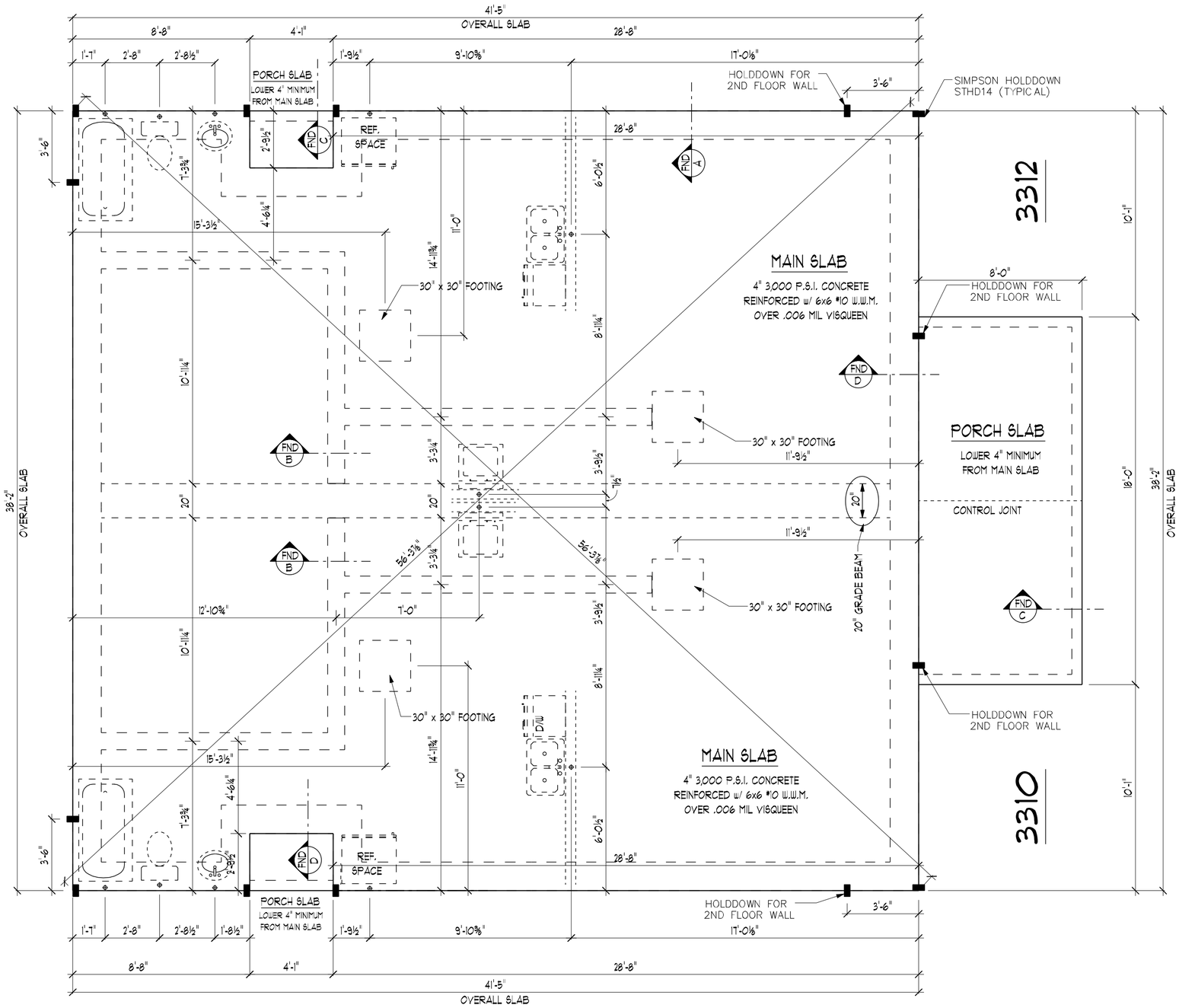
FOUNDATION NOTES:
1. Foundation is designed for a maximum soil bearing pressure of 2,000 P.S.F. for spread footings.
2. Bottom of all footings shall bear on approved natural soil or compacted approved fill. All foundation and soil works shall be done in accordance with the project soils report.
3. All concrete shall develop a minimum 28-day compressive strength of 3,000 P.S.I. except as shown.
4. Reinforcing shall be A.S.T.M. spec. A625, Grade 60.
5. All reinforcing and accessories shall be detailed, fabricated and placed in accordance with the latest edition of A.C.I. detailing manual.
6. Reinforcing in all concrete wall and footings shall be continuous around corners.
7. Lap all steel reinforcing bars 18" minimum at splices.
8. The engineer, before construction, shall approve all shop drawings.
9. The G.C. is responsible for employing a qualified consulting engineer to inspect footing excavations and to certify that foundation soils supporting footings and slabs are adequate to properly support design loads.
10. All monolithic slabs to be designed and inspected by a licensed engineer.
11. The G.C. is responsible for ensuring that ALL details comply with the Local Code requirements in their area.
12. See details on TYPICAL DETAILS sheet.



