GENERAL DESIGN NOTES

1. Contractor shall verify all dimensions and existing conditions prior to project commencement. Santee Engineering isn't responsible for any dimensional discrepancies. Contractor shall not scale drawings.
2. Contractor is responsible for all shoring, excavation, protection of adjacent property, streets and utilities in accordance with local codes.
3. The structure for this project per the contract drawings has been designed in accordance with:

2015 INTERNATIONAL RESIDENTIAL CODE
W/ CITY OF HOUSTON AMENDMENTS

4. Contractor is responsible for means and methods during project construction.
5. Design Loads:
   - Wind Loads:
     This project has been designed for:

     134 mph Category II, Ultimate wind speed

     per referenced design code above.

   - Roof Live Loads:

Less than 4/12	20psf
4/12 to 12/12	16psf
greater than 12/12	12psf

   - Live Loads:

Uninhabitable attic without storage	10psf
Uninhabitable attic with storage	20psf
Habitable attic and attics served with fixed stair	30psf
Balconies and decks	40psf
Guards and Handrails	200lbs
Guard in-fill components	50lbs(*)
Garages	50psf
Floors	40psf
Stairs	40lbs

   (*) - Guards in-fill components, balusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50lbs on an area of 1 square foot.

6. Foundation Design Parameters

Geotechnical Engineer:	Geotechnical Engineering
Report number:	22-896E
Report date:	10/14/22
Allowable Soil Bearing (TL):	5250 PSF
Allowable Soil Bearing (DL+SLL):	3500 PSF
Soil bearing depth:	12 FT
Fill depth (if required):	24"
Grade beam bearing depth into final grade:	-

GENERAL CONCRETE NOTES

1. Fabrication, detailing, and placement of reinforcing shall be in accordance with ACI 315 (latest version) "Details and Detailing of Concrete Reinforcement.
2. All reinforcing bars shall conform to ASTM A615 Grade 60. Welded Wire fabric shall conform to ASTM A185
3. All welded wire fabric shall conform to ASTM A185.
4. Concrete cover for cast-in-place concrete members per ACI 318 as follows:

Cast against and permanently in contact with ground	3"
Exposed to weather or in contact with ground (#6-#18 bars)	2"
(#5 bars and smaller)	1½"
Note exposed to weather or in contact with ground -slabs, joists, and walls (#14-#18 bars)	1½"
(#11 bars and smaller)	¾"
-beams, columns, pedestals and tension ties	1½"

5. All lap splices shall be Class B unless noted otherwise.
6. Lap splices shall be as follows utilizing 3000psi concrete, unless noted otherwise:

#3-	28"
#4-	37"
#5-	47"
#6-	55"
#7-	81"
#8-	93"

7. Standard hook length for bars #3-#8 shall be 15 bar diameters minimum, unless noted otherwise.
8. All concrete work shall be per ACI 318 (latest version)
9. All cast-in-place concrete shall have a minimum 28 day compressive strength of 3000psi with a unit weight of 150 pcf unless noted otherwise.
10. All exterior concrete shall be air entrained.
11. Without prior approval from Santee Engineering, conctractor shall not place concrete when air temperature is expected to fall below 40 degrees during the first 48 hours after concrete placement.
12. Provide approved curing compounds to slab foundation surface unless noted otherwise.

GENERAL STRUCTURAL STEEL NOTES

1. Detailing, fabrication, and erection shall conform to AISC code and specification (latest code)
2. All welding shall conform to AWS D1.1 Structural welding code.
3. Structural Steel material as follows:
   - 3.1. Wide Flanges - ASTM A992
   - 3.2. Channels and Angles - ASTM A36
   - 3.3. Square and Rectangular tubes - ASTM A500 Grade B (46ksi)
   - 3.4. Round tubes (HSS) - ASTM A500 Grade B (42ksi)
   - 3.5. Plates and Bars - ASTM A36
   - 3.6. M, S and MC shapes - ASTM A36
   - 3.7. Anchor Bolts - ASTM F1554
4. All field connections shall be two (2) ¾"Ø ASTM A325N bolts minimum (10 kips minimum capacity), unless noted otherwise fastened using "turn of the nut" method.
5. Do not use oversize or slotted holes for connections. Holes shall be drilled. Burned holes are not acceptable.
6. Welded connections shall be E70 electrodes and minimum size fillet welds are $\frac{3}{16}$" unless noted otherwise.
7. Contractor shall design connection reactions for one half (½) total uniform load per tables 3-6, 3-7, 3-8, and 3-9 of AISC Steel Construction Manual (latest edition).
8. Connection plates shall be ¾" minimum unless noted otherwise.
9. All steel shall have shop coat of standard primer with a minimum thickness of 1 mil.
10. All steel exposed to exterior conditions or as specified by construction documents shall be hot dipped galvanized per ASTM A 123/ A123M. Repair paint shall conform to ASTM A780.
11. Grout under base plates shall be shrink resistant as specified in ASTM C1107 with a 28 day compressive strength of 5000psi.
12. Steel beams that are continuous over columns shall have web stiffeners, centered over column, on each side of beam web of equal thickness to beam flange.
13. Splicing of steel members shall not occur unless noted in construction documents
14. Contractor to provide shop drawings for Engineer review. Drawings shall be reviewed and stamped by contractor prior to submittal.

