 28-2	(2)-1 3/4"x11 1/4" LVL	HU 412
(3)-2x8	LUS 28-3	(3)-1 3/4"x11 1/4" LVL	HU 612
2x10	LUS 210	(2)-1 3/4"x14" LVL	HGUS 4110
(2)-2x10	LUS 210-2	(3)-1 3/4"x14" LVL	HHUS 5.5/10
(3)-2x10	HU 210-3	(2)-1 3/4"x16" LVL	HGUS 412
2x12	LUS 212	(3)-1 3/4"x16" LVL	HHUS 5.5/10
(2)-2x12	HUS 212-2	(2)-1 3/4"x18" LVL	HGUS 412
(3)-2x12	HU 212-3	(3)-1 3/4"x18" LVL	HGUS 5.5/14

NOTES:
1. HANGERS LISTED ABOVE ARE MANUFACTURED BY SIMPSON STRONG-TIE.
2. INSTALL HANGERS ACCORDING TO MANUFACTURER'S GUIDELINES.
3. USE HANGERS AS SCHEDULED ABOVE UNLESS OTHERWISE NOTED ON PLANS OR DETAILS.

03 TYPICAL HANGER SCHEDULE FOR WOOD STRUCTURAL MEMBERS

SCALE : NTS



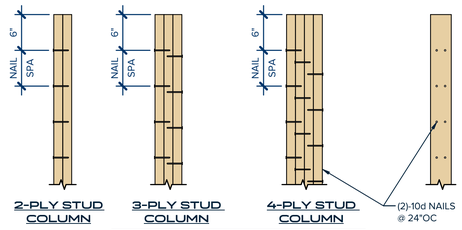
NOTES:
1. SEE SHEAR WALL TYPICAL DETAILS FOR HOLD-DOWN ANCHORS AT CORNERS AND SILL ANCHOR SPACING.

04 TYPICAL CORNERS & INTERSECTIONS AT 2X WOOD STUD WALLS

SCALE : NTS

02 TYPICAL WALL FRAMING ELEVATION

SCALE : NTS



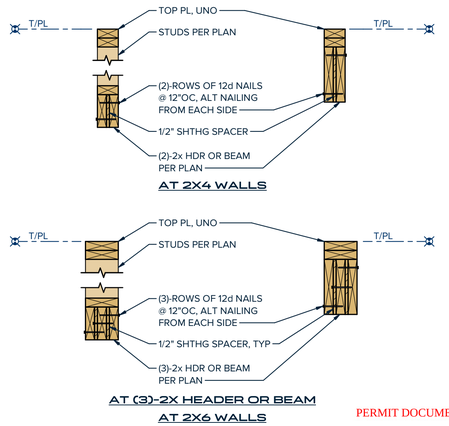
STUD PACK NAILING SCHEDULE

NUMBER OF STUDS	FASTENERS
(2)-2x	10d NAILS EA SIDE @ 8"OC
(3)-2x	30d NAILS EA SIDE @ 8"OC
(4)-2x	30d NAILS EA SIDE & STUD @ 8"OC
(5)-2x	3/8"Ø THRU BOLTS @ 8"OC

NOTES:
1. CONNECT CENTER TWO STUDS FIRST.

05 TYPICAL BUILT-UP WOOD STUD COLUMNS

SCALE : NTS



06 TYPICAL BUILT-UP 2X HEADER OR BEAM

SCALE : NTS

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12/15/2023

SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE
	PM: S.Young	
	ENG: S. Young	
	BIM PM: C Lawrence	
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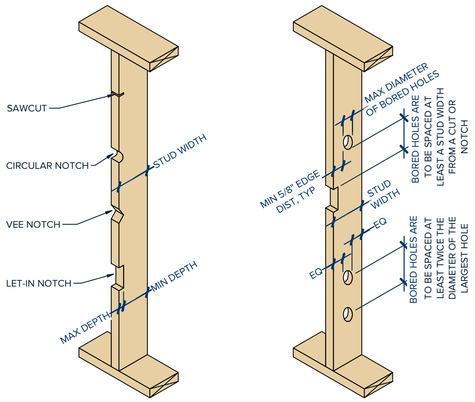
TYPICAL WOOD DETAILS

SHEET TITLE

S8.01

SHEET NUMBER



CUTTING AND NOTCHING WOOD STUDS

BEARING WALL STUDS		
STUD SIZE	MAX DEPTH OF EDGE CUT OR NOTCH	MIN DEPTH REMAINING AFTER CUT OR NOTCH
2x4	7/8"	2 5/8"
2x6	1 3/8"	4 1/8"

NON-BEARING WALL STUDS		
STUD SIZE	MAX DEPTH OF EDGE CUT OR NOTCH	MIN DEPTH REMAINING AFTER CUT OR NOTCH
2x4	1 3/8"	2 1/8"
2x6	2 3/16"	3 3/8"

NOTES:
1. DO NOT NOTCH MORE THAN THREE ADJACENT STUDS WITHOUT REVIEW BY ENGINEER.

BORED HOLES IN WOOD STUDS

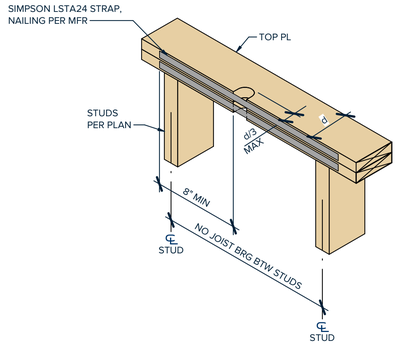
BEARING WALL STUDS		
STUD SIZE	MAX DIAMETER OF BORED HOLE	MIN DEPTH REMAINING AFTER BORED HOLE
2x4	1 3/8"	5/8" EA SIDE OF HOLE
2x6	2 3/16"	5/8" EA SIDE OF HOLE

NOTES:
1. STUDS MAY NOT BE BORED IN EXCESS OF 40% OF THE STUD, IF STUDS ARE DOUBLED, BORINGS MAY BE INCREASED TO 60% OF STUD WIDTH PROVIDED NOT MORE THAN (2)-SUCCESSIVE STUDS ARE BORED. BORINGS SHALL NOT BE MADE AT THE SAME SECTION WHERE CUT OR NOTCH HAS BEEN MADE.

NON-BEARING WALL STUDS		
STUD SIZE	MAX DIAMETER OF BORED HOLE	MIN DEPTH REMAINING AFTER BORED HOLE
2x4	2 1/16"	5/8" EA SIDE OF HOLE
2x6	3 1/4"	5/8" EA SIDE OF HOLE

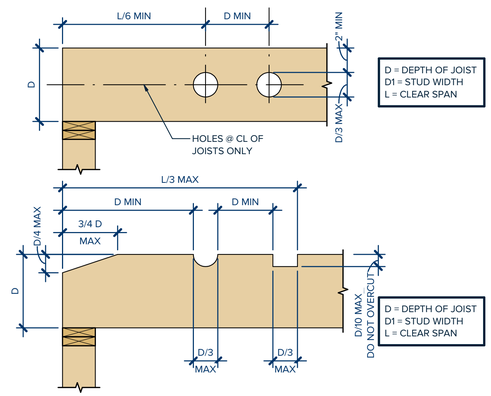
NOTES:
1. BORED HOLE NOT PERMITTED IN MORE THAN THREE ADJACENT STUDS WITHOUT REVIEW BY ENGINEER.
2. STUDS MAY NOT BE BORED IN EXCESS OF 60% OF THE STUD. BORINGS SHALL NOT BE MADE AT THE SAME SECTION WHERE CUT OR NOTCH HAS BEEN MADE.

01 TYPICAL HOLES & NOTCHES IN WOOD STUDS
SCALE : NTS



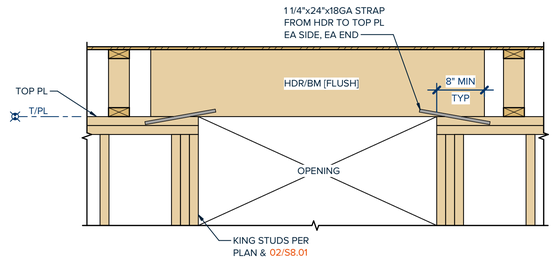
NOTES:
1. TYPICAL HOLES AND NOTCHES IN WOOD STUDS PER 01/S8.02 .

02 TYPICAL NOTCHES AT TOP PLATES
SCALE : NTS

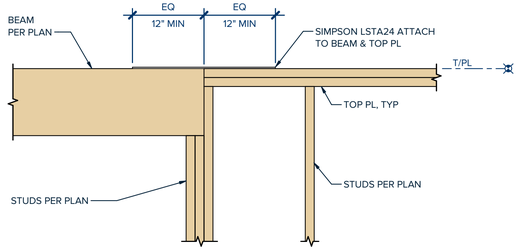


NOTES:
1. DETAIL APPLIES TO JOISTS ONLY. NOTIFY ENGINEER OF RECORD PRIOR TO MODIFYING BEAMS.

03 FLUSH HEADER DETAIL
SCALE : NTS



04 TYPICAL BEAM TO TOP PLATE SPLICE
SCALE : NTS



05 ALLOWABLE TYPICAL MODIFICATIONS TO WOOD JOISTS
SCALE : NTS

06 TYPICAL CHANGE IN PLATE HEIGHT
SCALE : NTS

07 FRAMING DETAIL AT CANTILEVER BACK SPAN
SCALE : NTS

08 TYPICAL NAILER ATTACHMENT TO STEEL COLUMN
SCALE : NTS

SIDE-LOADED MULTIPLE MEMBER CONNECTION SCHEDULE

ASSEMBLY TYPE	NAILED CONNECTION	THROUGH BOLTED CONNECTION	STRUCTURAL WOOD SCREW CONNECTION
ASSEMBLY "A"	(3)-ROWS 12d COMMON WIRE NAILS @ 12"OC	(2)-ROWS 1/4"Ø A325 BOLTS W/ WASHERS @ 12"OC	(2)-ROWS 1/4"Øx3 1/2" LONG SCREWS @ 12"OC
ASSEMBLY "B"	N/A	(2)-ROWS 1/4"Ø A325 BOLTS W/ WASHERS @ 12"OC	N/A

09 SIDE-LOADED MULTIPLE MEMBER CONNECTION SCHEDULE
SCALE : NTS

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SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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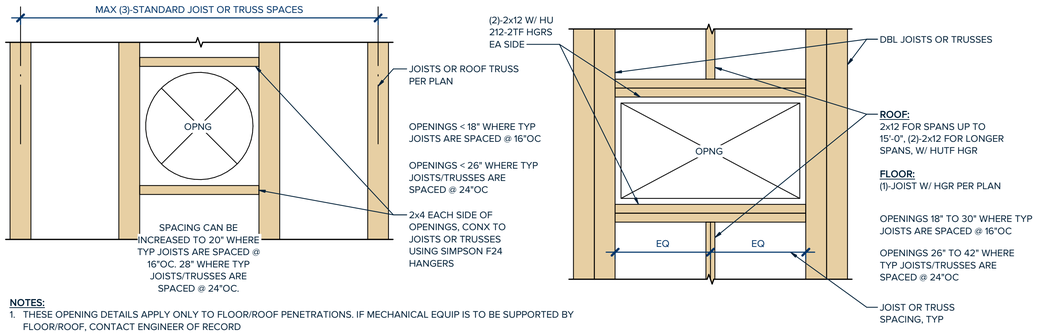
TYPICAL WOOD DETAILS
SHEET TITLE

S8.02
SHEET NUMBER

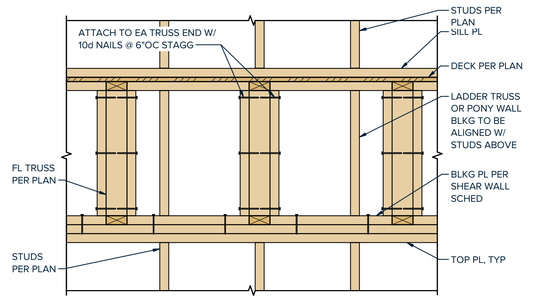
PERMIT DOCUMENTS



NOTES:
1. THESE OPENING DETAILS APPLY ONLY TO FLOOR/ROOF PENETRATIONS. IF MECHANICAL EQUIP IS TO BE SUPPORTED BY FLOOR/ROOF, CONTACT ENGINEER OF RECORD

01 TYPICAL FRAMING AT FLOOR/ROOF OPENINGS

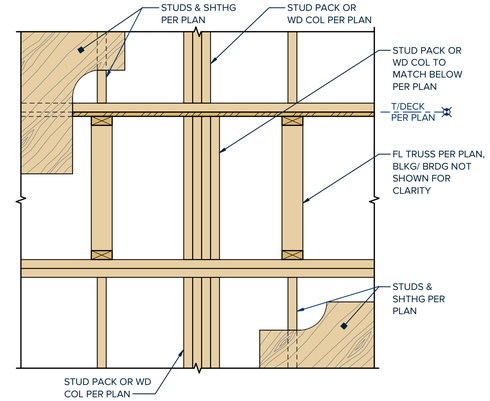
SCALE : NTS



NOTES:
1. TRUSS BLOCKING STUDS TO MATCH SIZE AND SPACING OF STUD WALL BELOW.
2. PREFABRICATED LADDER TRUSS OR TRUSS BLOCKING IS AN ACCEPTABLE ALTERNATE. TRUSS OR TRUSS BLOCKING TO BE DESIGNED FOR AXIAL LOAD OF WALL ABOVE.
3. LADDER TRUSS OVER SHEAR WALL WITHOUT SHEATHING TO BE DESIGNED FOR SHEAR LOAD TO MATCH WALL BELOW. ATTACHMENT TO TOP PLATE PER SHEAR WALL SCHEDULE.

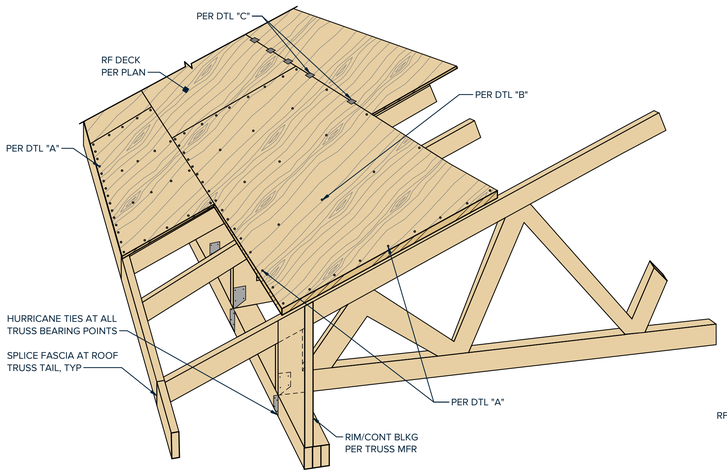
02 TRUSS BLOCKING ELEVATION

SCALE : NTS



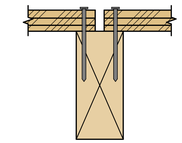
03 STUD PACK CONTINUOUS TO FOUNDATION

SCALE : NTS

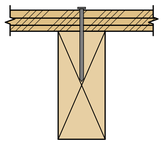


04 TYPICAL SLOPED ROOF DIAGRAM

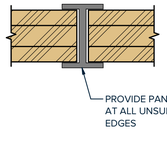
SCALE : NTS



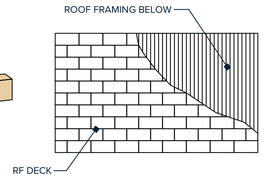
PANEL EDGES DETAIL "A"



INTERMEDIATE SUPPORT DETAIL "B"

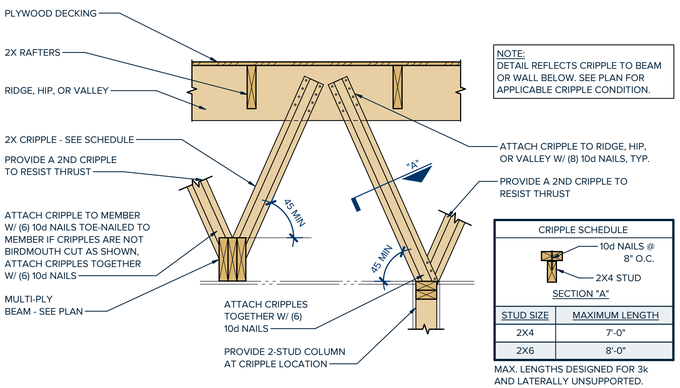


PANEL EDGE CLIP (H CLIP) DETAIL "C"



ROOF DECK PATTERN

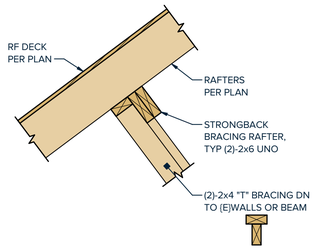
NOTES:
1. TRUSS PROFILE IS A GRAPHICAL REPRESENTATION ONLY.
2. PANELS SHALL BE INSTALLED WITH 1/4" SPACING AT END JOINTS AND 1/8" SPACING AT EDGE JOINTS MINIMUM.
3. PROVIDE PANEL EDGE CLIPS (H-CLIPS) AT MID-SPAN OF UNSUPPORTED SHEATHING EDGES.
4. STAGGER PANEL JOINTS THAT RUN PARALLEL TO TRUSSES.
5. 10d COMMON NAILS SHALL HAVE 1 3/4" MINIMUM EMBEDMENT INTO SUBSTRATE.
6. REFERENCE GENERAL NOTES FOR ADDITIONAL INFORMATION.