GROUND FLOOR ELEVATION - UDC 3.9.2J
Raised ground floors shall be required if raised ground floors are part of the dominant character of all properties fronting on the same block face. Any project that requires a raised ground floor must have a foundation height of at least 18 inches measured from top of grade to the first finished floor. (See UDC Sub-Section 3.2.6A, Building Height, to determine foundation height.)
In the event of a demonstrated disability hardship, the Zoning Administrator may approve an alternative zero-step entry design.

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

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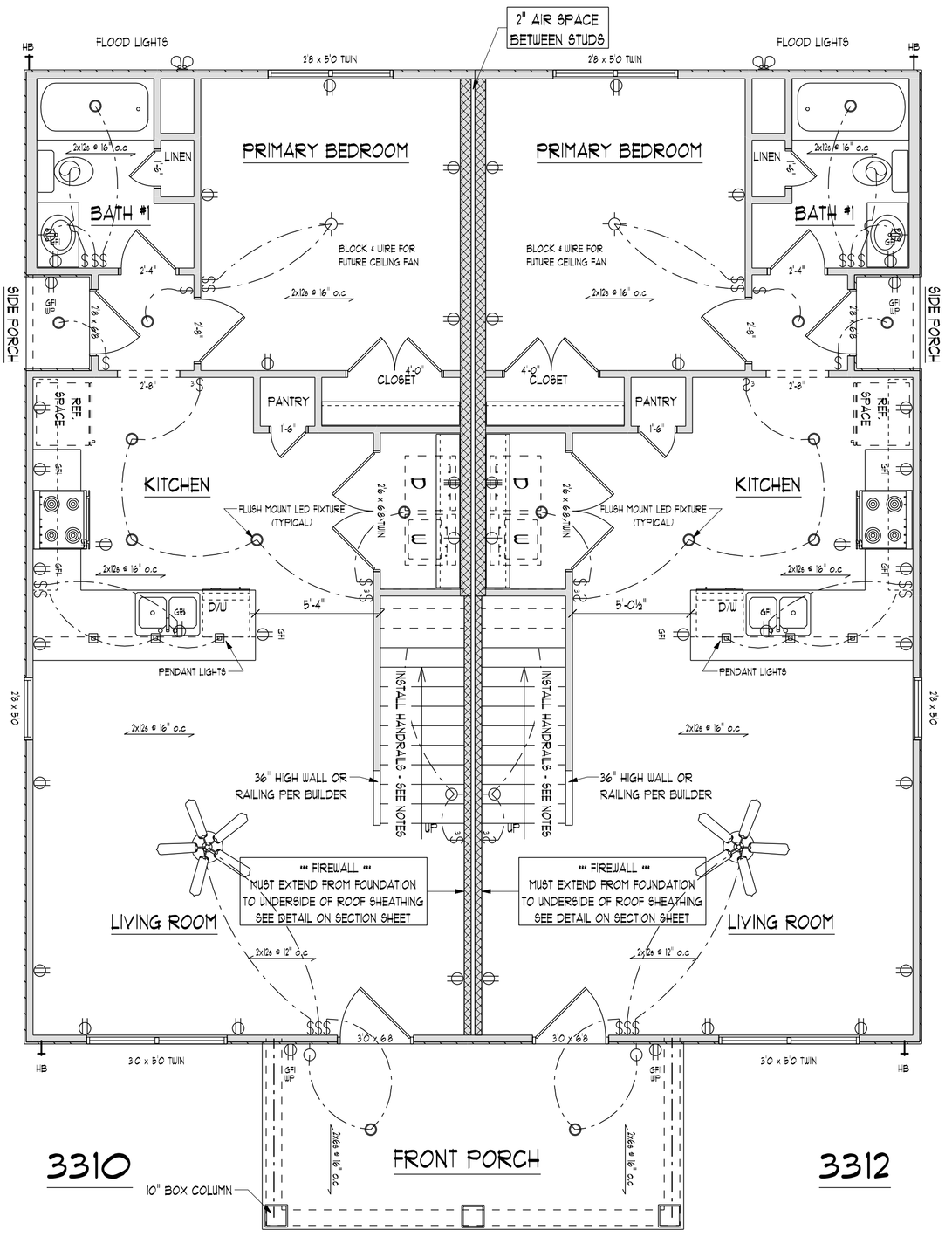
TMB - 4/2025