GENERAL FOUNDATION NOTES

1. Contractor shall read the Geotechnical report. The data contained in the soils report shall be adhered to as if it was part of this document and shall take precedence over the foundation drawings. Santee Engineering recommends the geotechnical engineer is given the structural plans for review prior to work commencement.
2. Remove all organic and any undesirable materials from the construction area. Average stripping depth of 6". Refer to Geotechnical report for additional information.
3. Contractor shall proof roll (using fully loaded dump truck) foundation footprint after site stripping to identify soft or loose soil for removal and compaction.
4. Select Structural fill as required shall consist of clean sandy clay with liquid limit of less than 35 and a plasticity index between 7 and 20. Installing loose lifts (8" maximum) compacted to densities of 95% of standard proctor (ASTM D698).
5. Site shall be graded to provide positive drainage away from foundation to prevent ponding of water adjacent to the structure including downspouts.
6. If sprinkler systems are installed, they should deliver a consistent amount of water to all sides of the foundation to maintain a constant moisture content to the adjacent soils.
7. Provide a moisture barrier (10 mil min.) under slab on grade foundations, overlap joints 6" minimum or as instructed by manufacturer's installation instructions.
8. If carton forms are used, ensure cut ends are taped to prevent concrete infiltration during concrete placement.
9. Sleeve all piping through grade beams with pipe two sizes larger.
10. Wood sill foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with not less than ½" diameter anchor bolts with 7" minimum embedment into the foundation and spaced no more than 4 feet on center. There shall be not fewer than two bolts per plate and within 6" from the end.
11. All underground utilities under new foundation shall be removed or relocated per Santee Engineering discretion. Gas piping shall not be routed under slab.
12. All electrical and plumbing lines shall be routed below concrete slab.
13. Drilled bell bottom piers, grade beams, and slabs shall be free of loose material. Top of piers/ pier caps shall be free of loose material prior to foundation concrete placement.
14. Once piers have been drilled, reinforcing shall be installed and concrete placement should occur immediately to maintain pier integrity.
15. The under-floor space between the bottom of the floor joists and the earth under any building shall have ventilation openings through foundation walls or exterior walls. See IRC Section R408 for further requirements.
16. SITE OBSERVATIONS:
    - 16.1. Drilled pier observations, when required, shall be conducted by Testing lab or other third party inspector.
    - 16.2. Slab foundation make up observations, when required, may be conducted by Santee Engineering, Testing Lab or other third party inspector.
    - 16.3. Contractor shall provide 24 hr notice for all Site Observation requests.

GENERAL UPLIFT LOAD PATH AND TIES NOTES

1. Foundation plates resting on concrete or masonry foundations shall be bolted to the foundation with ½"Ø anchor bolts with 7" min. embedment into the foundation and spaced not more than 4 feet on center.
2. The lowest level exterior wall studs shall be connected to the foundation sill plate(s) with Simpson H8 (or equal) at 32"oc.
3. Exterior wall openings less than 4 feet wide, provide Simpson LSTA24 strap across jack studs
4. Upper level exterior wall studs shall be aligned and connected to wall studs below using Simpson CS20 coil strap (or equal) at 32". Provide sufficient length to use 14-8d nails at each end.
5. All exterior walls shall be sheathed using $\frac{15}{32}$" plywood or $\frac{7}{16}$" Structural 1 sheathing fastened using 10d nails at 4"oc at panel edges and 12"oc in the field. Block solid using 2x4 minimum all horizontal joints.
6. Provide Simpson H2.5A clips (or similar) at every rafter to top plate connection installed on the exterior face of stud.
7. Provide ridge straps using Simpson LSTA24 straps (or similar) at 32"oc

