GENERAL NOTES:

APPLICABLE CODES:

- A. These general notes apply to all structural drawings. This project is designed in accordance with the International Building Code (IBC), 2021 Edition and the 'Minimum Design Loads for Buildings and Other Structures' (ASCE/SEI 7-16).
- B. All material and workmanship shall be in accordance with applicable provisions of the codes specified above.

LOADS USED IN DESIGN:

<u>A.</u>	Gravity Loadin	a	
	5	Řoof Snow Loads:	5 psf
		Roof Live Loads:	20 psf
		Roof Dead Loads:	10 psf
		Floor Live Loads (Office Use):	50 psf
		Floor Live Loads (Corridor Above 1st Floor):	80 psf
		Floor Dead Loads:	10 psf
		Ceiling Live Loads:	10 psf
		Ceiling Dead Loads:	5 psf
Β.	Wind Loading		
		Velocity Ultimate (3 sec gust):	136 mph
		Exposure:	B
		Risk Factor:	
		Internal Pressure Coeff., GCpi:	-0.18 / 0.18 (Enclosed)

COORDINATION:

A. DO NOT SCALE PLANS. These construction documents were prepared with the information about the existing building provided from field measurements of the as-built building taken by personnel of GreenWorks Engineering and Consulting on February 17, 2024. If the contractor discovers existing conditions which vary from those shown on these documents he shall notify GreenWorks Engineering and Consulting immediately for guidance on necessary changes to be made.

Contractor and/or client shall verify all dimensions and layout prior to construction. All dimensions shall be checked against the architectural plans referenced above and any discrepancies shall be brought to the attention of the Architect and Engineer of Record immediately. Refer to mechanical, electrical and architectural plans for openings not shown on the structural plans. C. Shop drawings shall be prepared by the fabricator. Copying of these construction documents for

- use as shop drawings will not be permitted.
- All temporary shoring shall be the responsibility of the contractor.
- E. Design is based on the current applicable building codes listed above and shall be void if the

building code at the time of construction changes from the codes listed above.

CONCRETE:

- A. Concrete has been designed and shall be constructed in accordance with the American Concrete Institute 'Building Code Requirement Reinforced Concrete' and 'Specifications for Structural Concrete for Buildings'(ACI 318 and ACI 301) latest editions. Section 1.3"Inspection" of ACI 318 is deleted in its entirety, see 'Field Observations' paragraph. All concrete shall be of stone aggregate, unless noted otherwise.
- Concrete Mixes: See specifications for any additional durability requirements.
 - Mix 'A' For Slabs on Grade
 - 4,000 psi minimum compressive strength at 28 days.
 - Type I/II Cement, minimum of 540 pounds per cubic yard.
 - Fly Ash not allowed.
 - 1" maximum aggregate size.
 - 3% maximum entrained air.
 - 4" maximum slump (8" with super-plasticizer). Water reducing agent (use in accordance with manufacturer's recommendations).

- Mix 'B' For Footings, Grade Beams, and Miscellaneous Concrete 3,500 psi minimum compressive strength at 28 days.
 - Type I/II Cement, minimum of 470 pounds per cubic yard.
 - 3/4" maximum aggregate size.
 - 6% maximum entrained air.
 - 4" maximum slump (8" with super-plasticizer).
- C. Reinforcing shall be new billet steel conform to ASTM A615, grade 60, except ties shall be grade 40. Provide not less than (2) #4 around all sides of all openings in concrete and extend 2'-0'' past edges of openings. No splices Of reinforcement are permitted except as detailed or authorized by the Engineer of Record. Where permitted use contact lap splices, (36) bar diameters minimum.
- D. For the proper placement of the reinforcement provide chairs, bolsters, additional reinforcement, and accessories necessary to support the reinforcement at the positions shown on plans. Support of reinforcement on form ties, wood, brick, brickbat or other unacceptable material, will not be permitted.
- Grout under base plates and bearing plates shall be high strength, non-shrink, non-metallic grout with a minimum compressive strength, at 28 days, of 7,500 psi.
- F. Reinforcement shall be placed so that the following minimum concrete cover is provided, unless noted otherwise.
 - 3"Clear 1) Concrete poured against earth. . . 2) Formed surfaces exposed to earth or weather. a) #6 Bars and larger. . . . 2"Clear b) #5 Bars and smaller. . . 1-1/2" Clear 3/4"Clear 3) Concrete not exposed to earth or weather. . .
 - 4) Beams, columns, ties, stirrups or spirals
 - around primary reinforcement, or primary
 - reinforcement with no ties, stirrups or spirals. . . 5) Slabs. . . .
- 1-1/2" Clear Placed at center (U.N.O.)
- G. Welded Wire Fabric (WWF) shall conform to ASTM A185. Provide WWF in flat sheets, rolled sheets are not allowed. Where permitted use contact lap splices, (50) bar diameters minimum. H. Foundation walls below grade shall have backfill placed equally on both sides until the required levels
- are reached. Walls shall be appropriately shored when backfill is placed on one side only. I. Additional (2) #4 bars (one each face) with a 2'-0" projection shall be placed diagonally across the corners of all openings and at vertical steps in walls unless otherwise detailed on plans.
- J. The contractor is responsible for determining when it is safe to remove forms and/or shoring.