NOTE:
DETAIL REFLECTS CRIPPLE TO BEAM OR WALL BELOW. SEE PLAN FOR APPLICABLE CRIPPLE CONDITION.

CRIPPLE SCHEDULE	
10d NAILS @ 8" O.C. / 2X4 STUD — SECTION "A"	
STUD SIZE	MAXIMUM LENGTH
2X4	7'-0"
2X6	8'-0"

MAX. LENGTHS DESIGNED FOR 3k AND LATERALLY UNSUPPORTED.



05 TYPICAL STRONGBACK

SCALE : NTS

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SEAL

ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
12.15.2023

NO	ISSUE	DATE

PM: S.Young
ENG: S. Young
BIM PM: C Lawrence
QA/QC: S Covey

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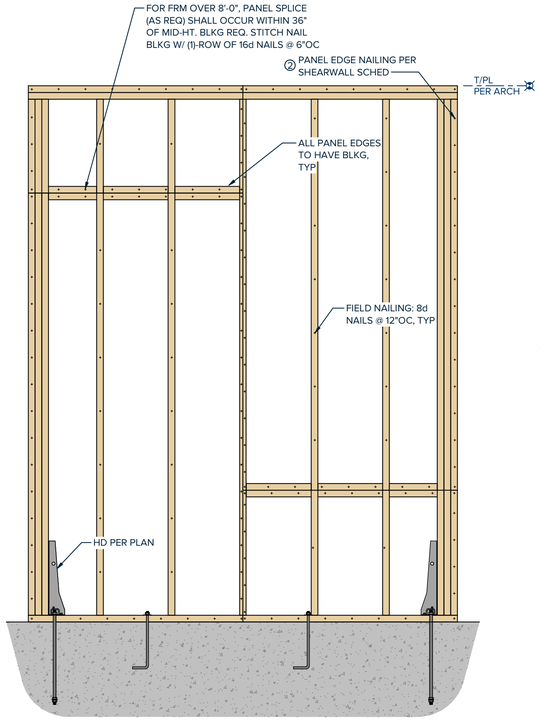
TYPICAL WOOD DETAILS

SHEET TITLE

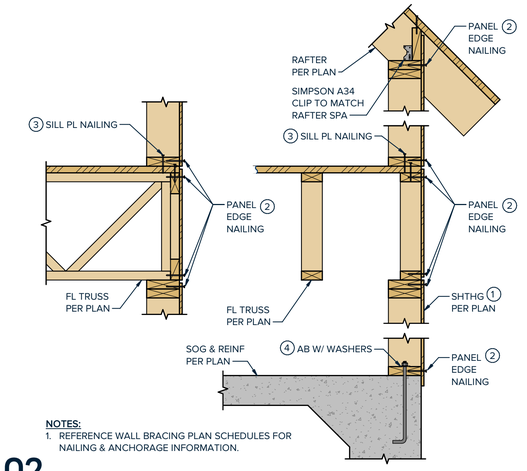
S8.03

SHEET NUMBER



01 TYPICAL WOOD STRUCTURAL PANEL SHEAR WALL ELEVATION

SCALE : NTS

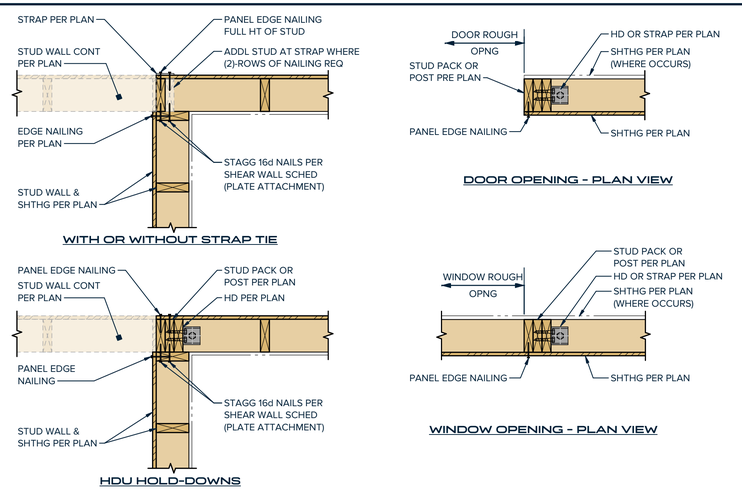


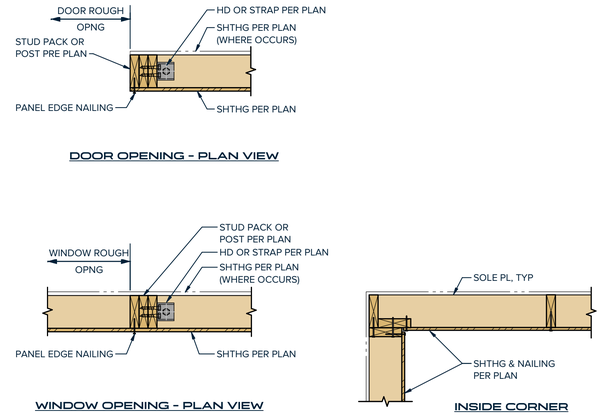
NOTES:

1. REFERENCE WALL BRACING PLAN SCHEDULES FOR NAILING & ANCHORAGE INFORMATION.

02 SHEAR WALL NAILING SCHEDULE

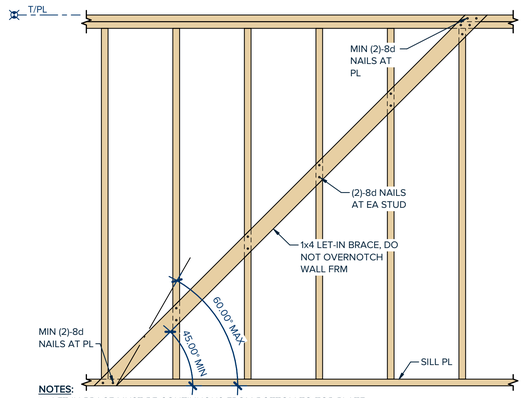
SCALE : NTS





03 PLAN - INTERSECTING SHEAR WALLS

SCALE : 1" = 1'-0"



NOTES:

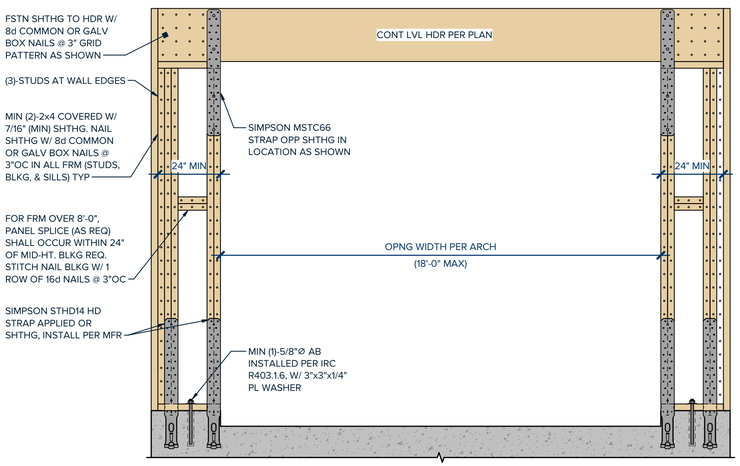
1. LET-IN BRACE MUST BE CONTINUOUS FROM BOTTOM TO TOP PLATE.
2. 1x4 LET-IN OR SIMPSON CS18 METAL STRAPS MAY BE USED INTERCHANGEABLY FOR WALL HEIGHTS UP TO 10' WITH STUDS SPACED @ 16" OC.
3. BRACE MAY BE INSTALLED ON OPPOSITE WALL FACE FROM THAT SHOWN ON PLAN FOR EASE OF INSTALLATION.

04 TYPICAL LET-IN BRACE WALL ELEVATION

SCALE : NTS

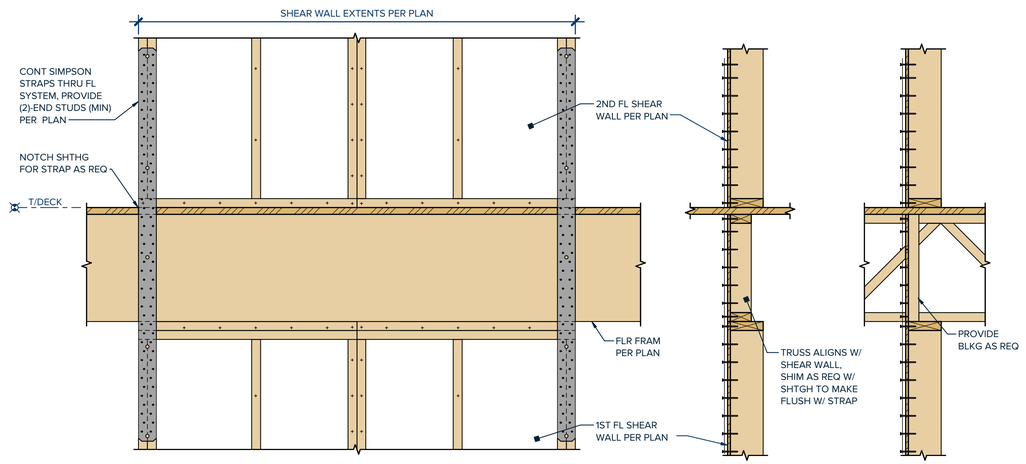
05 TYPICAL (2)-STORY SHEAR WALL (NOT STACKED)

SCALE : NTS



06 TYPICAL CONTINUOUSLY SHEATHED PORTAL FRAME WALL ELEVATION

SCALE : NTS



07 TYPICAL (2)-STORY INTERIOR SHEAR WALL (STACKED)

SCALE : NTS

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ALTERSTUDIO ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

PERMIT SET
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PM: S.Young
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BIM PM: C Lawrence
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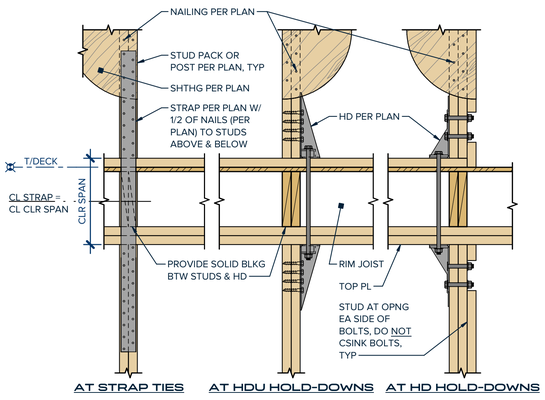
SCALE

TYPICAL WOOD SHEAR WALL DETAILS

SHEET TITLE

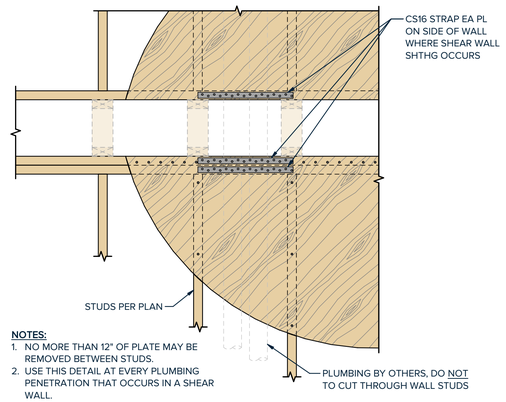
S8.04

SHEET NUMBER



01 TYPICAL HOLD-DOWN OR STRAP CONNECTION AT FLOOR FRAMING

SCALE : NTS

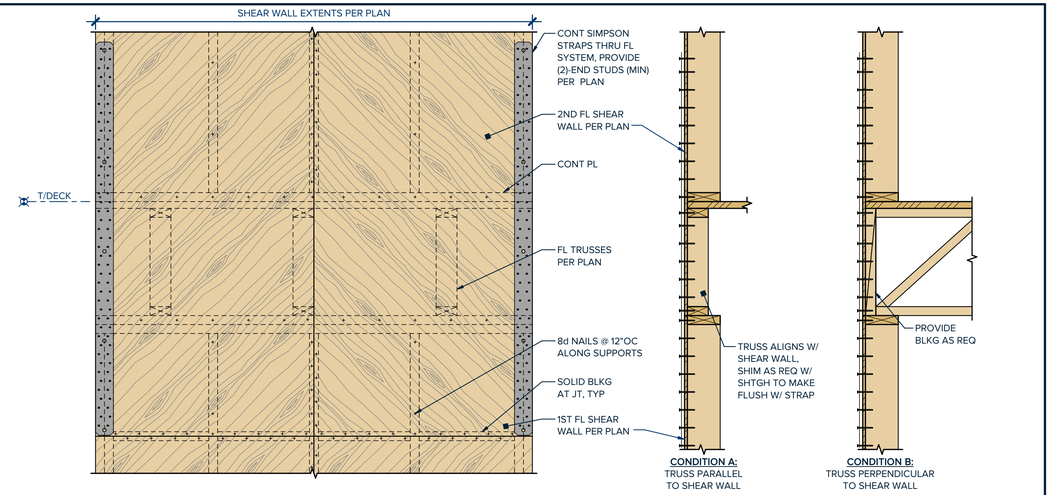


NOTES:

1. NO MORE THAN 12" OF PLATE MAY BE REMOVED BETWEEN STUDS.
2. USE THIS DETAIL AT EVERY PLUMBING PENETRATION THAT OCCURS IN A SHEAR WALL.