GENERAL STRUCTURAL WOOD FRAMING NOTES

1. All lumber material shall be #2 or better with moisture content <19% and modulus of elasticity greater than 1,100,000 psi.
2. All material for this project has been designed using visually graded lumber. If machine graded lumber is used, notify Santee Engineering for approval prior to use.
3. Engineered members
   - 3.1. Anthony Forest Products Anthony Power beams (APB) shall have a Fb=3000psi for 3½" and 5½" wide beams and Fb=2800psi for 7" wide members. Modulus of Elasticity shall be 2,100,000 psi.
   - 3.2. Boise Cascade Versalam 1 ¾" wide members shall have a Fb=3100psi with a modulus of elasticity of 2,000,000 psi.
4. Stud wall heights shall be as follows:

Stud Height					
		Southern Pine (SP)	Doug Fir	Hem Fir	Spruce-Pine-Fir (SPF)
2x4 at 16"oc	<8'-0"	Yes	Yes	Yes	Yes
	8'-10'	Yes	Yes	Yes	No
	10'-12'	No	No	No	No
	12'-14'	No	No	No	No
2x6 at 16"oc	<8'-0"	Yes	Yes	Yes	Yes
	8'-10'	Yes	Yes	Yes	Yes
	10'-12'	Yes	Yes	Yes	Yes
	12'-14'	Yes	Yes	Yes	Yes

Roof Decking

5. Roof decking shall be $\frac{15}{32}$ C-D 32/16 or $\frac{7}{16}$ Oriented Strand Board (OSB) 24/16 Exposure 1 rated sheathing.
6. Roof decking under slate roofs shall be ⅝" plywood or OSB 40/20 Exposure 1 rated sheathing, see manufacturer's instructions.
7. Roof decking under sheet metal roofing shall be $\frac{23}{32}$ C-D Exposure 1 48/24 plywood rated sheathing, see manufacturer's instructions.
8. Roof decking shall be attached to framing below using 8d nails at 6"oc at panel edges and 12"oc in the field.
9. Provide ⅛" spacing at panel ends and edges unless otherwise indicated by panel manufacturer.

Floor Decking

1. Floor decking shall be ¾" plywood (minimum) rated sheathing, see manufacturer's instructions.
2. Floor decking shall be attached to framing below using 8d nails at 6"oc at panel edges and 12"oc in the field.
3. Provide adhesive according to manufacturer's recommendations and conforms to ASTM D3498 (or specification AFG-01)
4. Provide ⅛" spacing at panel edges unless otherwise indicated by panel manufacturer.

Wood Fasteners

5. Bolts
   - 5.1. All bolts shall meet the requirements of ANSI/ASME standard B18.2.1.
   - 5.2. Holes shall be a minimum of $\frac{1}{32}$" to a maximum of $\frac{1}{16}$" larger than the bolt diameter.
   - 5.3. Holes shall be accurately aligned in main members and side plates. Bolts shall not be forcibly driven.
   - 5.4. A standard cut washer shall be provided between wood and bolt head and between the wood and nut.
6. Lag Screws
   - 6.1. All lag screws shall meet the requirements of ANSI/ASME standard B18.2.1.
   - 6.2. Lead holes for lag screws shall be bored as follows to avoid splitting of the wood member during connection fabrication:
     - 6.2.1. The clearance hole for the shank shall have the same diameter as the shank, and the same depth of penetration as the length of unthreaded shank.
     - 6.2.2. The lead hole for the threaded portion shall have a diameter equal to 60%-75% of the shank diameter and a length equal to at least the length of the threaded portion.
   - 6.3. The minimum length of lag screw penetration not including the length of the tapered tip of the lag screw into the main member shall be 4D. (4 X screw diameter)
7. Wood Screws
   - 7.1. All wood screws shall meet the requirements of ANSI/ASME standard B18.6.1.
   - 7.2. Lead holes for wood screws loaded in withdrawal shall have a diameter equal to approximately 70% of wood screw root diameter.
   - 7.3. Lead holes for wood screws loaded laterally shall be bored ⅞ the diameter of the shank for the areas receiving the shank and ⅞ the diameter of the screw for the portion receiving threaded portion.
   - 7.4. Wood screw shall be inserted in its lead hole by turning with a screw driver or other tool, not by driving with a hammer.
   - 7.5. The minimum length of wood screw penetration including the length of the tapered tip into the main member shall be 6D (6 X screw diameter).
8. Nails
   - 8.1. All nails shall meet the requirements in ASTM F1667.
   - 8.2. Nails used in Engineering construction shall meet the Supplementary Requirements of ASTM F1667 S1.
   - 8.3. When bored holes are used to prevent wood splitting, the diameter of the bored hole shall not exceed 75% nail diameter.
   - 8.4. Toe-nails shall be driven at an angle of approximately 30° and started ⅓ the length of the nail from member end. Nail penetration shall be 6 times the nail diameter.
9. Framing members shall be fastened in accordance with Table R602.3(1)
10. Simpson series LUS hangers (or equal) shall be used for all flush connections, unless noted otherwise. Install per manufacturer's installation instructions.
11. Gypsum wallboard shall be attached as follows:
    - 11.1. 5d cooler nails (min.) spaced at 7"oc or No. 6 Type S or W screws 1¼" long at 8"oc along the edge and 12" in the field for ½" material.
    - 11.2. 6d cooler nails (min.) spaced at 7"oc or No. 6 Type S or W screws 1 1¼" long at 8"oc along the edge and 12" in the field for ⅝" material.
12. 22 gage x ⅞" wide corrugated wall ties shall be attached to wood stud backing using 8d common nails (2 ½ x 0.131" diameter) spaced at 24" horizontally and 16"oc vertically.