Forms and shoring must not be removed until the walls are strong enough to support their own weight and any superimposed loads. For foundation walls, this typically requires 12 hours of cumulative curing time at a temperature of 50° F or more. Concrete must be adequately covered during cold periods to maintain this surface temperature. Due to varying weather conditions, alternative curing processes, and the use of Type I/II cement, GreenWorks Engineering suggests forms remain in place a minimum of 3 days to assure this performance specification has been met. When forms are stripped there must be no excessive deflection, distortion, discoloration and no evidence of damage to the concrete. Adequate thermal protection of the concrete shall be continued after stripping for a cumulative period of 48 hours at 50° F, or more, after the initial pour. See applicable notes for specifications on when to backfill foundation walls.

K. Field Quality Control

- Reference standard: ACI 301 Chapters 16 and 17, in latest edition. 2) Slump tests: The contractor shall provide necessary equipment and shall make test in conformity with ASTM C143. The contractor shall make slump tests on the first concrete truck of each pour and as often as deemed necessary by the contractor to maintain the required slump when directed by the Architect or Engineer of Record.
- 3) Control tests:
 - a) Control tests of concrete work shall be made on every 50 cubic yards or fraction thereof of concrete placed and, in any case, minimum of once during each day's pour.
 - b) Each test shall consist of four standard 6" test cylinders cast and cured in accordance with ASTM C31 and ASTM C172.
 - c) Sample concrete at point of placement.
 - d) One cylinder shall be tested at the end of 7 days after placing, two cylinders shall be tested at 28 days after placing and the remaining cylinder shall be stored until its disposition is determined by the Architect.
 - e) In general, remaining cylinder will be tested only when previous test reports
 - indicated unsatisfactory results. f) Tests on remaining cylinder shall be at the expense of the contractor.
 - q) Architect and /or Engineer of Record reserves the right to stop future concrete work when the 7 or 28 day tests indicate unsatisfactory results until, in the opinion of the Architect and/or Engineer of Record, proper corrective measures have been taken to insure quality concrete in future work and corrections deemed necessary have been made.
 - h) Tests shall be made at time control tests are taken and so stated in reports to determine slump, air content, unit weight and temperature of concrete.
- i) All tests shall be made in accordance with ASTM C138 or ASTM C231.
- 4) Slab tolerance: Maintain surface flatness with maximum variation of 1/8" in 20 feet.

STRUCTURAL STEEL:

- A. Structural steel, including cast in angles, plates or other sections shall be detailed and erected in accordance with the American Institute of Steel Construction (AISC) Specifications and Code of Standard Practice, latest edition.
- B. All wide flange and channel structural steel shall conform to ASTM A992. All HSS members shall conform to ASTM A500, Grade-B. Pipe columns shall conform to ASTM A53, Grade-B. All other structural shapes and miscellaneous steel shall conform to ASTM A36 unless otherwise noted.
- C. Column base plates shall be set on $1 \ 1/2$ " non-shrink high density grout with a minimum of (4) 3/4 " ϕ x 1'-0" anchor bolts, unless noted otherwise.
- D. Shop connections shall be welded with E70xx electrodes and around smooth where exposed. Field connections shall be made with bolts conforming to ASTM A325N unless otherwise noted. Field welds shall be made with E70xx electrodes. All welding shall be in accordance with AWS "Structural Welding Code", latest edition and performed by certified, licensed welder.
- All beam connections not detailed on the drawings shall be standard framed beam connections as shown in Table II and III of the AISC "Manual of Steel Construction", latest edition, designed to carry the full capacity of the uniformly loaded member, unless noted otherwise.
- F. Headed stud anchors shall conform to AWS D1.1 and shall be automatically end welded.
- G. Steel stairs to be detailed and designed by others unless noted otherwise. Stair detailer shall provide shop drawings and calculations prepared and stamped by a structural engineer registered in the state of Texas, for review by the Engineer of Record to verify they conform to the requirements of the basic structure. Fabrication shall not proceed until completion of shop drawing review by the Engineer of Record. H. All exposed structural steel shall be hot dipped galvanized.
- I. Field Quality Control: Inspect in accordance with AISC specifications. Materials engineer shall visually inspect all field welded connections and visually inspect all bolted connections to ascertain that all welds, bolts, nuts and required washers have been installed and are of proper type and that all facing surfaces have been brought into snug contact.

A. Framing lumber shall be Southern Pine (unless noted otherwise) and as follows or better: 2x4 studs Stud Grade 2x6 or larger studs #2 Grade

Plates	#3 Grade
Joists and Rafters	#2 Grade
2x and 4x Beams	#2 Grade
6x or larger Beams	#1 Grade Beam and Stringer
Glu-Lam Beams	24F-V4 DF/DF unless noted otherwise
Posts	#1 Grade Post and Timber
LVL	2.0E
on shall be in conformance wit	h the provisions of "The National

- B. All wood construction shall be in conformance with the provisions of "The National Design Specification for Wood Construction", latest edition.
- C. Laminated Veneer Lumber (LVL) and prefab joists shall be manufactured by 'TrusJoist' or equivalent or shall meet APA Performance Standards, and installed per manufacturers specifications. Supplier shall furnish shop drawings showing all joists, bridging, blocking and miscellaneous accessories for review by the structural engineer prior to fabrication.
- D. Where not otherwise shown on plans, all nailing or screwing shall be as indicated in the current Building Code. All sheathing must be nailed. Adhesives <u>SHALL NOT</u> be used in place of nailing.
- E. Metal connectors to be provided by 'Simpson Strong-Tie' or equivalent. F. APA rated OSB may be used in lieu of plywood with prior approval from Engineer of Record.
- G. Minimum treatment for pressure treated lumber shall be as follows:
- 1) Wood not in contact with soil 0.25 ACQ
- 2) Wood in contact with soil 0.40 ACQ
- H. Pressure treated lumber that has been cut shall be site treated at each cut.
- I. Bolt holes in lumber shall be drilled as bolt diameter plus 1/16".

METAL WOOD FRAMING HARDWARE:

- equivalent.

SHEATHING and DECKING: A. Roof sheathing/decking shall be a minimum of 7/16" thick CDX plywood or APA rated O.S.B. C-D interior grade with exterior glue. Minimum panel span rating of

- 48/24.
- 48/24.

<u>WIRE</u>	NAILS:		
Α.		lation and materials	
		building code requir	
В.	Gun nails	may be used in lieu	u of hand nailing
	follows:		
		8d	0.113" x 2.5"
		10d	0.123" × 3.0"
		12d	0.123" x 3.25"
		16d	0.133" x 3.5"
C.	Nails shal	l have a minimum p	enetration of 10
	otherwise	on the plans.	
D.		ance for all nails sh	all be a minimu
	5	erwise on the plans.	
E.		isted /specified on	

$\left(\begin{array}{c} - \\ S - \end{array} \right)$
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All metal wood framing hardware shall be provided by 'Simpson Strong-Tie' or

B. All metal hardware shall be installed per manufacturer's recommendations. C. All metal fasteners and hardware in contact with pressure treated lumber shall be Hot Dipped Galvanized or ZMax coated (G=185).