02 PLATE STRAPPING AT SHEAR WALL PLUMBING PENETRATIONS

SCALE : NTS



CONDITION A: TRUSS PARALLEL TO SHEAR WALL

CONDITION B: TRUSS PERPENDICULAR TO SHEAR WALL

03 TYPICAL (2)-STORY EXTERIOR SHEAR WALL ELEVATION

SCALE : NTS

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1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
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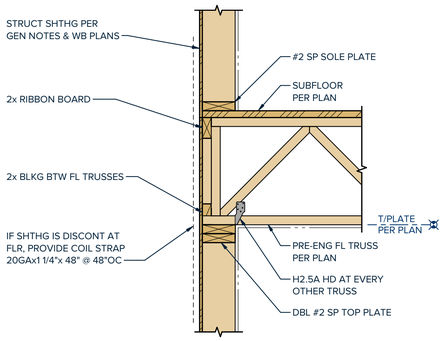
TYPICAL WOOD SHEAR WALL DETAILS

SHEET TITLE

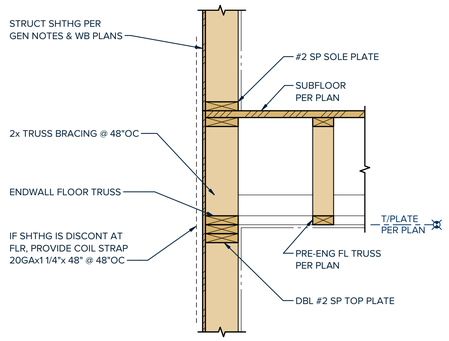
S8.05

SHEET NUMBER



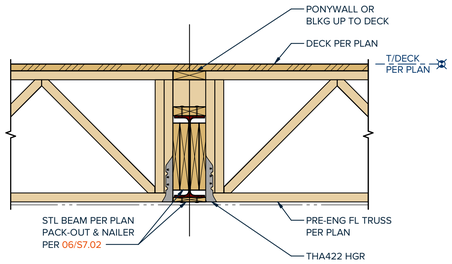
01 FLOOR TRUSS - PERPENDICULAR TO EXT WALL

SCALE : 1" = 1'-0"



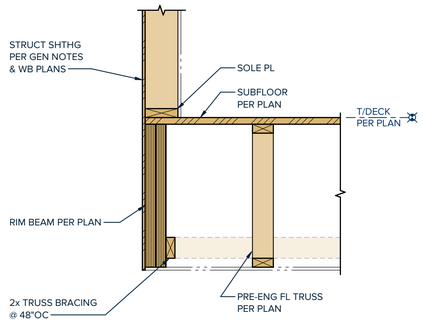
02 FLOOR TRUSS - PARALLEL TO EXT WALL

SCALE : 1" = 1'-0"



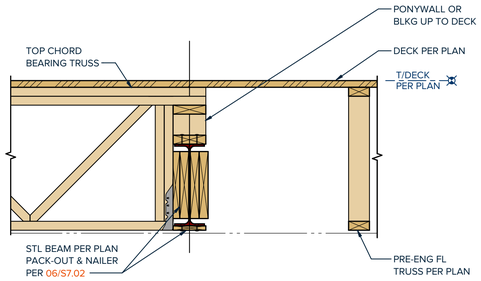
03 FLOOR TRUSS AT WIDE FLANGE BEAM

SCALE : 1" = 1'-0"



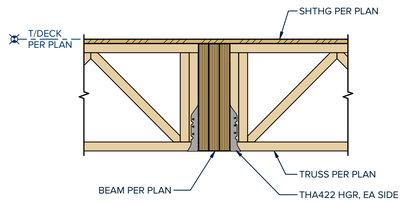
04 FLOOR TRUSS, PARALLEL W/ LVL

SCALE : 1" = 1'-0"



05 FLOOR TRUSS AT WIDE FLANGE BEAM

SCALE : 1" = 1'-0"

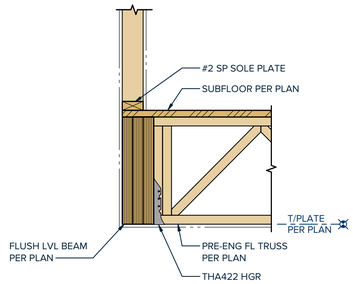


NOTES:

1. TRUSS AND HANGER ON ONE SIDE AT SIMILAR.

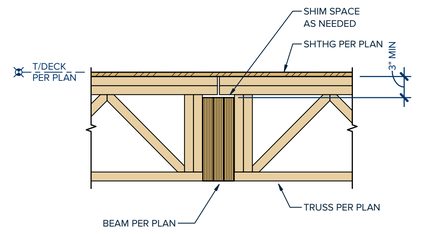
06 FLOOR TRUSS TO WOOD BEAM

SCALE : 1" = 1'-0"



07 FLOOR TRUSS - FLUSH LVL BEAM

SCALE : 1" = 1'-0"

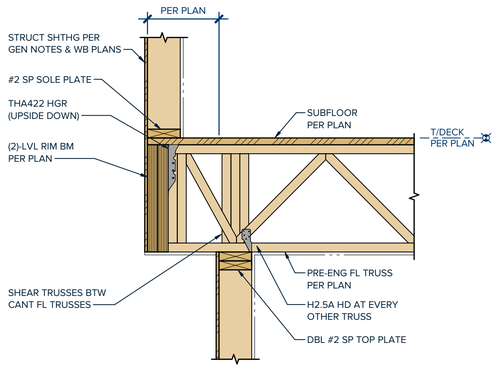


NOTES:

1. TOP CHORD BEARING TURSSES SHALL BEAR A MINIMUM OF 2 1/2" OVER THE SUPPORTING BEAM.
2. OFFSET & LAP TRUSSES AT BEAM NARROWER THAN 5" TO PROVIDE FULL BEAM WIDTH BEARING LENGTH (2 1/2" MIN)

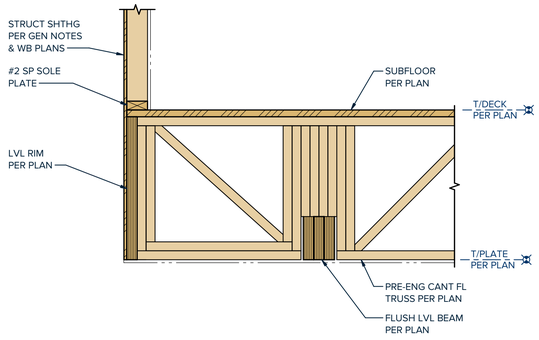
08 TOP CHORD BEARING TRUSS ON WOOD BEAM

SCALE : 1" = 1'-0"



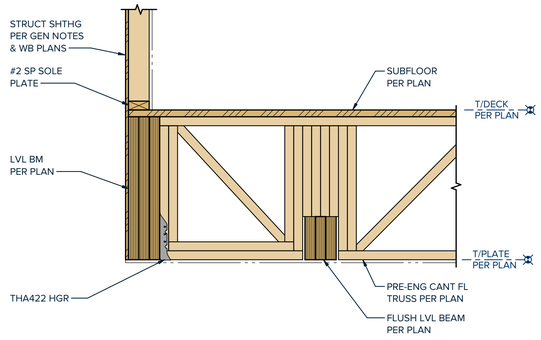
09 CANTILEVER FLOOR TRUSS

SCALE : 1" = 1'-0"



10 FLOOR TRUSS - FLUSH LVL BEAM

SCALE : 1" = 1'-0"



11 FLOOR TRUSS - FLUSH LVL BEAM

SCALE : 1" = 1'-0"

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ARCHITECTURE LLP
1801 Lavaca Street
Ste 106
Austin, Texas 78701

ARCHITECT

KOS RESIDENCE

17363 E Reed Parks Rd
Jonestown, Texas 78645

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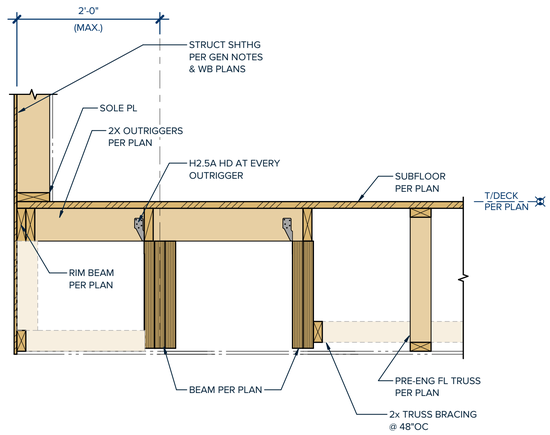
WOOD FRAMING

SHEET TITLE

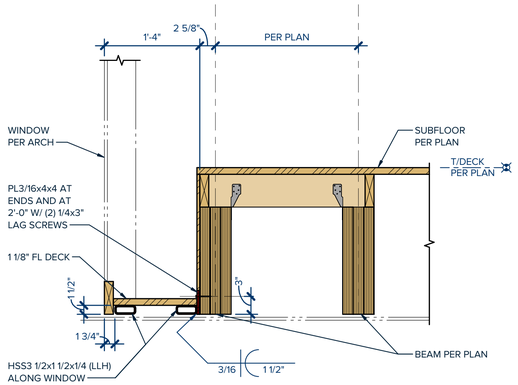
S8.10

SHEET NUMBER



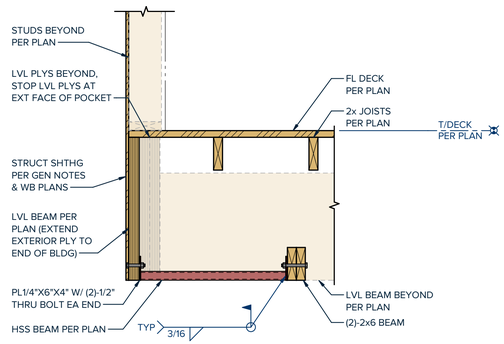
01 FLOOR TRUSS, PARALLEL W/ LVL

SCALE : 1" = 1'-0"



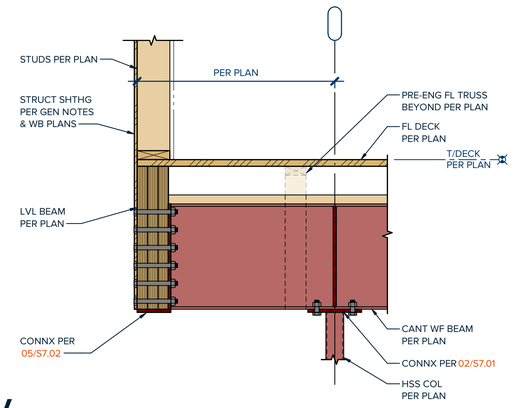
02 FLOOR POCKET AT WINDOW

SCALE : 1" = 1'-0"



03 FLOOR POCKET AT WINDOW

SCALE : 1" = 1'-0"



04 LVL TO WF BEAM CONNECTION

SCALE : 1" = 1'-0"

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ARCHITECTURE LLP
1801 Lavaca Street
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WOOD FRAMING DETAILS

SHEET TITLE

S8.11

SHEET NUMBER

REScheck Software Version 4.7.2

Compliance Certificate

Project 17363 E Reed Parks Rd.

Energy Code:	**2015 IECC**
Location:	**Jonestown, Texas**
Construction Type:	**Single-family**
Project Type:	**New Construction**
Conditioned Floor Area:	**3,434 ft2**
Glazing Area	**36%**
Climate Zone:	**2 (1688 HDD)**
Permit Date:	
Permit Number:	

Construction Site:
17363 E Reed Parks Rd.
Jonestown, TX 78645

Owner/Agent:
Alterstudio
17363 E Reed Parks Rd.
Jonestown, TX 78645

Designer/Contractor:
TX

Compliance: Passes using UA trade-off

Compliance: **7.8% Better Than Code** Maximum UA: **930** Your UA: **857** Maximum SHGC: **0.25** Your SHGC: **0.25**

The % Better or Worse Than Code Index reflects how close to compliance the house is based on code trade-off rules.
It DOES NOT provide an estimate of energy use or cost relative to a minimum-code home.

NOTE: Slab-on-grade tradeoffs are no longer considered in the UA or performance compliance path in REScheck. Each slab-on-grade assembly in the specified climate zone must meet the minimum energy code insulation R-value and depth requirements.

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor	Req. U-Factor	Prop. UA	Req. UA
Wall 1: Wood Frame, 16" o.c.	427	19.0	0.0	0.060	0.084	9	12
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	138			0.400	0.400	55	55
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	48			0.400	0.400	19	19
Window 3: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	49			0.400	0.400	20	20
Window 4: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	50			0.400	0.400	20	20
Wall 2: Wood Frame, 16" o.c.	400	19.0	0.0	0.060	0.084	16	22
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	138			0.400	0.400	55	55
Wall 3: Wood Frame, 16" o.c.	234	19.0	0.0	0.060	0.084	11	16
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	43			0.400	0.400	17	17

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor	Req. U-Factor	Prop. UA	Req. UA
Wall 4: Wood Frame, 16" o.c.	278	19.0	0.0	0.060	0.084	7	10
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	22			0.400	0.400	9	9
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	94			0.400	0.400	38	38
Window 3: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	40			0.400	0.400	16	16
Wall 5: Wood Frame, 16" o.c.	45	19.0	0.0	0.060	0.084	3	4
Wall 6: Wood Frame, 16" o.c.	483	19.0	0.0	0.060	0.084	13	18
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	10			0.400	0.400	4	4
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	173			0.400	0.400	69	69
Window 3: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	49			0.400	0.400	20	20
Window 4: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	38			0.400	0.400	15	15
Wall 7: Wood Frame, 16" o.c.	721	19.0	0.0	0.060	0.084	30	43
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	67			0.400	0.400	27	27
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	26			0.400	0.400	11	11
Window 3: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	54			0.400	0.400	22	22
Window 4: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	36			0.400	0.400	14	14
Window 5: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	32			0.400	0.400	13	13
Wall 8: Wood Frame, 16" o.c.	209	19.0	0.0	0.060	0.084	10	14
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	10			0.400	0.400	4	4
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	28			0.400	0.400	11	11
Wall 9: Wood Frame, 16" o.c.	198	19.0	0.0	0.060	0.084	9	12
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	54			0.400	0.400	22	22
Wall 10: Wood Frame, 16" o.c.	55	19.0	0.0	0.060	0.084	1	1
Door 1: Solid	40			0.390	0.400	16	16
Wall 11: Wood Frame, 16" o.c.	74	19.0	0.0	0.060	0.084	4	6
Wall 12: Wood Frame, 16" o.c.	299	19.0	0.0	0.060	0.084	10	14

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Prop. U-Factor	Req. U-Factor	Prop. UA	Req. UA
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	45			0.400	0.400	18	18
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	92			0.400	0.400	37	37
Wall 13: Wood Frame, 16" o.c.	457	19.0	0.0	0.060	0.084	23	32
Window 1: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	12			0.400	0.400	5	5
Window 2: 2 glazing, clr low-e outr, argon gas, mtl /w brk frm mat, clr innr SHGC: 0.25	66			0.400	0.400	26	26
Wall 14: Wood Frame, 16" o.c.	60	19.0	0.0	0.060	0.084	4	5
Floor 2: All-Wood Joist/Truss:Over Unconditioned Space	871	13.0	0.0	0.064	0.064	56	56
Floor 3: All-Wood Joist/Truss:Over Unconditioned Space	47	13.0	0.0	0.064	0.064	3	3
Floor 1: Slab-On-Grade:Unheated Insulation depth: 0.5'	175		0.0	1.042	0.064	0	0
Ceiling 1: Cathedral Ceiling (no attic)	2,176	26.0	12.0	0.026	0.030	56	65
Skylight 1: Sky glazing, small, r-6 or better curb, no shaft lgt shaft, vnl sa SHGC: 0.25	21			0.430	0.650	9	14

Compliance Statement: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2015 IECC requirements in RES*check* Version 4.7.2 and to comply with the mandatory requirements listed in the RES*check* Inspection Checklist.

Andrew Pell — Name - Title

Andrew Pell — Signature

4/26/2023 — Date

Project Notes:

Completed by - Andrew Pell, License # TACLA57315E

RES*check* Software Version 4.7.2

Inspection Checklist

Energy Code: 2015 IECC

Requirements: 0.0% were addressed directly in the RES*check* software

Text in the "Comments/Assumptions" column is provided by the user in the REScheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Pre-Inspection/Plan Review	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
103.1, 103.2 [PR1][1]	Construction drawings and documentation demonstrate energy code compliance for the building envelope. Thermal envelope represented on construction documents.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
103.1, 103.2, 403.7 [PR3][1]	Construction drawings and documentation demonstrate energy code compliance for lighting and mechanical systems. Systems serving multiple dwelling units must demonstrate compliance with the IECC Commercial Provisions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
302.1, 403.7 [PR2][2]	Heating and cooling equipment is sized per ACCA Manual S based on loads calculated per ACCA Manual J or other methods approved by the code official.	Heating: Btu/hr____ Cooling: Btu/hr____	Heating: Btu/hr____ Cooling: Btu/hr____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.2 [FO1][1]	Slab edge insulation R-value.	R-____ ☐ Unheated ☐ Heated	R-____ ☐ Unheated ☐ Heated	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.2 [FO3][1]	Slab edge insulation depth/length.	____ ft	____ ft	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2.1 [FO11][2]	A protective covering is installed to protect exposed exterior insulation and extends a minimum of 6 in. below grade.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.9 [FO12][2]	Snow- and ice-melting system controls installed.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.3.4 [FR1][1]	Door U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.1, 402.3.3, 402.5 [FR2][1]	Glazing U-factor (area-weighted average).	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.2, 402.3.3, 402.5 [FR3][1]	Glazing SHGC value (area-weighted average).	SHGC:____	SHGC:____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.3 [FR4][1]	U-factors of fenestration products are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.3.3, 402.3.6, 402.5 [FR5][1]	Skylight U-factor.	U-____	U-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
402.1.1, 402.3.3, 402.3.6, 402.5 [FR6][1]	Skylight SHGC value.	SHGC:____	SHGC:____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.3 [FR7][1]	SHGC values are determined in accordance with the NFRC test procedure or taken from the default table.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.1.1 [FR23][1]	Air barrier and thermal barrier installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.3 [FR20][1]	Fenestration that is not site built is listed and labeled as meeting AAMA /WDMA/CSA 101/I.S.2/A440 or has infiltration rates per NFRC 400 that do not exceed code limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.5 [FR16][2]	IC-rated recessed lighting fixtures sealed at housing/interior finish and labeled to indicate ≤2.0 cfm leakage at 75 Pa.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.1 [FR12][1]	Supply and return ducts in attics insulated >= R-8 where duct is >= 3 inches in diameter and >= R-6 where < 3 inches. Supply and return ducts in other portions of the building insulated >= R-6 for diameter >= 3 inches and R-4.2 for < 3 inches in diameter.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.3.5 [FR15][3]	Building cavities are not used as ducts or plenums.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.4 [FR17][2]	HVAC piping conveying fluids above 105 ºF or chilled fluids below 55 ºF are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.4.1 [FR24][1]	Protection of insulation on HVAC piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.3 [FR18][2]	Hot water pipes are insulated to ≥R-3.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.6 [FR19][2]	Automatic or gravity dampers are installed on all outdoor air intakes and exhausts.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
303.1 [IN13][2]	All installed insulation is labeled or the installed R-values provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.2.6 [IN1][1]	Floor insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2, 402.2.7 [IN2][1]	Floor insulation installed per manufacturer's instructions and in substantial contact with the underside of the subfloor, or floor framing cavity insulation is in contact with the top side of sheathing, or continuous insulation is installed on the underside of floor framing and extends from the bottom to the top of all perimeter floor framing members.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.1.1, 402.2.5, 402.2.6 [IN3][1]	Wall insulation R-value. If this is a mass wall with at least ½ of the wall insulation on the wall exterior, the exterior insulation requirement applies (FR10).	R-____ ☐ Wood ☐ Mass ☐ Steel	R-____ ☐ Wood ☐ Mass ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.2 [IN4][1]	Wall insulation is installed per manufacturer's instructions.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
402.1.1, 402.2.1, 402.2.2, 402.2.6 [FI1][1]	Ceiling insulation R-value.	R-____ ☐ Wood ☐ Steel	R-____ ☐ Wood ☐ Steel	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
303.1.1.1, 303.2 [FI2][1]	Ceiling insulation installed per manufacturer's instructions. Blown insulation marked every 300 ft².			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.3 [FI22][2]	Vented attics with air permeable insulation include baffle adjacent to soffit and eave vents that extends over insulation.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.2.4 [FI3][1]	Attic access hatch and door insulation ≥R-value of the adjacent assembly.	R-____	R-____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
402.4.1.2 [FI17][1]	Blower door test @ 50 Pa. <=5 ach in Climate Zones 1-2, and <=3 ach in Climate Zones 3-8.	ACH 50 =____	ACH 50 =____	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.4 [FI4][1]	Duct tightness test result of <=4 cfm/100 ft2 across the system or <=3 cfm/100 ft2 without air handler @ 25 Pa. For rough-in tests, verification may need to occur during Framing Inspection.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.3 [FI27][1]	Ducts are pressure tested to determine air leakage with either: Rough-in test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the system including the manufacturer's air handler enclosure if installed at time of test. Postconstruction test: Total leakage measured with a pressure differential of 0.1 inch w.g. across the entire system including the manufacturer's air handler enclosure.	____ cfm/100 ft²	____ cfm/100 ft²	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.3.2.1 [FI24][1]	Air handler leakage designated by manufacturer at <=2% of design air flow.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.1.1 [FI9][2]	Programmable thermostats installed for control of primary heating and cooling systems and initially set by manufacturer to code specifications.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.1.2 [FI10][2]	Heat pump thermostat installed on heat pumps.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1 [FI11][2]	Circulating service hot water systems have automatic or accessible manual controls.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.6.1 [FI25][2]	All mechanical ventilation system fans not part of tested and listed HVAC equipment meet efficacy and air flow limits.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.2 [FI26][2]	Hot water boilers supplying heat through one- or two-pipe heating systems have outdoor setback control to lower boiler water temperature based on outdoor temperature.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1.1 [FI28][2]	Heated water circulation systems have a circulation pump. The system return pipe is a dedicated return pipe or a cold water supply pipe. Gravity and thermos-syphon circulation systems are not present. Controls for circulating hot water system pumps start the pump with signal for hot water demand within the occupancy. Controls automatically turn off the pump when water is in circulation loop is at set-point temperature and no demand for hot water exists.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.1.2 [FI29][2]	Electric heat trace systems comply with IEEE 515.1 or UL 515. Controls automatically adjust the energy input to the heat tracing to maintain the desired water temperature in the piping.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.2 [FI30][2]	Water distribution systems that have recirculation pumps that pump water from a heated water supply pipe back to the heated water source through a cold water supply pipe have a demand recirculation water system. Pumps have controls that manage operation of the pump and limit the temperature of the water entering the cold water piping to 104ºF.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.5.4 [FI31][2]	Drain water heat recovery units tested in accordance with CSA B55.1. Potable water-side pressure loss of drain water heat recovery units < 3 psi for individual units connected to one or two showers. Potable water-side pressure loss of drain water heat recovery units < 2 psi for individual units connected to three or more showers.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.10.2 [FI12][3]	Readily accessible switch on heaters for swimming pools or permanent in-ground spas. Switch operation does not change heater thermostat setting. Heater circuit breaker is installed independent of switch. Gas-fired heaters equipped with ignition pilots that are not continuously burning pilots.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

Section # & Req.ID	Final Inspection Provisions	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
403.10.3 [FI19][3]	Timer switches or other automatic preset schedule control method are installed on heaters and pumps serving pools and permanent			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
403.10.4 [FI20][3]	Outdoor heated pools and outdoor permanent spas have a vapor retardant cover.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
404.1 [FI6][1]	75% of lamps in permanent fixtures or 75% of permanent fixtures have high efficacy lamps. Does not apply to low-voltage lighting.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
404.1.1 [FI23][3]	Fuel gas lighting systems have no continuous pilot light.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
401.3 [FI7][2]	Compliance certificate posted.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
303.3 [FI18][3]	Manufacturer manuals for mechanical and water heating systems have been provided.			☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1	High Impact (Tier 1)	2	Medium Impact (Tier 2)	3	Low Impact (Tier 3)

2015 IECC Energy Efficiency Certificate

Insulation Rating	R-Value
Above-Grade Wall	19.00
Below-Grade Wall	0.00
Floor	13.00
Ceiling / Roof	38.00
Ductwork (unconditioned spaces):	_____

Glass & Door Rating	U-Factor	SHGC
Window	0.40	0.25
Door	0.39	
Skylight	0.43	0.25

Heating & Cooling Equipment	Efficiency
Heating System:_____	_____
Cooling System:_____	_____
Water Heater:_____	_____

Name: _____ **Date:**_____

Comments

Project Summary
Unit 1: Down
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Notes: The report we provide is only as good as the information we receive.
Please review all load calculations and reports you receive from us for accuracy.
It is ultimately the HVAC contractor who is responsible for the equipment they install.
Texas Department of Licensing and Regulation Number TACLA57315E

Design Information

Weather: Georgetown Municipal, TX, US

Winter Design Conditions

Outside db	28	°F
Inside db	72	°F
Design TD	44	°F

Summer Design Conditions

Outside db	100	°F
Inside db	72	°F
Design TD	28	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	21	gr/lb

Heating Summary

Structure	28353	Btuh
Ducts	0	Btuh
Central vent (43 cfm)	2004	Btuh
Ventilating dehumidifier		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	30357	Btuh

Sensible Cooling Equipment Load Sizing

Structure	23266	Btuh
Ducts	0	Btuh
Central vent (43 cfm)	1958	Btuh
Ventilating dehumidifier		
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	25224	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

	Heating	Cooling
Area (ft²)	1260	1260
Volume (ft³)	12601	12601
Air changes/hour	0.39	0.25
Equiv. AVF (cfm)	82	52

Latent Cooling Equipment Load Sizing

Structure	1530	Btuh
Ducts	0	Btuh
Central vent (43 cfm)	175	Btuh
Ventilating dehumidifier		
Equipment latent load	1705	Btuh
Equipment Total Load (Sen+Lat)	26930	Btuh
Req. total capacity at 0.85 SHR	2.5	ton

Heating Equipment Summary

Make	American Standard
Trade	AMERICAN STANDARD
Model	4A6V0X36A1
AHRI ref	210929576

Efficiency	8.7 HSPF2	
Heating input		
Heating output	31600	Btuh @ 47°F
Temperature rise	37	°F
Actual air flow	800	cfm
Air flow factor	0.028	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Capacity balance point = 24 °F

Backup: American Standard AFUE 100
Input = 10 kW, Output = 34120 Btuh, 100 AFUE

Cooling Equipment Summary

Make	American Standard
Trade	AMERICAN STANDARD
Cond	4A6V0X36A1
Coil	TAMXB0C36V31
AHRI ref	210929576

Efficiency	12.7 EER2,19.5 SEER2	
Sensible cooling	24500	Btuh
Latent cooling	10500	Btuh
Total cooling	35000	Btuh
Actual air flow	1080	cfm
Air flow factor	0.046	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	0.94	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Project Summary
Unit 2: Upstairs
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Notes: The report we provide is only as good as the information we receive.
Please review all load calculations and reports you receive from us for accuracy.
It is ultimately the HVAC contractor who is responsible for the equipment they install.
Texas Department of Licensing and Regulation Number TACLA57315E

Design Information

Weather: Georgetown Municipal, TX, US

Winter Design Conditions

Outside db	28	°F
Inside db	72	°F
Design TD	44	°F

Summer Design Conditions

Outside db	100	°F
Inside db	72	°F
Design TD	28	°F
Daily range	M	
Relative humidity	50	%
Moisture difference	21	gr/lb

Heating Summary

Structure	28069	Btuh
Ducts	0	Btuh
Central vent (67 cfm)	3140	Btuh
Ventilating dehumidifier		
Humidification	0	Btuh
Piping	0	Btuh
Equipment load	31210	Btuh

Sensible Cooling Equipment Load Sizing

Structure	33175	Btuh
Ducts	0	Btuh
Central vent (67 cfm)	3069	Btuh
Ventilating dehumidifier		
Blower	0	Btuh
Use manufacturer's data	y	
Rate/swing multiplier	1.00	
Equipment sensible load	36244	Btuh

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

	Heating	Cooling
Area (ft²)	2176	2176
Volume (ft³)	19582	19582
Air changes/hour	0.31	0.20
Equiv. AVF (cfm)	102	65

Latent Cooling Equipment Load Sizing

Structure	2112	Btuh
Ducts	0	Btuh
Central vent (67 cfm)	275	Btuh
Ventilating dehumidifier		
Equipment latent load	2386	Btuh
Equipment Total Load (Sen+Lat)	38631	Btuh
Req. total capacity at 0.85 SHR	3.6	ton

Heating Equipment Summary

Make	American Standard
Trade	AMERICAN STANDARD
Model	4A6V0X48A1
AHRI ref	207690050

Efficiency	10 HSPF	
Heating input		
Heating output	42500	Btuh @ 47°F
Temperature rise	40	°F
Actual air flow	1000	cfm
Air flow factor	0.036	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Capacity balance point = 14 °F

Backup: American Standard AFUE 100
Input = 10 kW, Output = 34120 Btuh, 100 AFUE

Cooling Equipment Summary

Make	American Standard
Trade	AMERICAN STANDARD
Cond	4A6V0X48A1
Coil	TAMXA0C48V41
AHRI ref	207690050

Efficiency	12.5 EER,19.25 SEER	
Sensible cooling	35250	Btuh
Latent cooling	11750	Btuh
Total cooling	47000	Btuh
Actual air flow	1440	cfm
Air flow factor	0.043	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	0.94	

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Load Short Form
Unit 1: Down
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Design Information

	Htg	Clg
Outside db (°F)	28	100
Inside db (°F)	72	72
Design TD (°F)	44	28
Daily range	-	M
Inside humidity (%)	30	50
Moisture difference (gr/lb)	18	21

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

HEATING EQUIPMENT

Make	American Standard
Trade	AMERICAN STANDARD
Model	4A6V0X36A1
AHRI ref	210929576

Efficiency	8.7 HSPF2	
Heating input		
Heating output	31600	Btuh @ 47°F
Temperature rise	37	°F
Actual air flow	800	cfm
Air flow factor	0.028	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Capacity balance point = 24 °F

Backup: American Standard AFUE 100
Input = 10 kW, Output = 34120 Btuh, 100 AFUE

COOLING EQUIPMENT

Make	American Standard
Trade	AMERICAN STANDARD
Cond	4A6V0X36A1
Coil	TAMXB0C36V31
AHRI ref	210929576

Efficiency	12.7 EER2,19.5 SEER2	
Sensible cooling	24500	Btuh
Latent cooling	10500	Btuh
Total cooling	35000	Btuh
Actual air flow	1080	cfm
Air flow factor	0.046	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	0.94	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Kitchen/Dining	456	9124	10046	257	466
Living	522	14663	11069	414	514
Mud	85	1443	776	41	36
Pantry	66	1565	924	44	43
Pwdr	47	1558	451	44	21
Stairs 1	35	0	0	0	0
Storage	49	0	0	0	0

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Unit 1: Down	1260	28353	23266	800	1080
Other equip loads		2004	1958		
Equip. @ 1.00 RSM			25224		
Latent cooling			1705		
TOTALS	1260	30357	26930	800	1080

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Load Short Form
Unit 2: Upstairs
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Design Information

	Htg	Clg
Outside db (°F)	28	100
Inside db (°F)	72	72
Design TD (°F)	44	28
Daily range	-	M
Inside humidity (%)	30	50
Moisture difference (gr/lb)	18	21

Infiltration

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

HEATING EQUIPMENT

Make	American Standard
Trade	AMERICAN STANDARD
Model	4A6V0X48A1
AHRI ref	207690050

Efficiency	10 HSPF	
Heating input		
Heating output	42500	Btuh @ 47°F
Temperature rise	40	°F
Actual air flow	1000	cfm
Air flow factor	0.036	cfm/Btuh
Static pressure	0.70	in H2O
Space thermostat		

Capacity balance point = 14 °F

Backup: American Standard AFUE 100
Input = 10 kW, Output = 34120 Btuh, 100 AFUE

COOLING EQUIPMENT

Make	American Standard
Trade	AMERICAN STANDARD
Cond	4A6V0X48A1
Coil	TAMXA0C48V41
AHRI ref	207690050

Efficiency	12.5 EER,19.25 SEER	
Sensible cooling	35250	Btuh
Latent cooling	11750	Btuh
Total cooling	47000	Btuh
Actual air flow	1440	cfm
Air flow factor	0.043	cfm/Btuh
Static pressure	0.70	in H2O
Load sensible heat ratio	0.94	

ROOM NAME	Area (ft²)	Htg load (Btuh)	Clg load (Btuh)	Htg AVF (cfm)	Clg AVF (cfm)
Bath 1	71	1140	658	41	29
Bath 2	78	706	423	25	18
Bed 1	181	3126	2949	111	128
Bed 2	219	2989	3453	106	150
Clst 2	36	0	0	0	0
Craft	74	1037	1497	37	65
Kitchenette	94	304	954	11	41
Laundry	92	1250	2221	45	96
M. Bath	168	2708	2539	96	110
M. WC	33	1287	1418	46	62
M. WIC	196	1675	1729	60	75
Master Bed	279	3919	5046	140	219
Mech/Server	102	0	0	0	0
Office 1	75	1568	3692	56	160

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Office 2	50	1331	2325	47	101
Stairs 2	381	4425	3920	158	170
WIC 1	45	604	352	22	15
Unit 2: Upstairs	2176	28069	33175	1000	1440
Other equip loads		3140	3069		
Equip. @ 1.00 RSM			36244		
Latent cooling			2386		
TOTALS	2176	31210	38631	1000	1440

Calculations approved by ACCA to meet all requirements of Manual J 8th Ed.