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FIRM NUMBER F-20119

STATE OF TEXAS
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LICENSED
PROFESSIONAL ENGINEER

02.28.23

Edgeway Residence

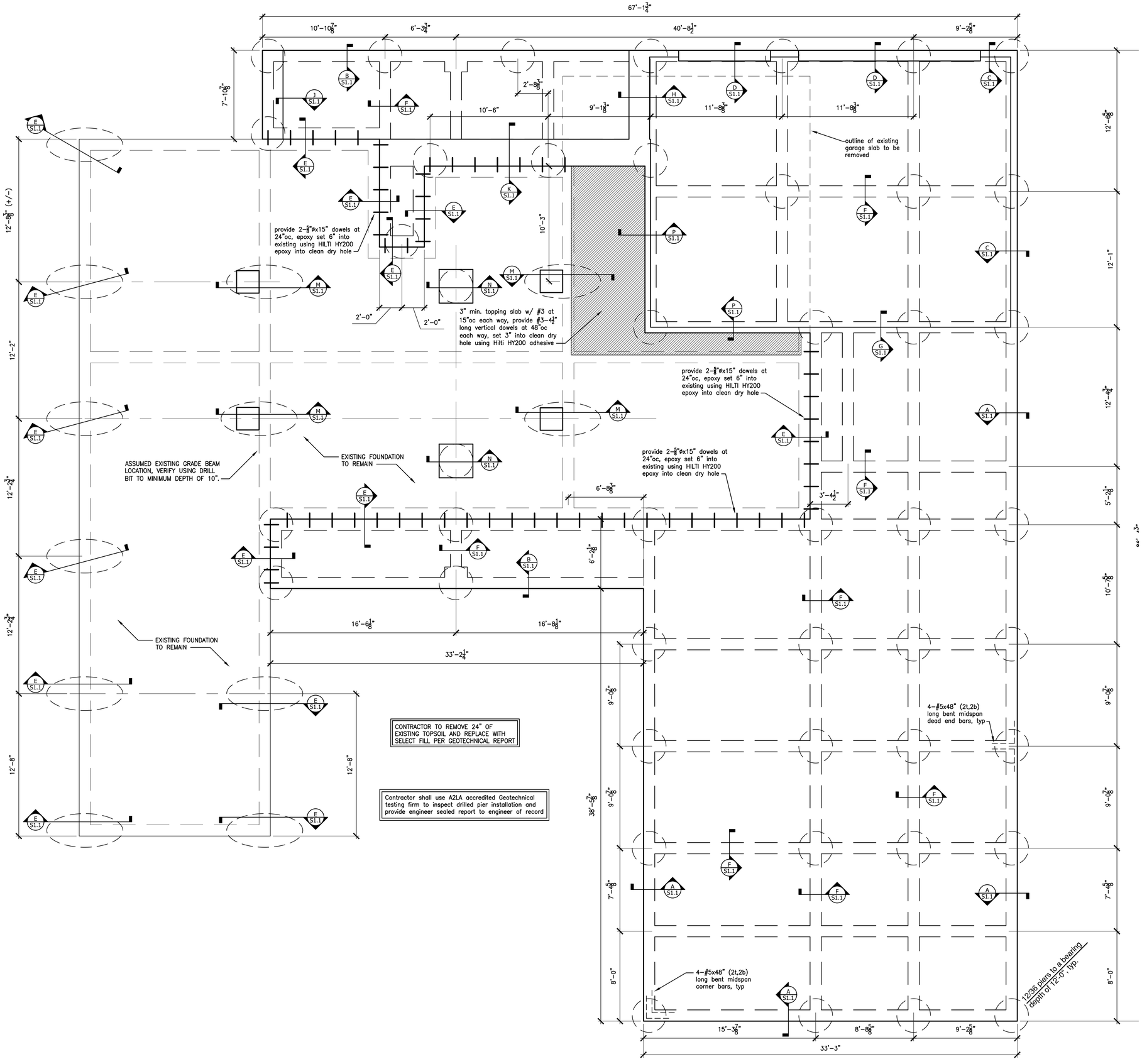
7819 Edgeway Dr.
Houston, TX 77055

Project Number: 22-0930.84

DATE	ISSUE
01.05.23	Arch Review
01.13.23	Arch Review
02.28.23	Permit Construction