B. Floor sheathing/decking shall be a minimum of 23/32" thick CDX plywood or APA rated O.S.B. C-D interior grade with exterior glue. Minimum panel span rating of

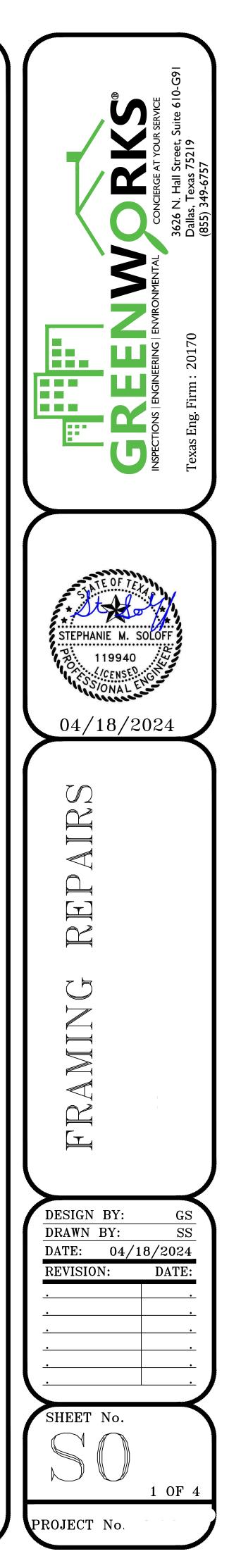
C. Gypsum sheathing for shear walls shall be a minimum of 1/2" thick and free of imperfections and shall conform to ASTM C79. D. Exterior wall sheathing shall be a minimum of 7/16" thick plywood or APA rated O.S.B.

> mpliance with A.I.T.C., NDS, and all q. Gun nail substitutions shall be as

10 times the wire diameter unless noted Im of 4 times the wire diameter unless

be Common unless noted otherwise.

STRUCTURAL LEGEND				
- DETAIL # OR LETTER		c = = = >	INTERIOR BRACED WALL	
SEE KEYED NOTES			ROOF LINE	
			STEEL FRAMING	
BEAM/HEADER SCHE			FRAMED WALL	
COL/POST SCHEDULE	-		FOUNDATION PERIMETER	
HOLDOWN PER PLAN	LEGEND		FOUNDATION FOOTING/BEAM	
SOLID BOX INDICATES CONTINUES DOWN TO FOUNDATION BELOW		TYP	TYPICAL	
OPEN BOX INDICATES		SP	SOUTHERN PINE	
CARRIED BY BEAM C HEADER BELOW)R	0.C.	ON CENTER	
JOIST SPAN		К	KING/FULL-HEIGHT STUD	
- — RAFTER SPAN		Т	TRIMMER/JACK STUD	
= COMMODITY LUMBER	HEADER	LVL	LAMINATED VENEER LUMBER	
===:LVL BEAM OR HEADE	ĒR	SIM	SIMILAR	
PRE-MANUFACTURED	TRUSS	0.S.B.	ORIENTED STRAND BOARD	
— – LEDGER		Ę	CENTER LINE	
JOIST/RAFTER SPAN	JOIST/RAFTER SPAN (BEAR ON BEAM)		GIRDER TRUSS	
(BEAR ON BEAM)			HOLLOW STRUCTURAL SECTION	
- — JOIST/RAFTER SPAN	/RAFTER SPAN	GLB	GLUE-LAMINATED BEAM	
(FLUSH FRAME TO B	(FLUSH FRAME TO BEAM)		BRACED WALL LINE	
> ROOF BRACE & THR	OW	GALV.	GALVANIZED	
BRACED WALL LINE		MIN./MAX.	MINIMUM/MAXIMUM	
EXTERIOR BRACED W	ALL	U.N.O.	UNLESS NOTED OTHERWISE	



FRAMING NOTES:

<u>GENERAL:</u> 1. All notes on this sheet shall apply to all wood framing except where indicated otherwise.				ITEM 15: HEEL JOINT AND CEILING JOIST LAP NAILING*			NAILING*
	WOOD-TO-WOOD MEMBER	<u>CONNECTIONS:</u> lood members shall be according to	the following table:	ROOF PITCH	12	ROOF SPAN (FEET)	36
	, ,		5	noormen	REQUIRED NUMBER OF 16d COMI		
	1	FASTENING SCHEDULE*		3:12	5	10	15
	BUILDING ELEMENTS	FASTENING OPTIONS	SPACING AND PLACEMENT	4:12	4	8	11
	1	WALL		5:12	3	6	9
		(3)10d — 16d box nails	- End nail	7:12	3	5	7
1	Sole, sill, or top plate to	(2)16d common nails		9:12		4	5
ľ	stud	(4)8d — 10d or (3)16d box nails	- Toe nail	12:12	3		4
		(4)8d common nails			o.c. only. For roof pitches betweer	those tabulated use pi	itch associated with the lara
		(2)16d common or box nails	End nail	number of nails.	10d common nails are permitted v d number of 16d nails, rounded up	where the required numbe	
2	Blocking between studs	(2)8d common nails	- Toe nail				
		(2)10d box nails			onnections between wood members omplished with Simpson Strong—Tie		
3	Stud to stud	16d box nails	12" o.c. face nail		CONNECTO	OR SCHEDULE	
0		16d common nails	16" o.c. face nail		MEMBER		MPSON CONNECTOR
4	Continuous header to stud-	(5)8d or (4)10d box nails	- Toe nail				
		(4)8d common nails				HT HANGERS	
5	King stud to header	(4)10d - 16d box nails	- End nail		2×6, 2×8		LUS26
5		(3)16d common nails			2×10		LUS28
6	Double top plate	16d common nails	16" o.c. face nail		2x12		LUS210
0		10d box nails	12" o.c. face nail		(2)2x6, (2)2x8		LUS26-2
7	Double top plate splice –	(12)10d — 16d box nails	Face nail each side of end joint -(min. 24" lap splice length each side		(2)2×10		LUS28-2
7		(8)16d common nails	of end joint)		(2)2×12		LUS210-2
		FLOOR AND CEILING					
		8d box nails	4" o.c. toe nail 6" o.c. toe nail		(3)2x6, (3)2x8		LUS26-3
8	Rim board to top plate	10d box nails			(3)2x10		LUS28-3
		8d common nails			(3)2x12		LUS210-3
9	Joist to sill plate, top	(4)8d or (3)10d box nails	- Toe nail		11-7/8" TJI 110 I-JOIST	IUS1.81/1	11.88 OR MIU2.1/11 (MIN.)
	plate, or dropped beam	(3)8d common nails			14" TJI 110 I-JOIST		IUS1.81/14 (MIN.)
10	Rim board to joist	(4)10d box nails	- End nail		16" TJI 110 I-JOIST		IUS1.81/16 (MIN.)
		(3)16d common nails			(2)11-7/8" TJI 110 I-JOIST		IUS3.56/11.88
11	Sole plate to joist or rim	(3)16d box nails	- 16" o.c. face nail		(2)14" TJI 110 I-JOIST		/ US3.56/14 (MIN.)
	board	(2)16d common nails					· · · ·
12	Bridging or blocking to	(2)10d box nails	- Each end, toe nail		(2)16" TJI 110 I-JOIST		US3.56/16 (MIN.)
	joist	(2)8d common nails			SLOPEI	D HANGERS	
		ROOF			2x6, 2x8		LRU26Z
13	Blocking between rafters	(4)8d or (3)10d box nails	- Toe nail		2×10		LRU28Z
	to top plate	(3)8d common nails			2x12		LRU210Z
14	 Blocking between rafters	(2) 8d common nails	Each end toe nail		(2)2x6, (2)2x8	U24	6-2X SLD/U(PITCH)
		(2) 16d common nails	End nail			R SKEWED HANGERS	
15	Ceiling joist to parallel rafter (heel joint) and	SEE TABL	e below		·		
	ceiling joist lap splices				2x6, 2x8		LSSJ26RZ
16	Rafter to top plate	(3)16d or (4)10d box nails	(2) toe nails on one side and (1)		2×10		LSSJ28RZ
10		(3)10d common nails	toe nail on opposite side		2x12		LSSJ210RZ
17	Every other rafter to	H2.5A clip (Item 16 is not require	d at locations where clip is used)		(2)2×10, (2)2×12		LSSR210-2Z
ι /	top plate		a activations where only is used)		POS	ST CAPS	
		(4)10d — 16d box nails	Toe nail		BEAM TO 4x4 POST		BC4 CAP
18	Rafters and hip and valley boards to ridge, hip, and	(3)10d common nails	Toe nail		BEAM TO 6x6 POST		BC6 CAP
ιO	valley boards	(3)10d — 16d box nails	- End nail				
		(2)16d common nails			BEAM TO 8x8 POST		BC8 CAP
1.0		(4)10d box nails		BE	AM TO CORNER 4x4, 6x6 POST		(2)LCE4
19	Collar tie to rafter	(3)10d common nails	- Face nail				