Load Multizone Summary Report

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Fresh Air HVAC Sizing

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Infiltration Summary

ZONE NAME	Heating Volume ft³	Heating ACH	Heating AVF cfm	Heating HTM Btuh/ft²	Cooling Volume ft³	Cooling ACH	Cooling AVF cfm	Cooling HTM Btuh/ft²
Unit 1: Down	12601	0.39	82	2.2	12601	0.25	52	0.9
Unit 2: Upstairs	19582	0.31	102	2.2	19582	0.20	65	0.9
Entire House	32183	0.34	183	2.2	32183	0.22	117	0.9

Load and AVF Summary

ROOM NAME	Area ft²	Htg load Btuh	Clg load Btuh	Htg AVF cfm	Clg AVF cfm
Kitchen/Dining	456	9124	10046	257	466
Living	522	14663	11069	414	514
Mud	85	1443	776	41	36
Pantry	66	1565	924	44	43
Pwdr	47	1558	451	44	21
Stairs 1	35	0	0	0	0
Storage	49	0	0	0	0
Unit 1: Down	1260	28353	23266	800	1080
Bath 1	71	1140	658	41	29
Bath 2	78	706	423	25	18
Bed 1	181	3126	2949	111	128
Bed 2	219	2989	3453	106	150
Clst 2	36	0	0	0	0
Craft	74	1037	1497	37	65
Kitchenette	94	304	954	11	41
Laundry	92	1250	2221	45	96
M. Bath	168	2708	2539	96	110
M. WC	33	1287	1418	46	62
M. WIC	196	1675	1729	60	75
Master Bed	279	3919	5046	140	219
Mech/Server	102	0	0	0	0
Office 1	75	1568	3692	56	160
Office 2	50	1331	2325	47	101
Stairs 2	381	4425	3920	158	170
WIC 1	45	604	352	22	15
Unit 2: Upstairs	2176	28069	33175	1000	1440
Entire House	3436	56422	56442	1800	2520

Building Analysis
Unit 1: Down
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Design Conditions

Location:
Georgetown Municipal, TX, US
Elevation: 787 ft
Latitude: 31 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	28	100
Daily range (°F)	-	22 (M)
Wet bulb (°F)	-	73
Wind speed (mph)	15.0	7.5

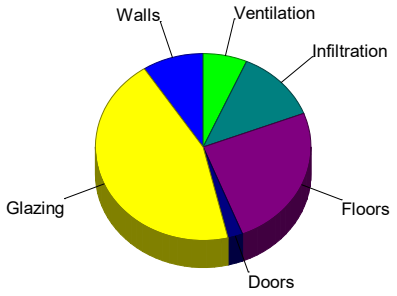
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	72
Design TD (°F)	44	28
Relative humidity (%)	30	50
Moisture difference (gr/lb)	17.6	21.2

Infiltration:

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

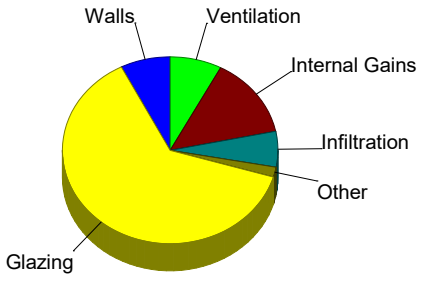
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.0	2790	9.2
Glazing	17.5	13512	44.5
Doors	17.0	682	2.2
Ceilings	0	0	0
Floors	6.0	7560	24.9
Infiltration	2.2	3809	12.5
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		2004	6.6
Adjustments		0	
Total		**30357**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	1887	7.5
Glazing	20.5	15865	62.9
Doors	10.9	436	1.7
Ceilings	0	0	0
Floors	0	0	0
Infiltration	0.9	1558	6.2
Ducts		0	0
Ventilation		1958	7.8
Internal gains		3520	14.0
Blower		0	0
Adjustments		0	
Total		**25224**	**100.0**



Latent Cooling Load = 1705 Btuh
Overall U-value = 0.186 Btuh/ft²-°F, Window / Floor Area = 61.3 %

WARNING: window to floor area ratio = 61.3% - more than 25%.

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Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Design Conditions

Location:
Georgetown Municipal, TX, US
Elevation: 787 ft
Latitude: 31 °N

Outdoor:	**Heating**	**Cooling**
Dry bulb (°F)	28	100
Daily range (°F)	-	22 (M)
Wet bulb (°F)	-	73
Wind speed (mph)	15.0	7.5

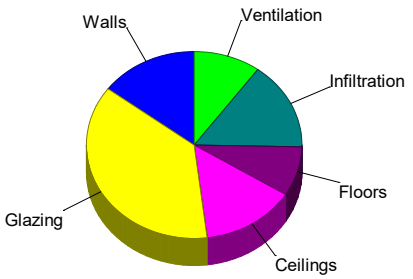
Indoor:	**Heating**	**Cooling**
Indoor temperature (°F)	72	72
Design TD (°F)	44	28
Relative humidity (%)	30	50
Moisture difference (gr/lb)	17.6	21.2

Infiltration:

Method	Blower door
Shielding / stories	3 (partial) / 2
Pressure /ACH /AVF	50 Pa / 3.5 / 1876 cfm

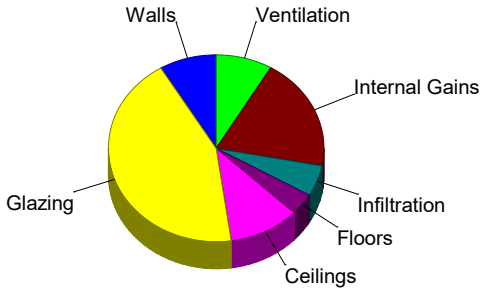
Heating

Component	Btuh/ft²	Btuh	% of load
Walls	3.0	4597	14.7
Glazing	17.5	11609	37.2
Doors	0	0	0
Ceilings	2.1	4426	14.2
Floors	2.9	2679	8.6
Infiltration	2.2	4758	15.2
Ducts		0	0
Piping		0	0
Humidification		0	0
Ventilation		3140	10.1
Adjustments		0	
Total		**31210**	**100.0**



Cooling

Component	Btuh/ft²	Btuh	% of load
Walls	2.0	3109	8.6
Glazing	23.9	15819	43.6
Doors	0	0	0
Ceilings	1.8	3864	10.7
Floors	1.5	1358	3.7
Infiltration	0.9	1946	5.4
Ducts		0	0
Ventilation		3069	8.5
Internal gains		7080	19.5
Blower		0	0
Adjustments		0	
Total		**36244**	**100.0**



Latent Cooling Load = 2386 Btuh
Overall U-value = 0.101 Btuh/ft²-°F, Window / Floor Area = 30.5 %

WARNING: window to floor area ratio = 30.5% - more than 25%.

Duct System Summary
Unit 1: Down
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

	Heating	Cooling
External static pressure	0.70 in H2O	0.70 in H2O
Pressure losses	0.25 in H2O	0.25 in H2O
Available static pressure	0.44 in H2O	0.44 in H2O
Supply / return available pressure	0.211 / 0.234 in H2O	0.211 / 0.234 in H2O
Lowest friction rate	0.060 in/100ft	0.060 in/100ft
Actual air flow	800 cfm	1080 cfm
Total effective length (TEL)	736 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Kitchen/Dining	c	3350	86	155	0.099	8.0	0x 0	VlFx	17.1	195.0	st3
Kitchen/Dining-A	c	3349	86	155	0.139	8.0	0x 0	VlFx	11.2	140.0	st3
Kitchen/Dining-B	c	3349	86	155	0.144	8.0	0x 0	VlFx	6.7	140.0	st3
Living-A	c	3690	138	171	0.065	9.0	0x 0	VlFx	37.0	285.0	st14
Living-B	c	3690	138	171	0.062	9.0	0x 0	VlFx	40.5	300.0	st15
Living-C	c	3690	138	171	0.060	9.0	0x 0	VlFx	43.8	305.0	st15
Mud	h	1443	41	36	0.069	4.0	0x 0	VlFx	36.8	270.0	st16
Pantry	h	1565	44	43	0.069	5.0	0x 0	VlFx	37.4	270.0	st16
Pwdr	h	1558	44	21	0.068	5.0	0x 0	VlFx	45.5	265.0	st16

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st13	Peak AVF	414	514	0.060	587	11.9	9 x 14	ShtMetl	st12
st15	Peak AVF	276	343	0.060	436	12.0	0 x 0	VinlFlx	st14
st14	Peak AVF	414	514	0.060	481	14.0	0 x 0	VinlFlx	st13
st3	Peak AVF	800	1080	0.060	653	16.5	14 x 17	RectFbg	
st12	Peak AVF	414	514	0.060	481	14.0	0 x 0	VinlFlx	st3
st16	Peak AVF	129	100	0.068	369	8.0	0 x 0	VinlFlx	st3

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb9	0x 0	256	368	188.2	0.124	468	12.0	0x 0		VlFx	rt3
rb1	0x 0	268	370	121.5	0.193	471	12.0	0x 0		VlFx	rt3
rb7	0x 0	276	343	387.5	0.060	343	12.0	36x 4		RtFg	rt9

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt9	Peak AVF	276	343	0.060	436	12.0	0 x 0	VinlFlx	rt8
rt8	Peak AVF	276	343	0.060	436	12.0	0 x 0	VinlFlx	rt3
rt3	Peak AVF	800	1080	0.060	572	16.5	16 x 17	RectFbg	

Duct System Summary
Unit 2: Upstairs
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

	Heating	Cooling
External static pressure	0.70 in H2O	0.70 in H2O
Pressure losses	0.28 in H2O	0.28 in H2O
Available static pressure	0.42 in H2O	0.42 in H2O
Supply / return available pressure	0.245 / 0.175 in H2O	0.245 / 0.175 in H2O
Lowest friction rate	0.063 in/100ft	0.063 in/100ft
Actual air flow	1000 cfm	1440 cfm
Total effective length (TEL)	667 ft	

Supply Branch Detail Table

Name		Design (Btuh)	Htg (cfm)	Clg (cfm)	Design FR	Diam (in)	H x W (in)	Duct Matl	Actual Ln (ft)	Ftg.Eqv Ln (ft)	Trunk
Bath 1	h	1140	41	29	0.063	4.0	0x 0	VlFx	64.6	325.0	st7
Bath 2	h	706	25	18	0.066	4.0	0x 0	VlFx	53.4	320.0	st7
Bed 1	c	2949	111	128	0.099	8.0	0x 0	VlFx	48.8	200.0	st11
Bed 2	c	3453	106	150	0.067	9.0	0x 0	VlFx	47.2	320.0	st7
Craft	c	1497	37	65	0.182	6.0	0x 0	VlFx	29.9	105.0	st1
Kitchenette	c	954	11	41	0.112	5.0	0x 0	VlFx	34.4	185.0	st11
Laundry	c	2221	45	96	0.136	7.0	0x 0	VlFx	25.0	155.0	st10
M. Bath	c	2539	96	110	0.084	8.0	0x 0	VlFx	51.9	240.0	st8
M. WC	c	1418	46	62	0.075	6.0	0x 0	VlFx	68.9	260.0	st8
M. WIC	c	1729	60	75	0.072	6.0	0x 0	VlFx	46.1	295.0	st5
Master Bed	c	2523	70	110	0.065	8.0	0x 0	VlFx	64.9	315.0	st6
Master Bed-A	c	2523	70	110	0.066	8.0	0x 0	VlFx	59.1	310.0	st6
Office 1	c	3692	56	160	0.289	7.0	0x 0	VlFx	5.0	80.0	
Office 2	c	2325	47	101	0.193	6.0	0x 0	VlFx	22.2	105.0	st1
Stairs 2	c	3920	158	170	0.075	9.0	0x 0	VlFx	19.3	310.0	st4
WIC 1	h	604	22	15	0.110	4.0	0x 0	VlFx	32.8	190.0	st11

Supply Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
st4	Peak AVF	672	833	0.063	666	14.8	18 x 10	RectFbg	st2
st1	Peak AVF	84	166	0.182	475	8.0	0 x 0	VinlFlx	
st6	Peak AVF	140	219	0.065	402	10.0	0 x 0	VinlFlx	st5
st5	Peak AVF	199	294	0.065	374	12.0	0 x 0	VinlFlx	st4
st7	Peak AVF	172	197	0.063	361	10.0	0 x 0	VinlFlx	st4
st11	Peak AVF	144	185	0.099	418	9.0	0 x 0	VinlFlx	st10
st2	Peak AVF	860	1114	0.063	685	16.6	18 x 13	RectFbg	
st10	Peak AVF	188	281	0.099	515	10.0	0 x 0	VinlFlx	st2
st8	Peak AVF	142	172	0.075	389	9.0	0 x 0	VinlFlx	st4

Return Branch Detail Table

Name	Grille Size (in)	Htg (cfm)	Clg (cfm)	TEL (ft)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Stud/Joist Opening (in)	Duct Matl	Trunk
rb5	0x 0	174	172	277.4	0.063	318	10.0	0x 0		VlFx	rt5
rb6	0x 0	132	168	264.5	0.066	381	9.0	0x 0		VlFx	rt5
rb4	0x 0	137	322	185.2	0.094	590	10.0	0x 0		VlFx	rt4
rb8	0x 0	216	312	157.7	0.111	398	12.0	0x 0		VlFx	rt2
rb2	0x 0	342	466	164.5	0.106	593	12.0	0x 0		VlFx	rt2

Return Trunk Detail Table

Name	Trunk Type	Htg (cfm)	Clg (cfm)	Design FR	Veloc (fpm)	Diam (in)	H x W (in)	Duct Material	Trunk
rt4	Peak AVF	442	662	0.063	596	13.7	16 x 10	RectFbg	rt1
rt5	Peak AVF	305	340	0.063	433	12.0	0 x 0	VinlFlx	rt4
rt1	Peak AVF	442	662	0.063	596	13.7	16 x 10	RectFbg	
rt2	Peak AVF	558	778	0.106	557	16.0	0 x 0	VinlFlx	

Manual S Compliance Report
Unit 1: Down
Fresh Air HVAC Sizing

Job: 17363 E Reed Parks Rd.
Date: May 21, 2023
By: Coby Sackett

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Cooling Equipment

Design Conditions

Outdoor design DB:	100 °F	Sensible gain:	25224	Btuh	Entering coil DB:	73.7°F
Outdoor design WB:	72.8 °F	Latent gain:	1705	Btuh	Entering coil WB:	60.6°F
Indoor design DB:	72.0 °F	Total gain:	26930	Btuh		
Indoor RH:	50 %	Estimated airflow:	1080	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP				
Manufacturer:	American Standard		Model:	4A6V0X36A1+TAMXB0C36V31	
Actual airflow:	1080	cfm			
Sensible capacity:	24500	Btuh	97% of load		
Latent capacity:	10500	Btuh	616% of load		
Total capacity:	35000	Btuh	130% of load	SHR:	70%

Heating Equipment

Design Conditions

Outdoor design DB:	28.3 °F	Heat loss:	30357	Btuh	Entering coil DB:	69.6°F
Indoor design DB:	72.0 °F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type:	Split ASHP					
Manufacturer:	American Standard		Model:	4A6V0X36A1+TAMXB0C36V31		
Actual airflow:	800	cfm				
Output capacity:	31600	Btuh	104% of load		Capacity balance:	24 °F
Supplemental heat required:	0	Btuh			Economic balance:	-99 °F

Backup equipment type:	Elec strip				
Manufacturer:	American Standard		Model:	AFUE 100	
Actual airflow:	800	cfm			
Output capacity:	10.0	kW	112% of load	Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.