S0.0

GENERAL NOTES AND SPECIFICATIONS



1 **FOUNDATION PLAN**
¼"=1'-0"

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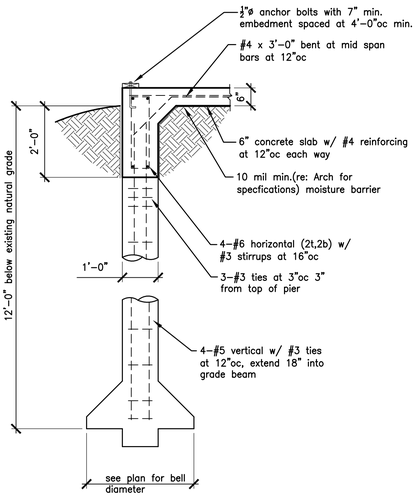
FOUNDATION PLAN



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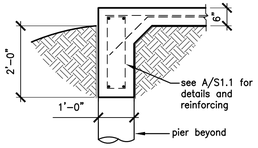

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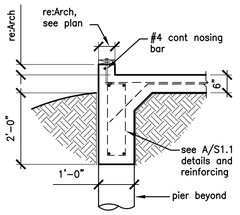

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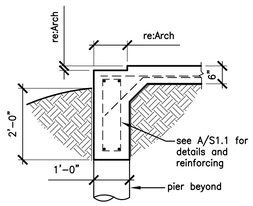

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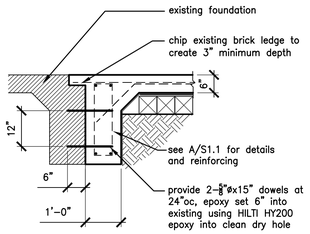

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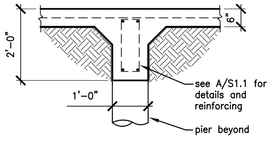

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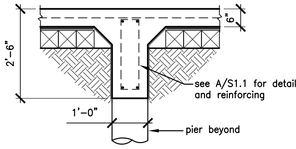

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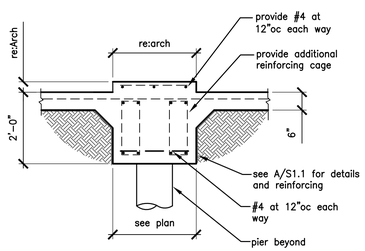

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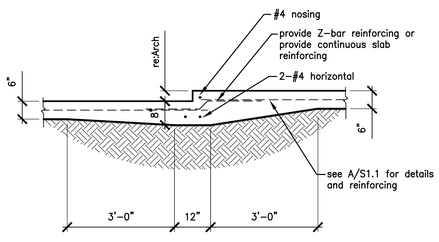

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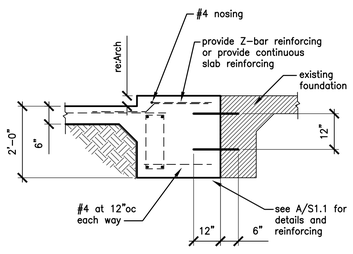

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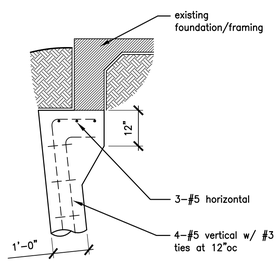

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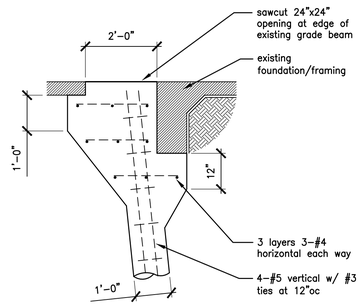

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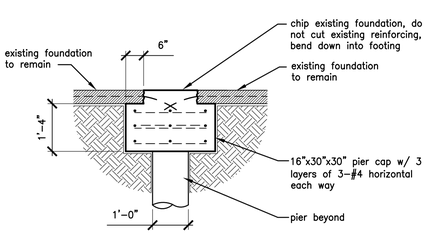