Designed For: Inkan Builders
Location: 3310 Tutwiler Avenue
Plan: D10-151201-A

FOUNDATION PLAN



NOTES:
- HOUSE SHALL BE CONSTRUCTED IN COMPLIANCE WITH 2021 IRC AND LOCAL AMENDMENTS.
- CEILING HEIGHTS DOWN ARE 9' UNLESS NOTED OTHERWISE.
- FURR OUR 2x6 RAFTERS IN VAULTED AREAS TO ALLOW FOR INSULATION.
- WALLS TO BE CONSTRUCTED USING 2x4s @ 16" O.C. UNLESS NOTED OTHERWISE.
- EXTERIOR WALLS TO BE SHEATHED USING CONTINUOUS 7/16" (MIN.) STRUCTURAL SHEATHING.
- WINDOW HEADERS SHALL BE AT STANDARD HEIGHT UNLESS OTHERWISE NOTED.
- ALL DIMENSIONS ARE ROUGH FRAME.
- SMOKE ALARMS AND CARBON MONOXIDE ALARMS SHALL BE LOCATED AND INSTALLED PER 2021 IRC SECTIONS R314 AND R315.
- PROVIDE SEISMIC BRACING FOR WATER HEATERS AND FURNACES PER 2021 IRC SECTION R301.2.2.10.
- FIREPLACE INSTALLATION SHALL COMPLY WITH 2021 IRC SECTIONS R1001 THRU R1006 AND PER MANUFACTURER'S SPECS.
- THE MINIMUM DEPTH OF THE FOOTING SHALL BE 13" PER THE 2021 IRC, R403.1.4.
- MECHANICAL EXHAUST IS REQUIRED IN KITCHENS AT A RATE OF 25 CFM CONTINUOUS OR 100 CFM INTERMITTENT PER 2021 IMC TABLE 403.3.1.1.
- BATHROOMS MECHANICAL EXHAUST CAPACITY OF 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS.
- ATTIC ACCESS IS REQUIRED PER 2021 IRC R807 WITH A MINIMUM OPENING OF NO LESS THAN 22"X30" WITH A MINIMUM ATTIC CEILING CLEARANCE OF 30".
- WOOD COLUMNS SHALL BE PROTECTED FROM DECAY PER 2021 IRC R317. COLUMNS SHALL BE RESTRAINED TO PREVENT LATERAL DISPLACEMENT PER R407.
- HANDRAILS SHALL BE PROVIDED TO CONFORM TO 2021 IRC R311.7.8. SPECIAL ATTENTION SHOULD BE GIVEN TO THE HANDRAIL HEIGHT PER SECTION R311.7.8.1.