Austin, TX Phone: (512) 814-7638 Email: Info@HVAC-Sizing.com Web: www.HVAC-Sizing.com License: TACLA57315E

Project Information

For: Alterstudio
17363 E Reed Parks Rd., Jonestown, TX 78645

Cooling Equipment

Design Conditions

Outdoor design DB:	100 °F	Sensible gain:	36244	Btuh	Entering coil DB:	74.0°F
Outdoor design WB:	72.8 °F	Latent gain:	2386	Btuh	Entering coil WB:	60.7°F
Indoor design DB:	72.0 °F	Total gain:	38631	Btuh		
Indoor RH:	50 %	Estimated airflow:	1440	cfm		

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: American Standard Model: 4A6V0X48A1+TAMXA0C48V41

Actual airflow:	1440	cfm		
Sensible capacity:	35250	Btuh	97% of load	
Latent capacity:	11750	Btuh	492% of load	
Total capacity:	47000	Btuh	122% of load	SHR: 75%

Heating Equipment

Design Conditions

Outdoor design DB:	28.3 °F	Heat loss:	31210	Btuh	Entering coil DB:	69.0°F
Indoor design DB:	72.0 °F					

Manufacturer's Performance Data at Actual Design Conditions

Equipment type: Split ASHP
Manufacturer: American Standard Model: 4A6V0X48A1+TAMXA0C48V41

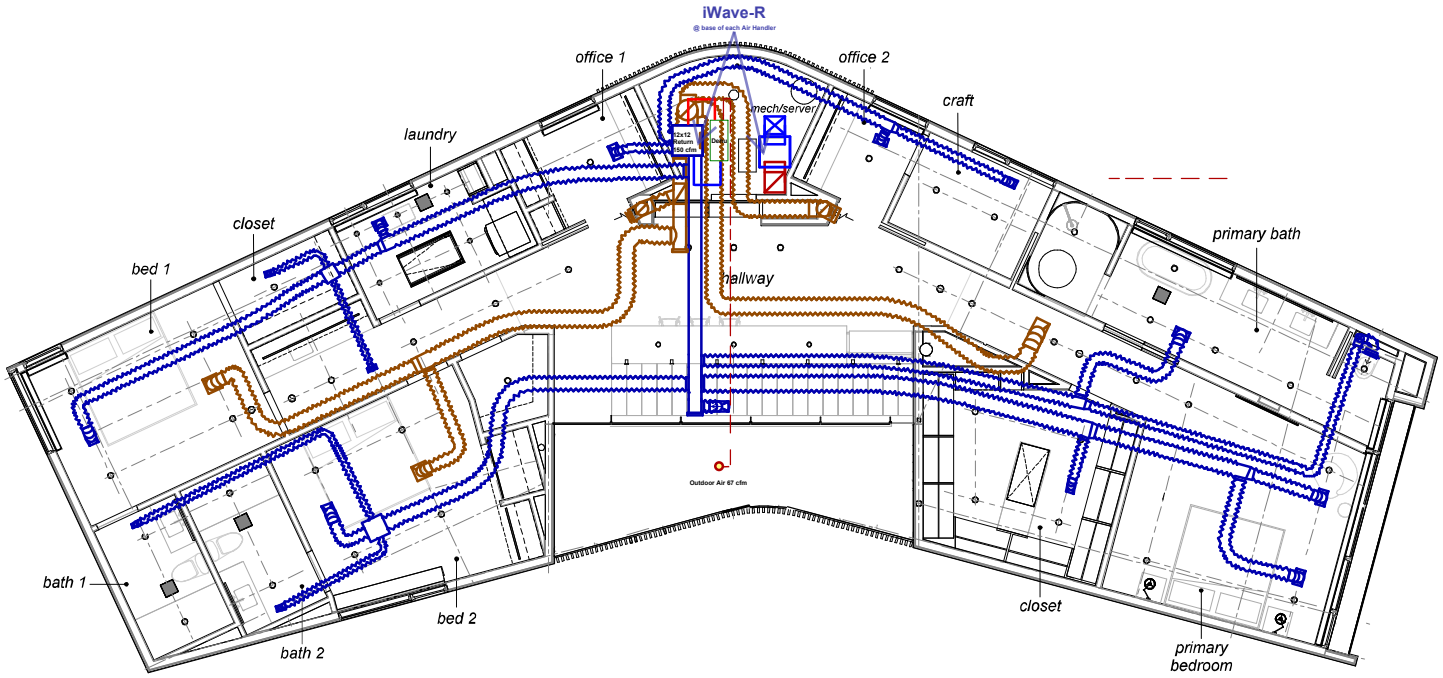
Actual airflow:	1000	cfm			
Output capacity:	42500	Btuh	136% of load	Capacity balance:	14 °F
Supplemental heat required:	0	Btuh		Economic balance:	-99 °F

Backup equipment type: Elec strip
Manufacturer: American Standard Model: AFUE 100

Actual airflow:	1000	cfm			
Output capacity:	10.0	kW	109% of load	Temp. rise:	50 °F

Meets all requirements of ACCA Manual S.

Level 2



Job #: 17363 E Reed Parks Rd.
Performed by Coby Sackett for:
Alterstudio
17363 E Reed Parks Rd.
Jonestown, TX 78645

Fresh Air HVAC Sizing

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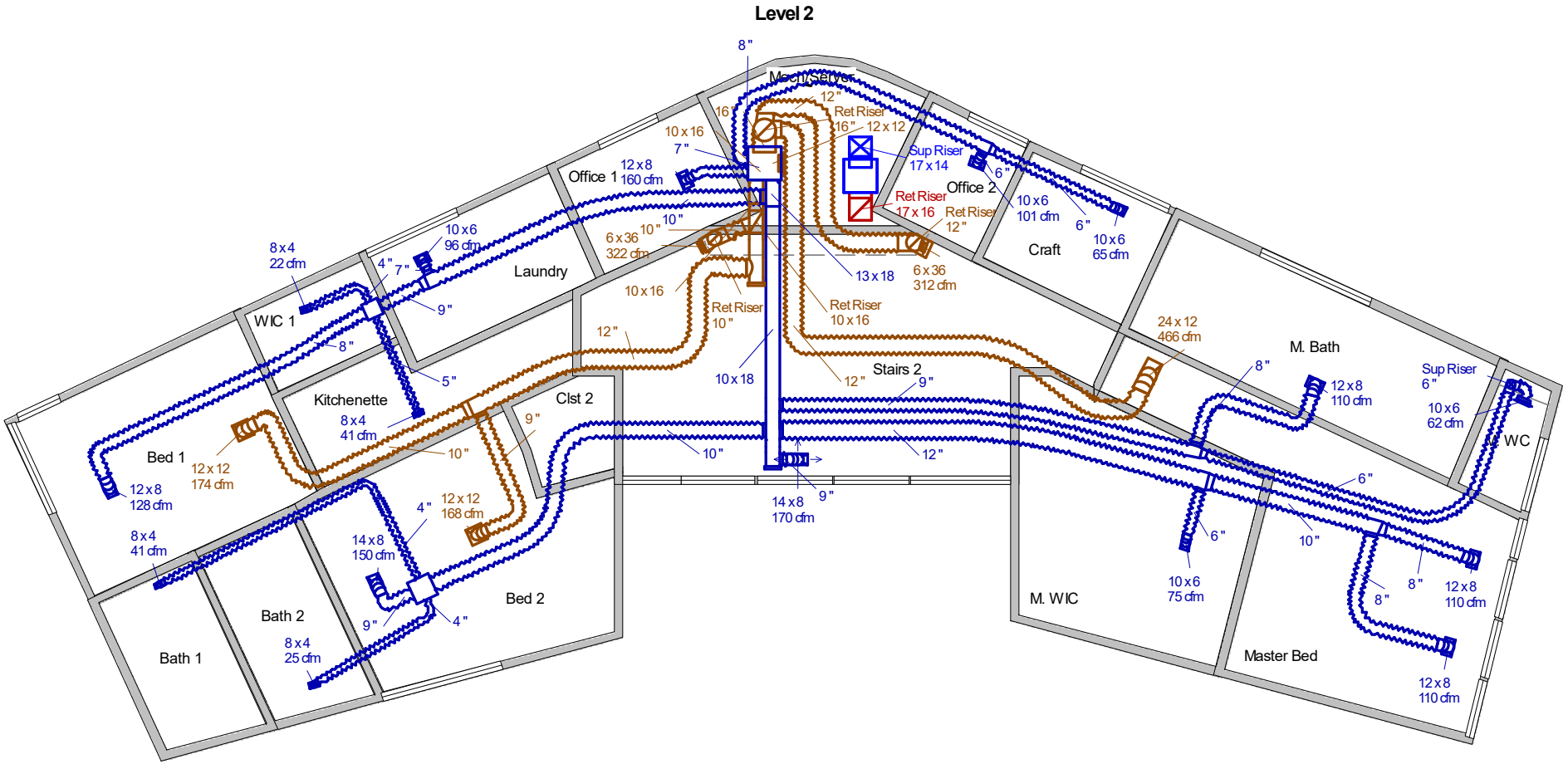

Job #: 17363 E Reed Parks Rd.
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17363 E Reed Parks Rd.
Jonestown, TX 78645

Fresh Air HVAC Sizing

Austin, TX
Phone: (512) 814-7638 License: TACLA57315E
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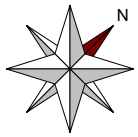

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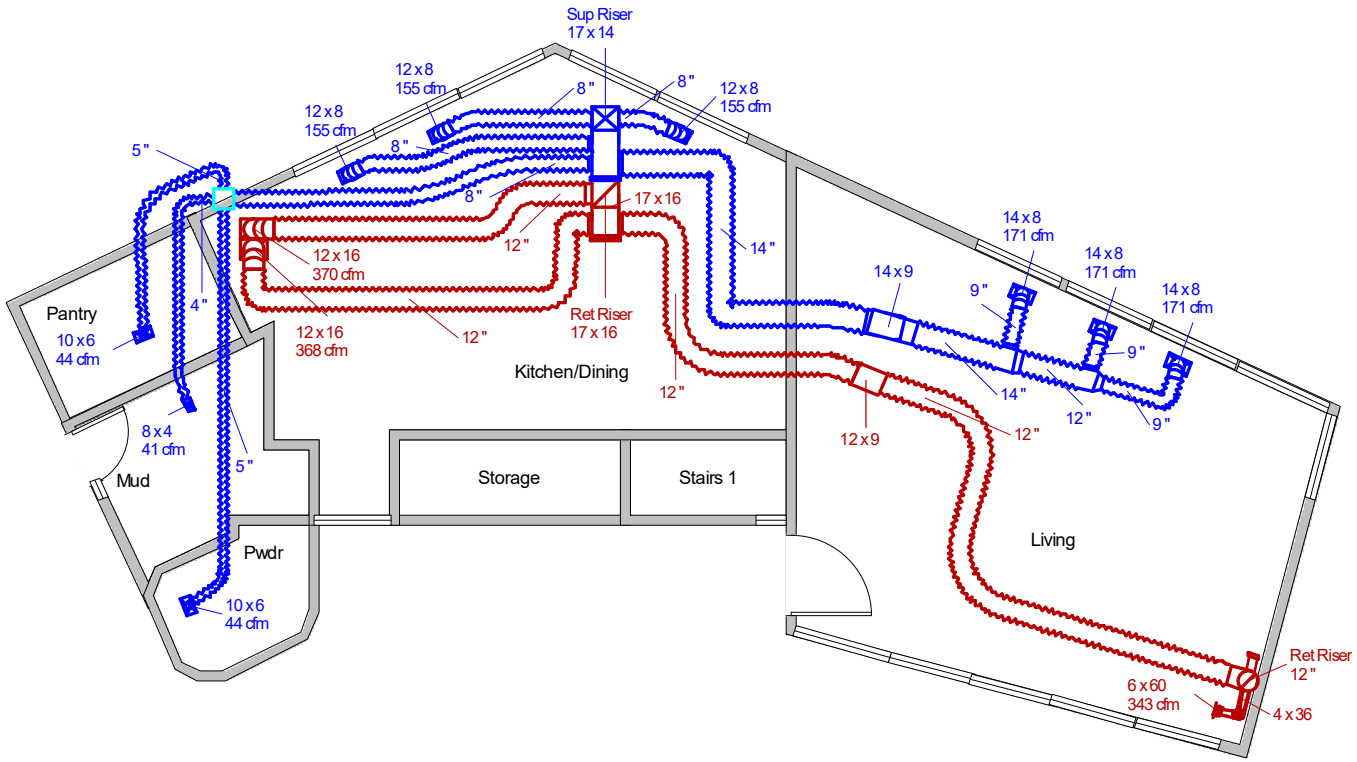