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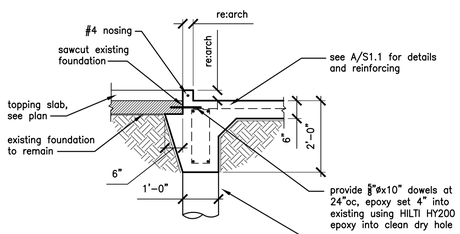

P SECTION 1/2"=1'-0"

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02.28.23

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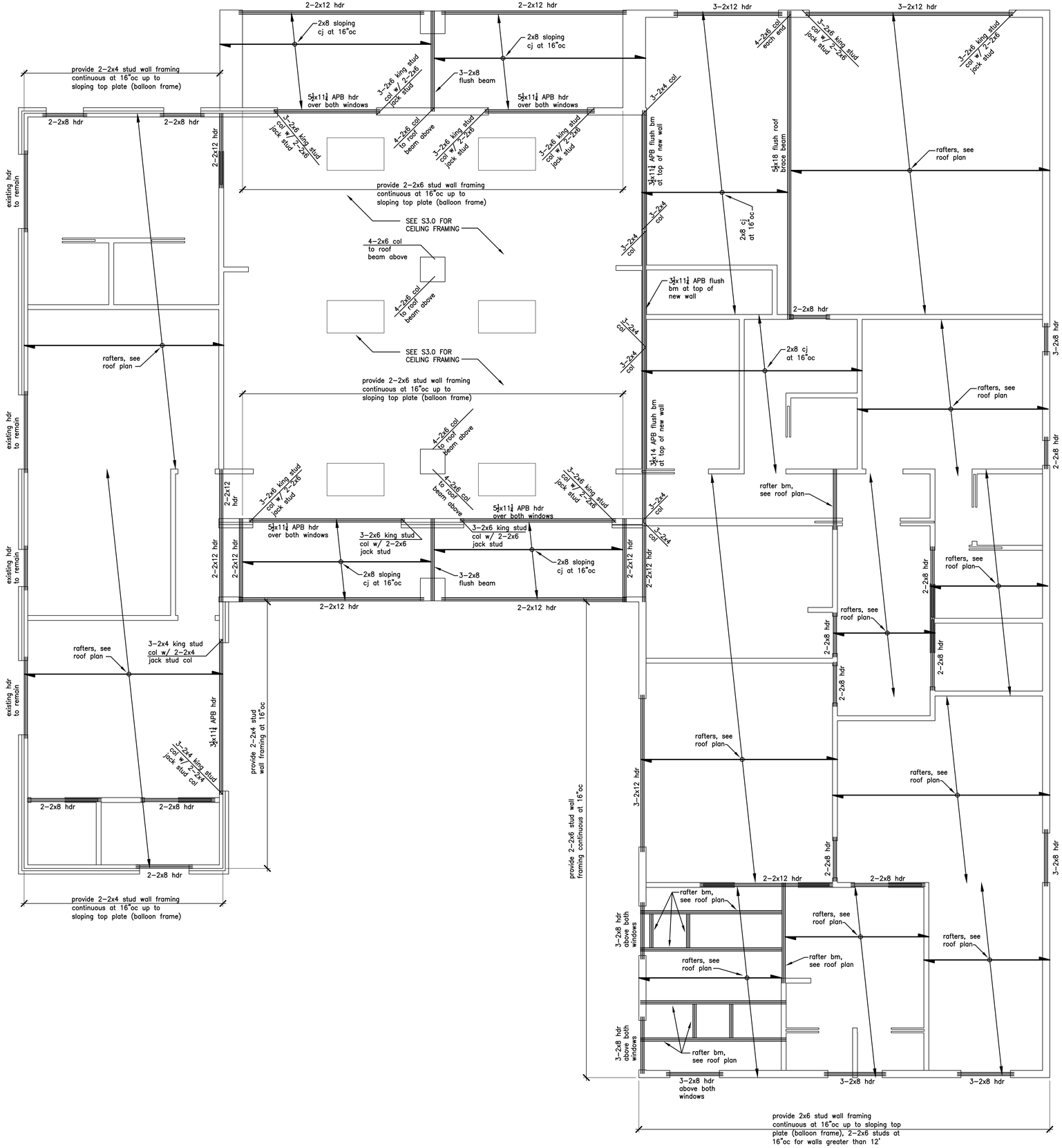
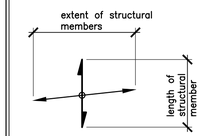
S1.1

FOUNDATION SECTIONS



FRAMING LEGEND



TCB	TOP CHORD BEARING
VALUE *	POINT LOAD ON A TRUSS
	LINE LOAD ALONG TRUSS LENGTH
	LINE LOAD PERPENDICULAR TO TRUSS LENGTH
	WOOD BEAM
	BEAM HANGER
	CONCEALED FLANGE HANGER
	ROOF BRACE TO POINT BELOW
	ROOF BRACE DIRECTLY BELOW