ALL WINDOW HEADER HEIGHTS AND DOORS ARE 6'-8" UNLESS NOTED OTHERWISE

WALLS SHOWN WITH CROSS HATCH PATTERN ARE INTERIOR STRUCTURAL WALLS AND THEIR CONSTRUCTION MUST FOLLOW THE SHELBY COUNTY ALTERNATE COMPLIANCE METHOD -- SEE R301.2.2.3.8.2 AND R301.1.2.2.3.8.4.2

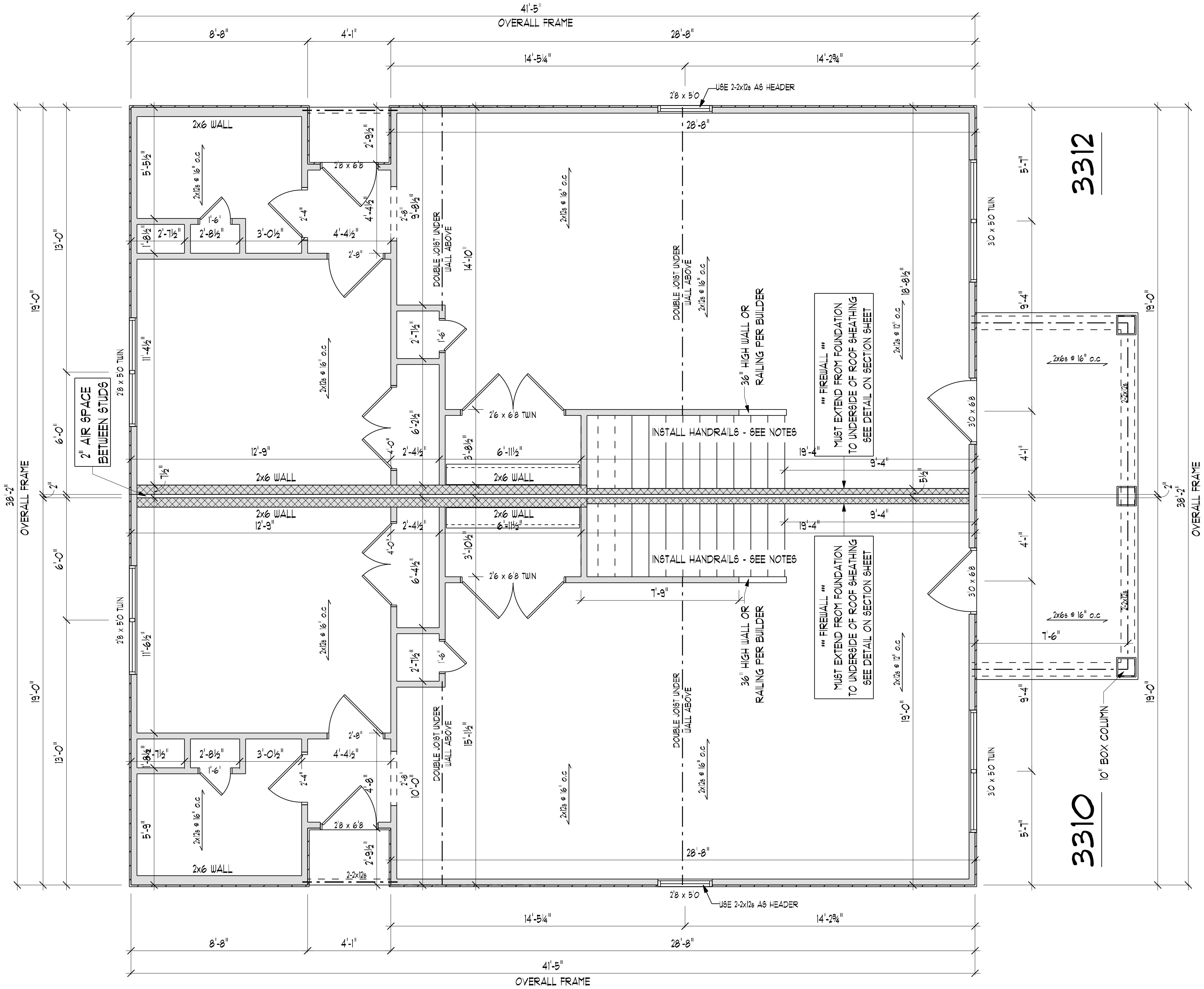
SQUARE FOOTAGE PER UNIT

786 HEATED DOWN
744 HEATED UP
1530 TOTAL HEATED

71 FRONT PORCH
11 SIDE PORCH
82 TOTAL UNHEATED

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

1st FLOOR PLAN	Designed For: Inkan Builders				TMB - 4/2025	GARDO DESIGN GROUP, LLC, DOES NOT PRACTICE STRUCTURAL ENGINEERING; THEREFORE, ALL BEAMS, CONNECTORS, SOLID BEARING LOCATIONS, AND ALL OTHER STRUCTURAL ITEMS ARE TO BE REVIEWED AND