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Scale: 1 : 115

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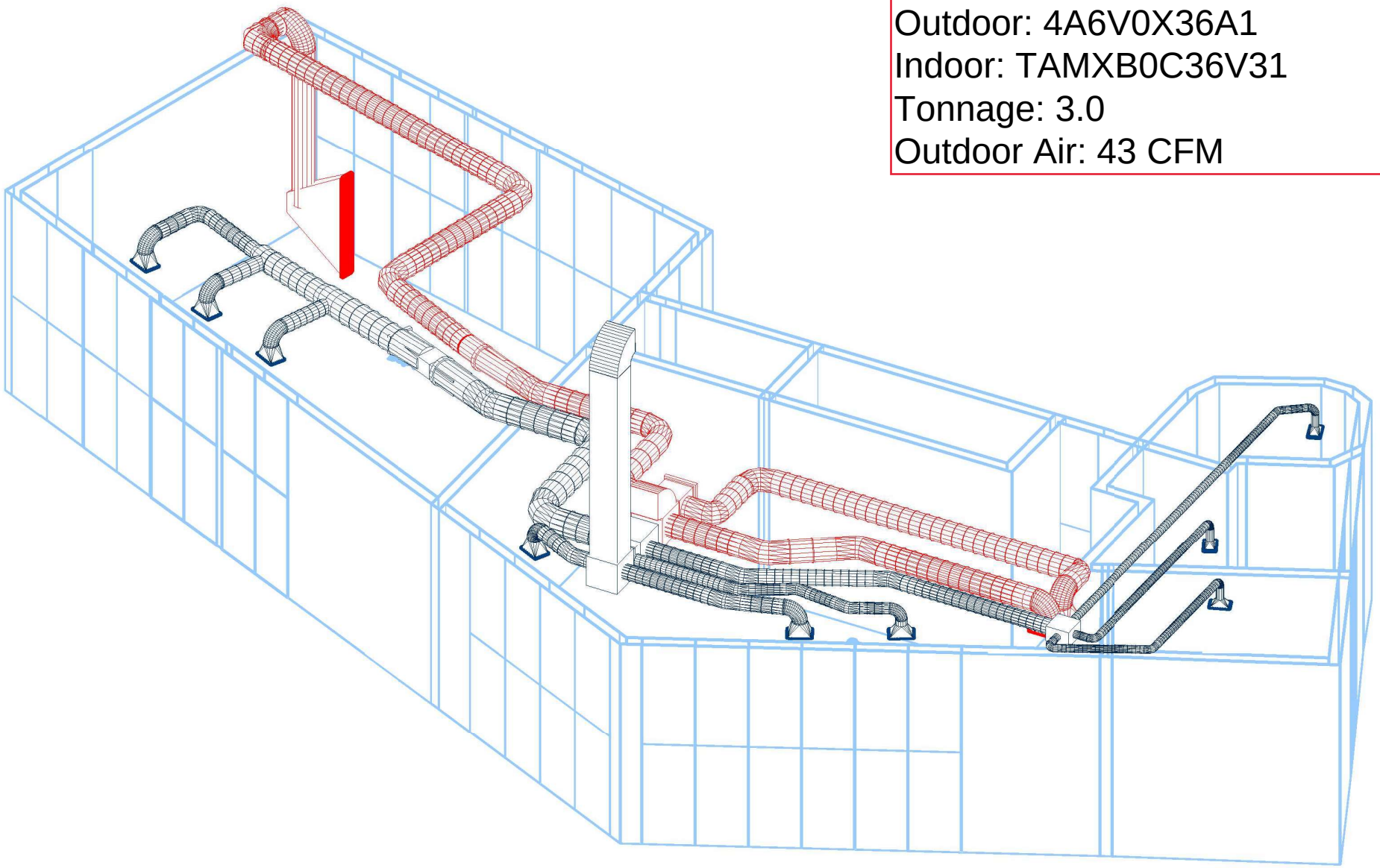
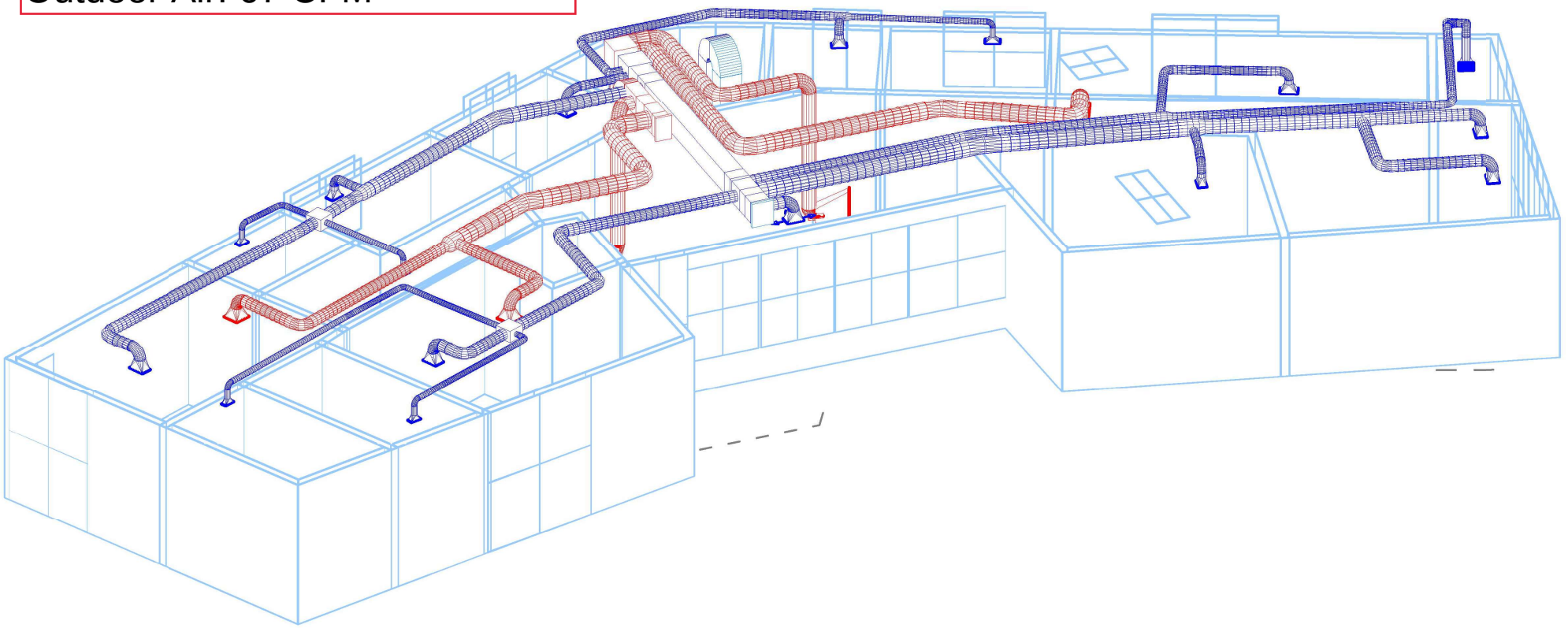
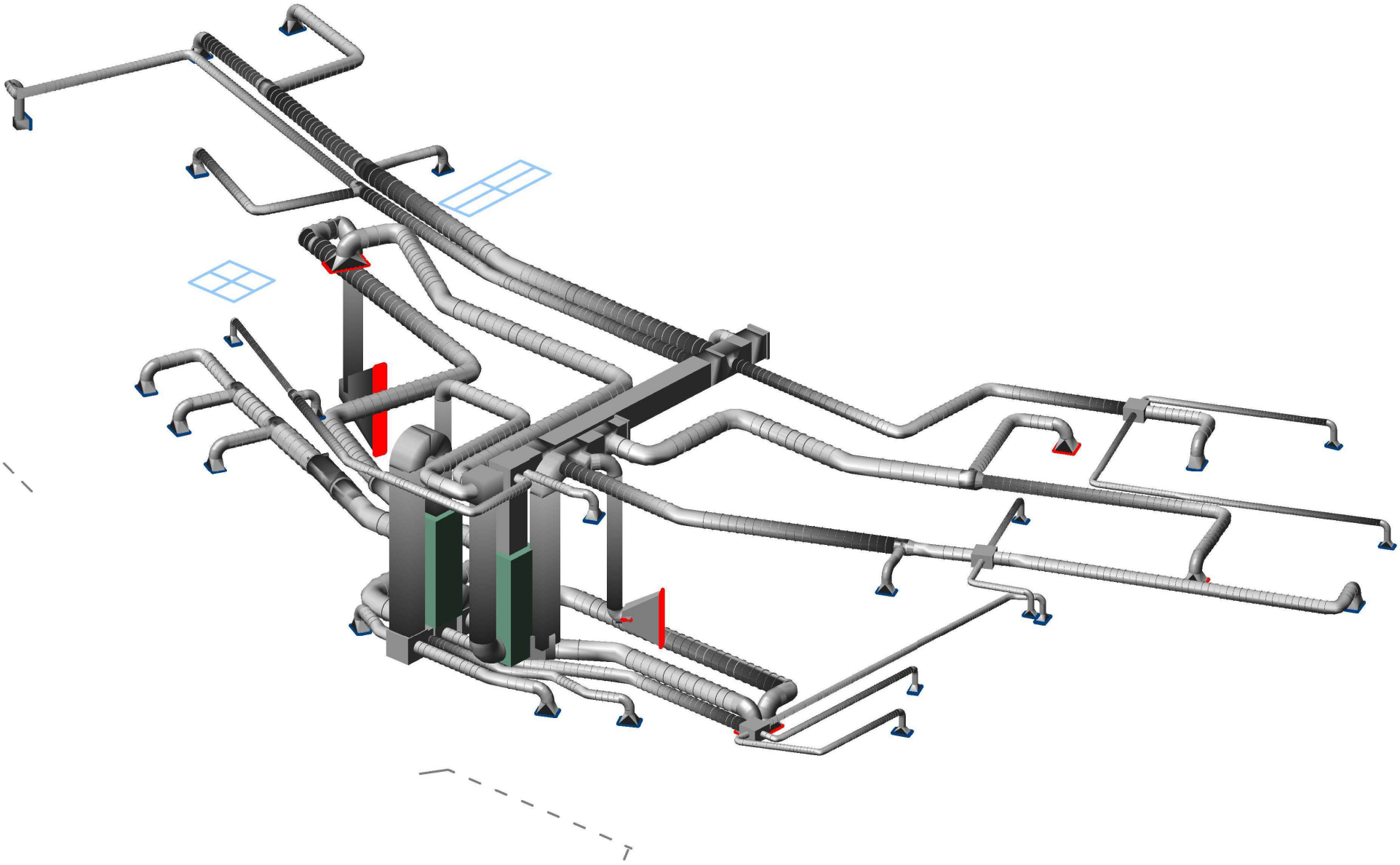
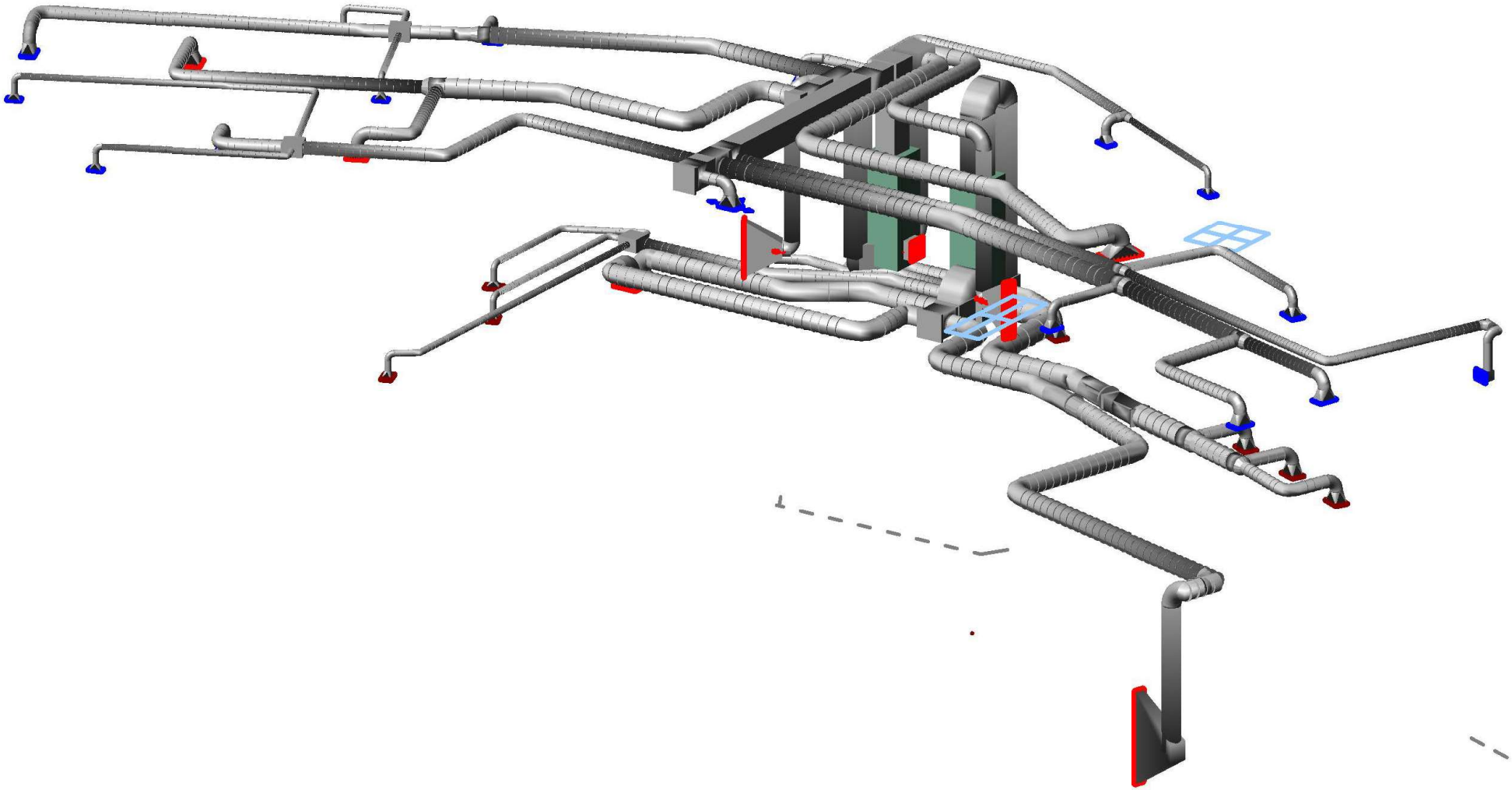
AHU 1: Downstairs
American Standard Platinum 20
Outdoor: 4A6V0X36A1
Indoor: TAMXB0C36V31
Tonnage: 3.0
Outdoor Air: 43 CFM



AHU 2: Upstairs
American Standard Platinum 20
Outdoor: 4A6V0X48A1
Indoor: TAMXA0C48V41
Tonnage: 4.0
Outdoor Air: 67 CFM







EasyStart™ 364 & 368 Soft Starters For Residential and Commercial

This is our largest EasyStart and works with substantial AC units (up to 72,000 BTUs). We take power for granted until it is not available, like when a weather disaster strikes. Generators are a great backup but have their own limits. They often lack the power to START AC units that they can otherwise run.

Imagine an engine that can RUN but not START your car. That's the problem the EasyStart solves. It can start an AC for anyone wanting comfort, especially those requiring it -- like people with special medical needs. Even without emergency power requirements, the EasyStart makes for smoother AC starts with its gentle ramping at the start. Eliminates dimming lights and shaking wires and conduit at commencement. Two year limited warranty.

" Using a relatively low-cost portable generator rigged for propane power and your EasyStart 368, I was able to solve our problem! With a commercially available electric interlock switch, a propane adapter and a little better power management we now have emergency power for our home (wife has a serious illness requiring A/C) AND our A/C for days on end during a Public Safety Power Shutoff for high winds.

- Ed King, California Resident

Model # Description	Voltage	Transparent Enclosure	Harness
ASY-364-X36-BLUE 12K - 18K BTUs (1 - 1.5 ton)	100-250VAC 50-60Hz	194L x 91W x 64H mm 7.64L x 3.58W x 2.50H in	40 in (1m)
ASY-368-X48-BLUE 19K - 42K BTUs (2 - 3.5 ton)	100-250VAC 50-60Hz	240L x 120W x 75H mm 9.45L x 4.72W x 2.95H in	40 in (1m)
ASY-368-X72-BLUE 43K - 72K BTUs (4 - 6 ton)	100-250VAC 50-60Hz	240L x 120W x 75H mm 9.45L x 4.72W x 2.95H in	40 in (1m)

Additional Features

- Perfect emergency power solution on small/medium sized generators -
- Easy integration in Off Grid living with solar -
- Start A/C on battery walls and inverter generators -
- Smoother ramped starting of compressor motor -
- EasyStart your A/C for home or business in power emergencies -
- Supports both 115V and 230V motors -
- Specialized fault diagnostics not found in any other soft starter -
- Unique water resistant and UV protected enclosure -

How Can the EasyStart Help Your Home and Family?

Emergency Situations Can Strike with Little or No Warning, ensures AC Starts for Comfort or Medical Needs

Supports Commercial Grade Central Air Conditioning Units in Today's Market

UV and Water-Resistant Protection to Assure Your AC Stays Up and Running

No Power, No Problem. Run Your Air Conditioner Compressor on a Generator, Inverter or Limited Power

micro-air

124 Route 526 | Allentown, NJ 08501
Tel: 609-259-2636 | www.microair.net

SELF-CLEANING AIR IONIZATION SYSTEM FOR RESIDENTIAL AIR CONDITIONING SYSTEMS

- Patented self-cleaning design ensures ongoing peak performance
- Needlepoint ionization actively treats air in the living space
- For duct systems up to 6 tons (2400 CFM)
- iWave is validated to meet UL 867 ozone requirements
- No maintenance for the life of the iWave
- Easily installs in minutes in A/C system
- Patented multi-voltage input – 24VAC to 240VAC!
- Universal mounting with magnets
- Flexible design with no replacement parts
- Reduces certain bacteria and viruses*
- Reduces odors, smoke and other airborne particles
- Keeps coil cleaner
- Programmable cleaning cycle
- Alarm contact option for secondary notification
- UL and cUL recognized
- Three-year limited warranty

Indoor Air Quality

iWave®-R

Residential Air Ionization System

Description

With technology installed in over 200,000 applications, iWave-R is a self-cleaning, no maintenance needlepoint bi-polar ionization generator designed specifically for treating air in residential duct A/C systems. As the air flows past the iWave-R, positive and negative ions actively treat the supply air, reducing certain bacteria and viruses* in the coil and living space. The ionization process also reduces smoke, odors (cooking, pet, VOCs), as well as other particles (no more sunbeams) in the air. iWave is validated to meet UL 867 ozone requirements.

Application

iWave-R treats the air in any brand of residential duct air conditioning systems up to 6 tons (2400 CFM) in size with no maintenance and no replacement parts. Designed for universal mounting, the iWave-R can be installed inside or outside of duct, or attached magnetically near the indoor fan in the air handler. Simply connect to power using its patented voltage input capability. Install between air filter and cooling coil to treat the indoor coil; as an alternative, the iWave-R can be installed in the supply air. iWave-R always works at peak performance, producing over 160 million ions/cc per polarity (320 million total ions/cc), more than any other ionizer product on the market. Its patented self-cleaning design includes a programmable cleaning cycle that can clean the emitter brushes every 1, 3, 5 or 10 days. The iWave-R is factory set to clean every third day which is adequate for a typical installation. iWave-R does not create “black walls” as negative-only ionizer products will do.

Packaging

1 each **4900-20**

Specifications

Input Voltage:	24VAC to 240VAC
Power (VA):	10 VA
Frequency:	50/60 HZ
System Size:	6 tons (2400 CFM)
Ion Output:	160 million ions/cc per polarity (320 million total ions/cc)
Dimensions:	6” L x 4.8” W x 2” D
Weight:	1 lb.
Electrical Approvals:	UL and cUL recognized
Service Temp. Range:	-40°F to 160°F

iWave-R Installation Instructions

1. Disconnect air handler power before installing.
2. Mount the iWave-R after the particle filter and before the indoor coil. This ensures pathogens (i.e., mold) and odors are controlled throughout the entire depth of the coil in addition to the breathing space.
3. The iWave-R is designed with universal mounting- either attach with screws or affix to the system with integral magnets. Mount near the fan inlet (shaft side) on a metal surface in the air handler, internal wall duct or external wall duct depending on what is best for the installation. For external duct mount, a three inch diameter hole will need to be cut/drilled out of the duct. **IMPORTANT:** If mounting on the fan housing, ensure the iWave-R is secured from fan vibration - use short length self-tapping screws so as not to impair operation of fan.

Continued on back.

iWave-R Installation Instructions Continued

CRITICAL: The iWave-R is designed for flush, external duct mount installations as an optional install. Ensure in all installations that other metal surfaces/wires are kept a minimum of two inches away from the tip ends of the high voltage emitters to prevent grounding, leading to premature failure.

4. The iWave-R has multi-voltage capability, connect 24VAC to 240VAC voltage input, whatever is most convenient for quick installation. Although the device only pulls 10 watts, sometimes a dedicated 24VAC power supply may be necessary depending on the current load on the transformer for other system accessories.
5. Unit may be powered 24/7 or may be interlocked with indoor fan – unit only purifies when air is flowing. If unit is wired with the fan, the quickest air purification to address an air concern is to let the fan/iWave-R run continually for 72 hours. Leaving the fan continually in the 'on' position will provide the best ongoing air purification in the house.
6. **Wiring:** The iWave-R has a patented multi-voltage 24VAC to 240VAC input capability. The black wire (marked 'AC' on label) is for 24VAC to 240VAC voltage input. The white wire (marked 'N' on the label) is the neutral leg for 24VAC or 120VAC; or the other hot leg for 208/240VAC. The green striped wire is ground, marked 'G' on the label. The brown wires (marked 'A' on the label) are leads to a normally closed alarm contact – see step 7.
7. The iWave-R is equipped with an alarm contact option to provide a visual indicator outside of the air conditioning system to let the homeowner know that it is in normal operation or if there is a fault. The alarm contact, a normally closed contact, rated at 240 VAC/1A, will require a power source and visual indicator, such as a LED. In normal mode, the LED will stay illuminated. If the device goes into default mode, the LED will not light. If a homeowner wants a remote indication of iWave-R status, it is recommend that the 24VAC light (bought separately) be powered through the alarm contacts and sent to a remote wall.
8. When powered up, a green LED on the iWave-R will illuminate; the ionizer is working and the stepper motor for the cleaning feature is in the home position. If the light is not illuminated, check voltage to the iWave-R.
9. **Self-Cleaning/Program Feature:** The patented iWave-R has a self-cleaning feature to ensure it is always operating at peak performance over its design life. The functions for the button include:

   a. While in normal operation mode, press the button once, the LED light will flash and the stepper motor starts an on-demand cleaning cycle.

   b. While in cleaning cycle (after step 'a' above), press the button and hold for 3 seconds, it goes into the mode of setting the cleaning cycle intervals. The iWave-R is designed to be programmed for 1, 3, 5, or 10 day cleaning cycle intervals. **The iWave-R is factory preset for cleaning the emitters every third day; this is adequate for most applications and will not need to be reprogrammed in the field.**

   While in the cleaning mode (with LED flashing and cleaning feature working):

   a. Press the button and hold for 3 seconds, the LED will flash once every second and the motor works once every day.

   b. Press the button twice (the first press hold for three seconds), the LED will flash twice every second and the motor works once every 3 days. This is the factory preset program.

   c. Press the button three times (the first press hold for three seconds), the LED will flash five times every second and the motor works once every 5 days.

   d. Press the button four times (the first press hold for three seconds), the LED will flash ten times every second and the motor works once every 10 days.