1 FIRST FLOOR CEILING FRAMING PLAN 1/4"=1'-0"

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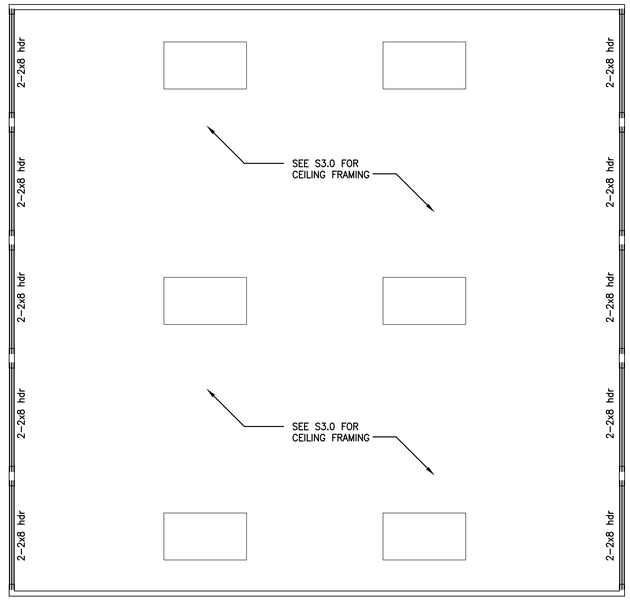
S2.0

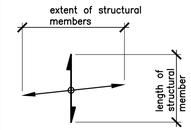
FIRST FLOOR CEILING FRAMING PLAN



1 **CLERESTORY FRAMING PLAN** 1/4"=1'-0"

N

FRAMING LEGEND



TCB	TOP CHORD BEARING
VALUE *	POINT LOAD ON A TRUSS
	LINE LOAD ALONG TRUSS LENGTH
	LINE LOAD PERPENDICULAR TO TRUSS LENGTH
	WOOD BEAM
	BEAM HANGER
	CONCEALED FLANGE HANGER
	ROOF BRACE TO POINT BELOW
	ROOF BRACE DIRECTLY BELOW

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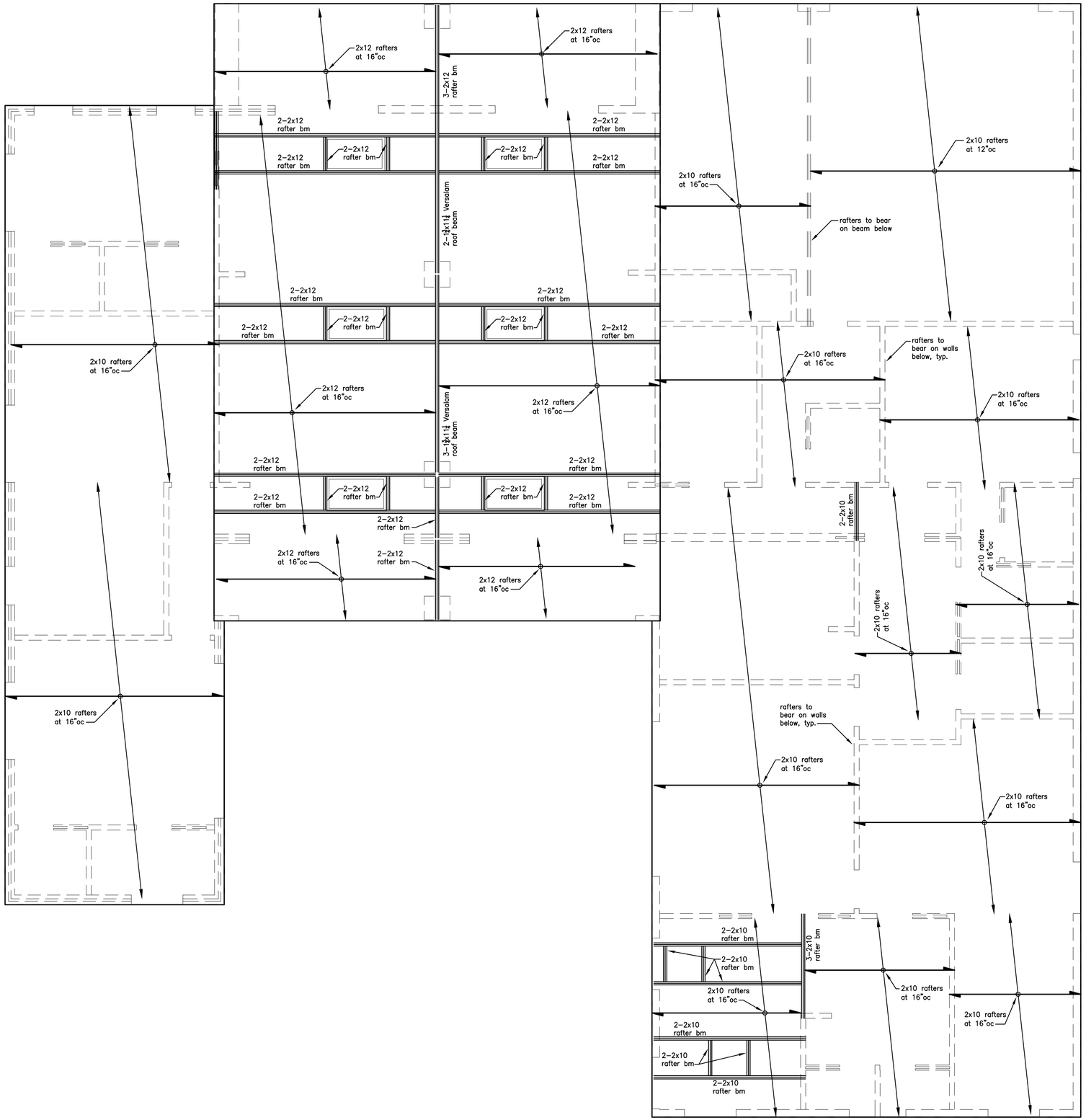
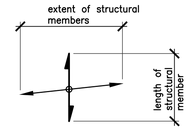
S2.1