ger <u>ADDITIONAL FRAMING NOTES:</u>

- perpendicular walls

LEDGER TABLE*				
CARRIED M	IEMBER	LEDGER		
TYPE	SIZE	SIZE	FASTENING SPACING (IN.)	
	2x6	2x6	64" o.c.	
Ceiling joists	2x8	2x8	48" o.c.	
	2×10	2×10	36" o.c.	
	2×8	2×8	16" o.c.	
Floor joists	2×10	2×10	16" o.c.	
	2x12	2×12	16" o.c.	
	2×6	2×8	36" o.c.	
Rafters	2×8	2×10	32" o.c.	
	2×10	2x12	24" o.c.	

* Fasteners shall be (2) rows Simpson Strong-Tie SDS25300 screws (or equivalent) and shall have an edge distance of 1.5". Ledgers shall be fastened by no fewer than (4) screws. Floor joist dead load = 10 psf. Ceiling joists spaced @ 24" o.c., floor joists spaced @ 16" o.c., rafters spaced @ 24" o.c.

- 4. All LVL beams shall be 2.0E Microllam LVL. Microllam LVLs may be substituted for 2.1E Versa—Lam 2800 LVL beams of equal size and ply count if desired. Fasten multiple plies of LVL beams together per manufacturer's instructions, unless noted otherwise. 5. All engineered wood i-joists shall be Weyerhaeuser Trus Joist TJI 110 joists. TJI 110 joists may be substituted for Boise-Cascade BCI 5000 1.7 joists of depth if desired. If deeper substitutions STUD CONNECTIONare needed, contact GreenWorks Engineering.
- 6. Rough hewn timber may be used in lieu of specified southern pine for exposed posts and beams where desired. Rough hewn timber shall be of equal nominal size and grade as specified on framing plans. 7. Where indicated, roof overbuild shall be
- framed with 2x6 SP#2 rafters @ 24" o.c.. Each rafter shall be braced w/ (1) 2x4 brace @ 36" o.c. positioned directly above lower rafters. Both lower and upper rafters shall be fully sheathed.
- 8. Rafters and joists may be lap spliced at bearing points as desired. Rafters shall have a total 48" lap over bearing purlins. Joists shall be fully lapped across bearing walls or dropped beams. Contractor shall refer to current local prevailing building code for additional framing details and construction requirements not included in this structural plan.

<u>vo</u>	<u>OD FRAMING TO CONCRETE FOUNDATION CONNECTIONS:</u> All isolated wood posts (wood posts located without a wood framed wall) shall have a 2x pressure treated bearing plate	POST B	ASE TABLE*
) 	anchored to the concrete foundation w/ (2) anchor bolts. In lieu of pressure treated bearing plate, Simpson Strong-Tie	POST SIZE	POST BASE
	post bases may be used according to the following table:	4×4	ABA44Z
		4x6	ABW46Z
		6x6	ABA66Z
		8x8	ABU88Z
	* Or better. Rough hewn lumber may	10x10	ABU1010Z
	use equivalent RZ designated post bases	12x12	ABU1212Z

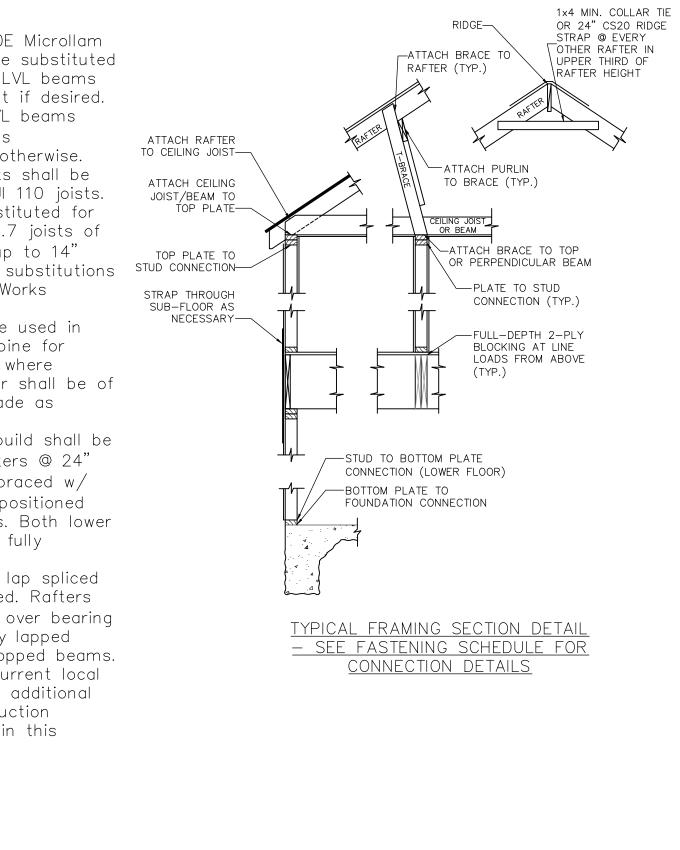
(2)2x6 STRONGBACK – ACROSS CEILING JOISTS