DESIGNED BY A LICENSED STRUCTURAL ENGINEER. THEN ACCORDINGLY, GARDO DESIGN GROUP, LLC, ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL INTEGRITY OF THE BUILDING. HOWEVER, ANY DESIGN ELEMENTS THAT MAY NEED TO BE ALTERED DUE TO STRUCTURAL ITEMS, MUST BE APPROVED BY THE OWNER AND/OR GARDO DESIGN GROUP, LLC.	gardo DESIGNGROUP	3159 US Hwy 64, Suite 400 Eads, TN 38028 901.844.7990 www.gardodesigngroup.com	ABD®
PG. 2 OF 7	Location: 3310 Tutwiler Avenue								
	Plan: D10-151201-A								



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

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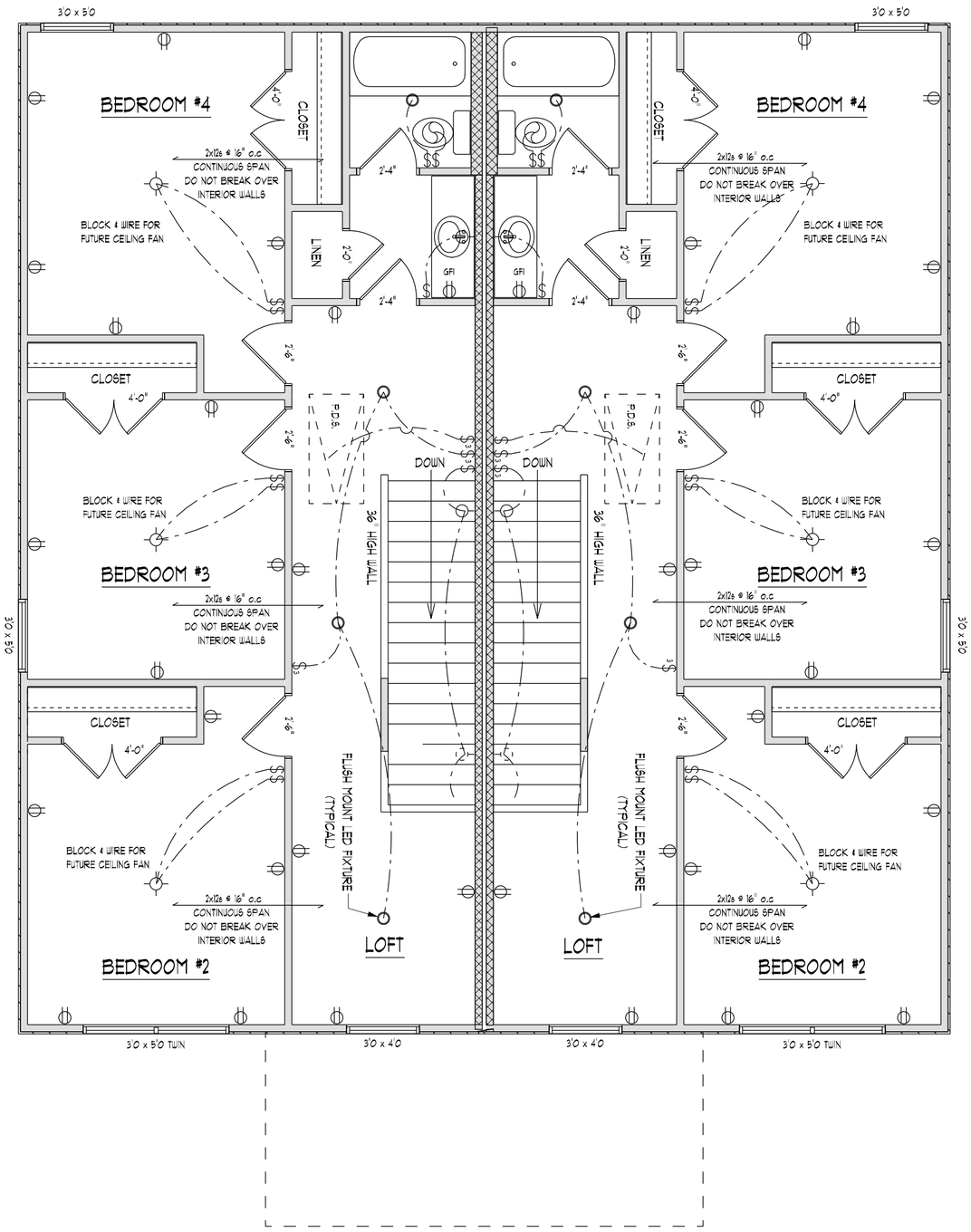
Designed For: Inkan Builders
Location: 3310 Tutwiler Avenue
Plan: D10-151201-A