Three-Year Limited Warranty - The iWave-R offers a limited warranty for three years that covers any defects in material or workmanship under normal use. If you make a claim during the warranty period, you must provide proof of purchase and proof of proper installation by a licensed contractor for the warranty to be valid. The iWave warranty does not cover labor, return shipping charges, damage from improper installation or improper voltage usage. The iWave warranty begins on the date that the unit was purchased. Installation of your iWave by any person other than a licensed contractor will void the warranty. Contact your local Nu-Calgon account manager or info@nucalgon.com with further questions.
*Visit iwaveair.com for performance data.

BUILT TO A HIGHER STANDARD®

American Standard®

HEATING & AIR CONDITIONING

HEAT PUMPS

Link™

AccuComfort™ Platinum 20*

UP TO
20.5 SEER2 / 9.0 HSPF2

AccuComfort™ Platinum 20*

Communicating
UP TO 20.5 SEER2 / 9.0 HSPF2

Platinum 19 Side Discharge

UP TO
19 SEER2 / 9 HSPF2

Platinum 18*

UP TO
18 SEER2 / 8.5 HSPF2

Platinum 17*

UP TO
17 SEER2 / 8.5 HSPF2

Gold 16

UP TO
16.2 SEER2 / 8.1 HSPF2

Silver 15 Side Discharge

UP TO
16.0 SEER2 / 8.1 HSPF2

Silver 15

UP TO
16.0 SEER2 / 8.1 HSPF2

Silver 14

UP TO
14.8 SEER2 / 7.8 HSPF2

*American Standard Link enabled

PLATINUM SERIES

During warm months, a heat pump works as an air conditioner, and when the weather's cool, it runs in reverse to provide heat—making it an excellent choice for mild climates. Our most efficient model, American Standard® Heating and Air Conditioning Platinum series, includes innovative American Standard Link technology to control all of the system components. The Duration™ variable-speed compressor runs at lower speeds for longer periods of time, with up to 750 speeds to provide optimal temperature control and ultra-quiet operation.

GOLD SERIES

Equipped with Duration two-stage compressors, American Standard's Gold heat pumps operate at high or low speeds to ensure even heating and cooling depending on demand. Similar to the Platinum line, high-quality components include our proprietary Spine Fin coils for efficient heat transfer and outstanding long-term durability.

SILVER SERIES

American Standard's Silver heat pumps pair hardworking, single-stage Duration compressors with Spine Fin coils, offering an excellent balance of affordability, efficiency and year-round comfort. For tight spaces and zero-lot-line applications, our ENERGY STAR qualified Silver 15 Side Discharge heat pump makes a perfect match.

Link™

Select models include innovative American Standard Link technology, which uses Bluetooth to communicate between system components. Simply opt in through the American Standard Home app to have your system's data remotely monitored for even the slightest system changes—letting you relax and enjoy the exceptional comfort your variable speed system provides.

AWARD-WINNING EXCELLENCE.

2022

Top Tier Owner Satisfaction for Gas Furnaces

"National Product Testing and Research Magazine"

In 2019 and 2021 Summer Surveys of 36,348 gas furnaces, owned by members who purchased a new gas furnace [unit] between 2005 and 2021, American Standard gas furnaces were rated Top Tier in Owner Satisfaction.

Top Tier Owner Satisfaction for Heat Pumps

"National Product Testing and Research Magazine"

In 2019 and 2021 Summer Surveys of 13,458 heat pumps, owned by members who purchased a new heat pump [unit] between 2005 and 2021, American Standard heat pumps were rated Top Tier in Owner Satisfaction.

Top Tier Reliability for Heat Pumps

"National Product Testing and Research Magazine"

In 2019 and 2021 Summer Surveys of 13,458 heat pumps, owned by members who purchased a new heat pump [unit] between 2005 and 2021, American Standard heat pumps were rated Top Tier in Reliability.

2021

Top Tier Owner Satisfaction for Central Air Conditioning

"National Product Testing and Research Magazine"

In a survey based on the proportion of members who are extremely likely to recommend their central air conditioning system to friends and family found American Standard Central Air Conditioning Systems' to be Top Tier in 2018 and 2020 Summer Surveys of 23,997 central air conditioning systems, owned by members who installed a new system between 2005-2020.

WE OBSESS OVER IT SO YOU DON'T.

For over a hundred years, we've made some of the most awarded, well-engineered heating and conditioning equipment, and earned a reputation for doing things ...right. And through it all, we've followed a pretty simple idea: "A Higher Standard" isn't just how we build our products. It's how we build our relationships with the customers who depend on us every single day.

A CLOSER LOOK

American Standard Link Communicating Control Board

Controls communication between all system components and powers the compressor at just the right level for consistent comfort and efficiency.

Refrigerant-Cooled Inverter

Protects electronics and improves performance and reliability by maintaining consistent temperatures inside the unit..

Duration™ Variable Speed Compressor

Automatically makes constant, minute adjustments to prevent temperature swings and to provide consistent comfort and optimal efficiency.

Compressor Sound Insulator

Reduces operating noise for a quieter home environment.

Four Wire Connection

Optional 2 wire connection available

*An American Standard UX360 Smart Thermostat and system controller is required for all Platinum 20, 18 or 17 heat pumps.

Platinum 20

Integrated Fan System

Unique blade-down design for reduced sound levels and increased airflow and performance.

SermaGuard™ Rust-Resistant Screws

Coated with zinc for corrosion resistance and longer service life.

All-aluminum Spine Fin™ coil

Designed for maximum efficiency of airflow and heat transfer while offering better corrosion and leak resistance than standard copper and aluminum coils.

Full-Sided Galvanized Steel Louvered Panels

Provide maximum airflow while protecting internal components.

Durabase™ Basepan

Resists cracks, warping, rust and corrosion.

All Weather™ Top (Optional Accessory)

Optional accessory that provides protection against snow, rain, leaves and debris—and offers safety for children playing near the unit.

Features	Platinum 20	Platinum 19 Side Discharge	Platinum 18	Platinum 17	Gold 16	Silver 15 Side Discharge	Silver 15	Silver 14
American Standard Link Connectivity	Link	–	Link	Link	–	–	–	–
AccuLink™ Communicating Technology	✓	✓	✓	–	–	–	–	–
Duration™ compressor stages	750	500-700+	750	75	2	1	1	1
Capacity variability	25-100**	30-100++	25-100**	25-100**	70/100	100	100	100
Compressor sound insulator	✓	–	✓	✓	–	–	Select Models	Select Models
Overall sound power level [db(A)]	54-76	43-57	54-76	55-76	72-74	69-74	71-75	71-76
All-aluminum Spine Fin™ coil	✓	Plate Fin	✓	✓	✓	Plate Fin	✓	✓
Durabase™ basepan	✓	–	✓	✓	✓	–	✓	✓
Variable-speed fan motor	✓	✓	✓	✓	–	–	–	–
Single-speed fan motor	–	–	–	–	✓	✓	✓	✓
Heavy-duty steel louvered panels	✓	–	✓	✓	✓	–	✓	✓
Appliance-grade finish	✓	✓	✓	✓	✓	✓	✓	✓
SermaGuard™ rust-resistant screws	✓	✓	✓	✓	✓	✓	✓	✓
All Weather™ Top (Optional Accessory)	✓	–	✓	✓	✓	–	✓	✓
High SEER2 efficiency (up to) When installed with certain American Standard Heating & Air Conditioning indoor products.	20.50	19.00	18.00	17.00	16.20	16.00	16.00	14.80
High HSPF2 efficiency (up to) When installed with certain American Standard Heating & Air Conditioning indoor products.	9.00	9.00	8.50	8.50	8.10	8.10	8.10	7.80
12 Year limited warranty compressor, 10 Year limited warranty outdoor coil and functional parts with registration.*	✓	–	✓	✓	✓	–	–	–
10 Year limited warranty compressor, outdoor coil and functional parts with registration.*	–	✓	–	–	–	✓	✓	✓

** Platinum 20/18 vary speed in 1/10 of 1% increments. Platinum 17 varies speed in 1% increments.
+ 2 & 3 ton have 500 stages, 4 ton has 650 stages, 5 ton has 700 stages
++ 2 & 3 ton are 50-100%, 4 ton is 35-100%, 5 ton is 30-100%
* Registered Limited Warranty terms are available when you register within 60 days of installation. You can register online at americanstandardair.com or by phone at 855-260-2975, otherwise American Standard Heating & Air Conditioning's Base Limited Warranty terms will apply. Base Limited Warranty information on specific products can be found on americanstandardair.com. Ask your dealer for full warranty information at time of purchase. Warranties are for residential and multi-family use only, some exclusions may apply.

Home™

COMFORTABLE. RELIABLE. EFFICIENT.

Optimize the comfort and efficiency of your home with the American Standard Home smart comfort system. The American Standard Home mobile app gives you remote access to your HVAC system through your connected American Standard smart thermostat. Adjust your temperature, set your schedule, and view your HVAC usage from anywhere.

GET IT ON Google Play

Download on the App Store

American Standard Home connects to your American Standard HVAC system to provide you with remote control and diagnostics. To view additional integrations and subscriptions, visit our Knowledge Base at AmericanStandardAir.com/home-subscription.

WHY IS INDOOR AIR QUALITY IMPORTANT?

We spend 90% of our time indoors, and 70% of that is in our home[1] where the air can be up to 5X poorer quality than the air outside[2]. So, AccuClean® utilizes patented technology to deliver cleaner air to the whole home by removing up to 99.98% of airborne particles[3] that pass through the re-usable filter, including 99.9% of the Influenza A (H1N1) virus[4]. The AccuClean® Whole Home Air Cleaner, when used in accordance with manufacturer's directions, is effective at removing a surrogate for the virus that causes COVID-19. Effective removal rate based on independent testing results using MS-2 bacteriophage, a bacteria representative of virus-sized particles like SARS-CoV-2 that causes COVID-19. This level of filtration makes it up to 100X more effective than a standard 1" filter[5].

Certified by the Asthma and Allergy Foundation of America.
With more than 65 million Americans suffering from asthma and allergies, this certification mark guides consumers in identifying products more suitable for people with asthma and allergies. The **asthma & allergy friendly**® Certification Mark is awarded only to those products that are scientifically proven to reduce exposure to asthma and allergy triggers.

VERIFIED ZERO OZONE

American Standard AccuClean® is verified zero ozone producing so you can breathe easier knowing your air is free from harmful byproducts.[6]

[1] *The National Human Activity Pattern Survey (2001)*
[2] *U.S. Environmental Protection Agency. EPA/600/6-87/002a. (1987)*
[3] *Based on 3rd party testing of particle removal efficiency down to 0.3 microns (2005)*
[4] *As reported by airmid healthgroup in ASCR092142v2 (2015)*
[5] *Assuming <1% removal rate of 0.3 – 10 micron particles*
[6] *Verified Zero Ozone per UL 2998, Intertek Certificate #: ZOZ-90113-2022a*

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American Standard®
HEATING & AIR CONDITIONING

SCAN ME

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10-1113-L-39

SANTA FE ULTRA120

ULTRA SERIES

The **Ultra120** is designed to deliver exceptional indoor air quality by providing dedicated moisture control, fresh air mechanical ventilation, and superior air filtration (MERV 13) to homes up to 3,000 sq. ft. The unit features an extremely well-insulated, compact horizontal cabinet for the ultimate in quiet operation and install options.

MODEL 4031957

PERFORMANCE

Water Removal	121 Pints / 15.125 Gallons
Efficiency	6.1 Pints/kWh
Energy Factor	2.95 L/kWh
Blower	350 CFM @ 0.0" WG 285 CFM @ 0.2" WG 210 CFM @ 0.4" WG
Operating Temperature	49°F Min., 95°F Max.
Sizing	Up to 3,000 Sq. Ft. / 30,000 Cu. Ft.

ELECTRICAL

Power	840 watts @ 80°F and 60% RH
Supply Voltage	115 volt – 1 phase – 60 Hz
Current Draw	7.3 amps
Power Cord	9', 115 VAC, Ground
Circuit Requirement	15 Amps

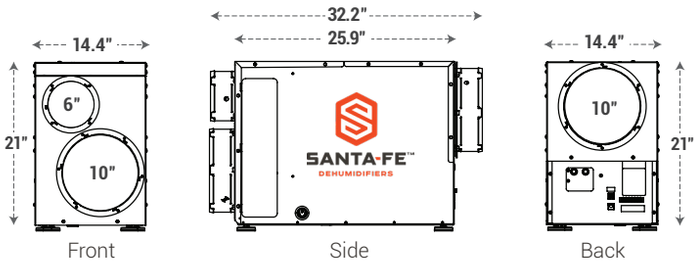
Plug Type B
(USA, MEX, CAN, JPN)

SPECIFICATIONS

Duct Connections	6" Round Inlet, 10" Round Inlet, 10" Round Outlet
Drain Connection	3/4" Threaded Female NPT
Refrigerant	R410A, 1 lb. 10 oz.
Unit Dimensions	14.4"W x 21"H x 32.2"D
Unit Weight	91 lbs.

SHIPPING

Shipping Dimensions	18.5"W x 23.5"H x 40"D
Shipping Weight	101 lbs.
Pallet Quantity	4 per pallet
UPC Number	859029004656
Shipping Options	LTL



Front Side Back

Specifications are subject to change without notice. Performance is based on pints / gallons per day @80°F/60%RH. Sizing is based on 10 foot ceiling height. Unit dimensions and weight are with collars on.

* Previously the Ultra Aire 120H.

FEATURES

+ Features a horizontal configuration with optional vertical discharge
+ Designed for quiet operation
+ Engineered for low temperature operation providing comfort year round
+ Use of DEH 3000/R digital control for outdoor air ventilation and humidity control
+ Superior MERV-13 filtration to improve indoor air quality
+ Ducting option for fresh outdoor air ventilation
+ Push button reset for transformer protection

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INDOOR AIR QUALITY SOLUTIONS

ETL LISTED · UNMATCHED 6-YEAR WARRANTY · ENGINEERED & ASSEMBLED MADISON, WI

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Please publish once in the December 25, 2025, edition

Notice of Public Hearing

Notice is hereby given that the City of Jonestown Board of Adjustments will hold a public hearing to receive citizen input and consider action on the following item:

- A public hearing to receive public input and consider a request by Csaba Kos and Seon Mee Chang for a Special Exception from the Jonestown Unified Development Code Ordinance No. 2025-O-650 adopted January 9, 2025, Table 3-3.2.4-1 to allow unenclosed off-street parking for property located at 17363 East Reed Parks Road (Property ID: 953652), in Jonestown, Texas.

  This public hearing before the Board of Adjustments will be held on Monday, January 12, 2026, at 6:00 p.m.

Information concerning these requests are available for viewing at Jonestown City Hall, 18649 FM 1431, Suite 4-A, during the hours of 7:00 a.m. to 5:00 p.m., Monday through Thursday and 8:00 a.m. to 12:00 p.m. on Friday. You may call (512) 267-0359 or e-mail permitting@jonestowntx.gov for more information.


17363 E REED PARK RD

alterstudio, LLP
512.499.8007
fax 512.499.8049

0' 16' 32' 64'

N

kos residence

site plan

09.11.2025

1/64" = 1'-0"

View from the bottom of the driveway - Garage

View from the bottom of the driveway - Carport

View from the parking court - Garage

View from the parking court - Carport

View from the entry walkway - Garage

View from the entry walkway - Carport