CLERESTORY FRAMING PLAN



1 **ROOF PLAN** N
¼"=1'-0"

FRAMING LEGEND



TCB	TOP CHORD BEARING
VALUE *	POINT LOAD ON A TRUSS
	LINE LOAD ALONG TRUSS LENGTH
	LINE LOAD PERPENDICULAR TO TRUSS LENGTH
	WOOD BEAM
	BEAM HANGER
	CONCEALED FLANGE HANGER
	ROOF BRACE TO POINT BELOW
	ROOF BRACE DIRECTLY BELOW

SANTEE engineering
925 ASHLAND ST.
HOUSTON, TX 77008
832.526.3121
todd@santeeengineering.com

FIRM NUMBER F-20119

STATE OF TEXAS
TODD SANTEE
118591
LICENSED PROFESSIONAL ENGINEER

02.28.23

Edgeway Residence

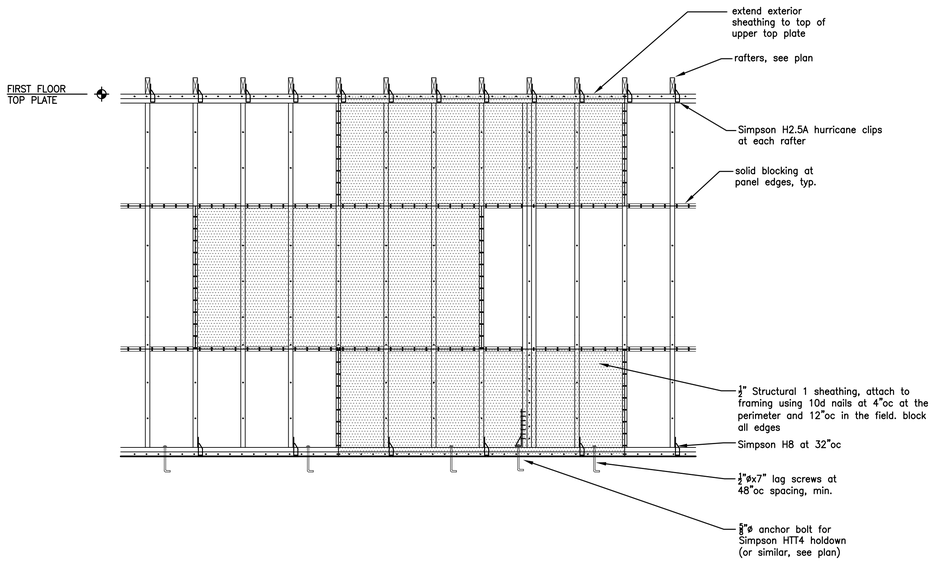
7819 Edgeway Dr.
Houston, TX 77055

Project Number: 22-0930.84

DATE	ISSUE
01.05.23	Arch Review
01.13.23	Arch Review
02.28.23	Permit Construction

S3.0

ROOF FRAMING PLAN



A TYP ELEVATION OF EXTERIOR WALL
Uplift Load Path

1/2"=1'-0"

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FRAMING DETAILS