1st FLOOR FRAMER



NOTE!
- CEILING HEIGHTS UP ARE 8' UNLESS NOTED OTHERWISE.
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- HABITABLE ROOMS SHALL HAVE A FLOOR AREA OF NOT LESS THAN 70 SQUARE FEET. ANY PORTION OF THE ROOM WITH KNEE WALLS LESS THAN 5'-0" MUST NOT BE INCLUDED IN THE CALCULATION.

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

2nd FLOOR PLAN

PG. 4 OF 7

Designed For: Inkan Builders

Location: 3310 Tutwiler Avenue

Plan: D10-151201-A

TMB - 4/2025

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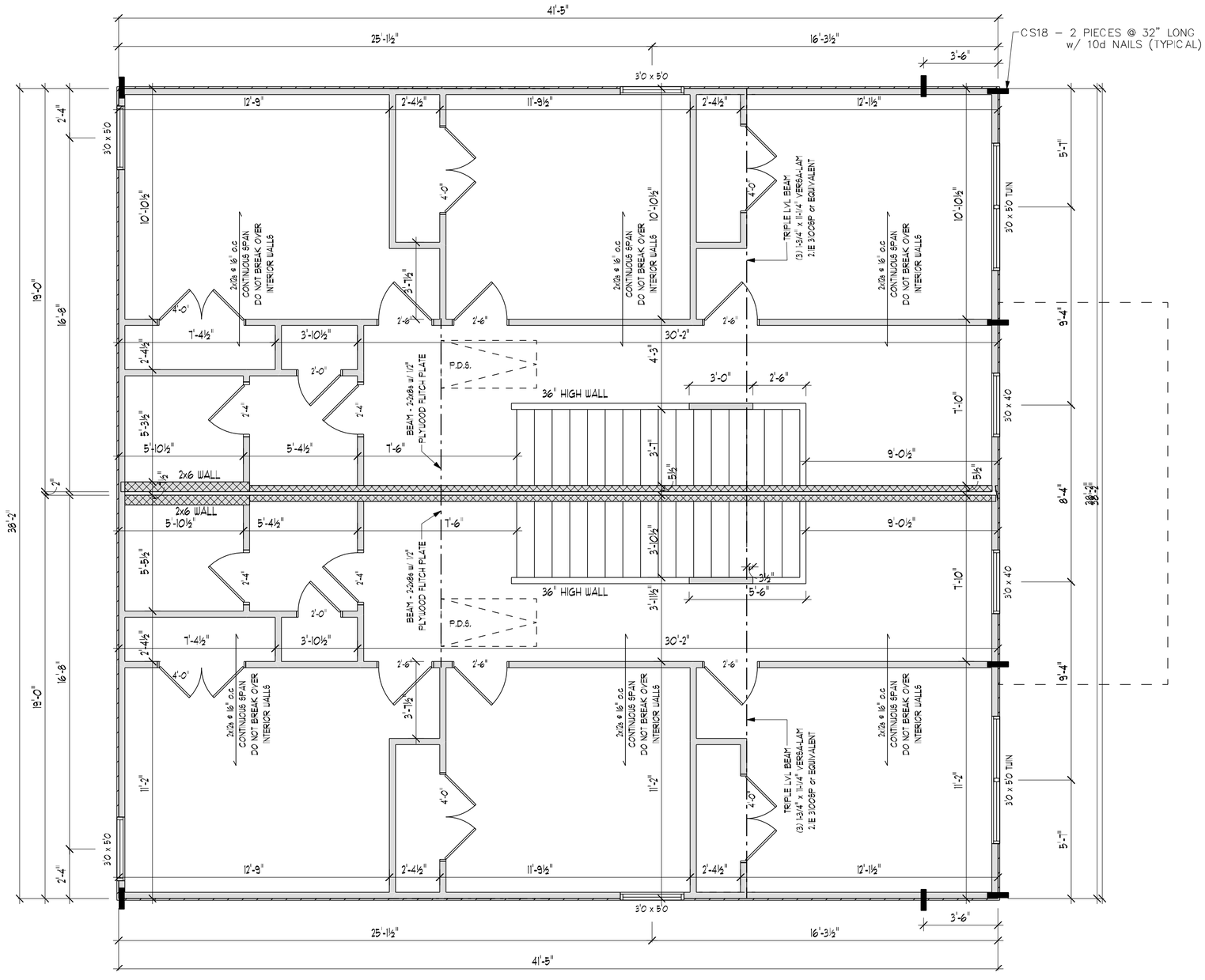