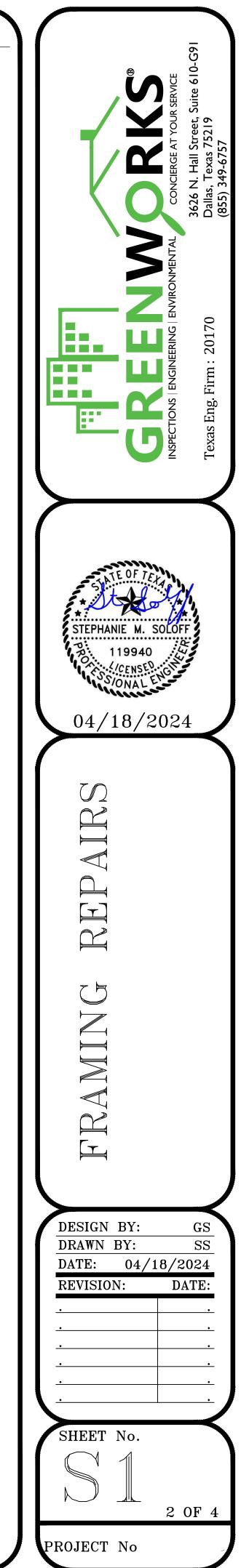
FULL-HEIGHT BLOCKING BETWEEN CEILING JOISTS @ LINE LOADS.

DETAIL

1. Provide full-depth (2)-ply blocking at floor joists carrying

2. All roof braces shall be positioned according to the following detail: 3. All ledgers shall be single ply SP#2 with depth adequate to fit the cut ends of the carried members (e.g., 2x6 ledger for 2x6 flat joists, 2x8 ledger for 2x6 sloped joists, etc.). Carried members shall be connected to the ledger by hangers according to the Connector Schedule. Ledger shall be fastened to main structure rim board, wall studs, or full-height 2x blocking according to the following table:







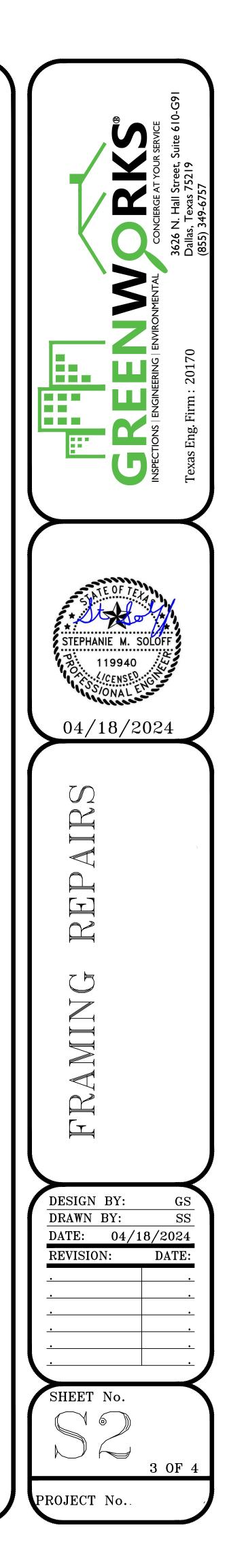


LOWER DEMOLITION PLAN

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



1) REMOVE CEILING AND INTERIOR WALL FINISHES AS REQUIRED TO PERFORM REPAIRS



NORTH

FRAMING - DEMO

VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION

FRAMING - EXISTING