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SCALE: 1/4" = 1'-0"

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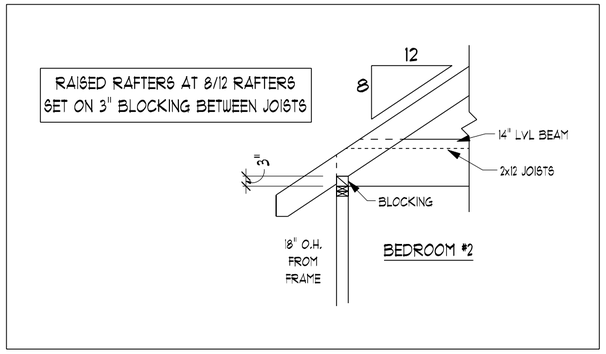
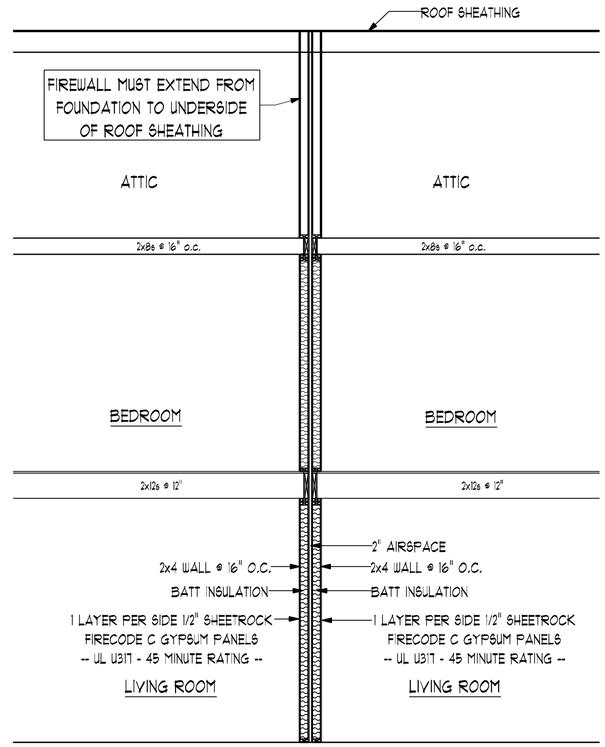
TMB - 4/2025

Designed For: Inkan Builders
Location: 3310 Tutwiler Avenue
Plan: D10-151201-A

2nd FLOOR FRAMER

PG. 5 OF 7

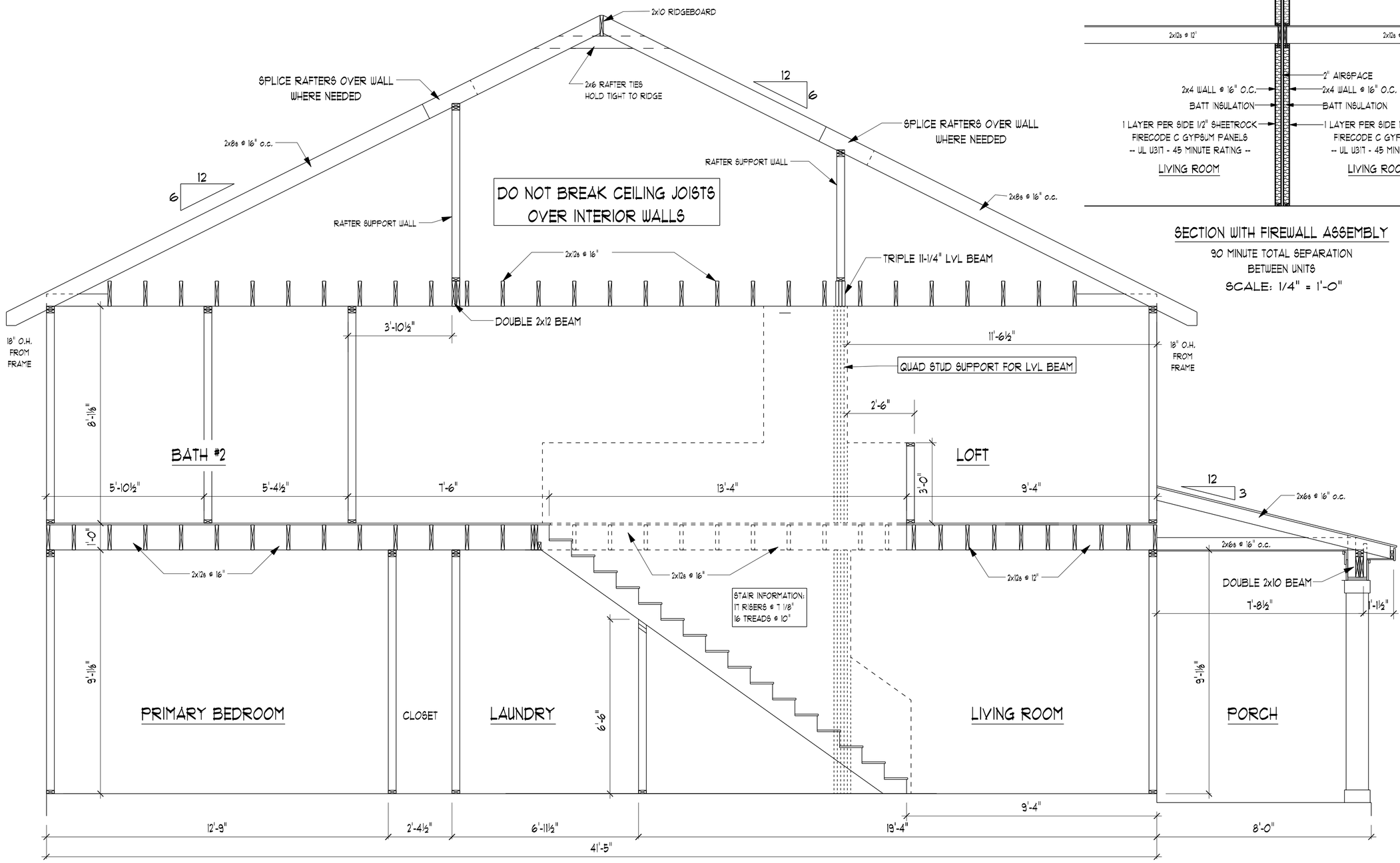




SECTION WITH FIREWALL ASSEMBLY

90 MINUTE TOTAL SEPARATION
BETWEEN UNITS

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



SECTION THROUGH MAIN BODY

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

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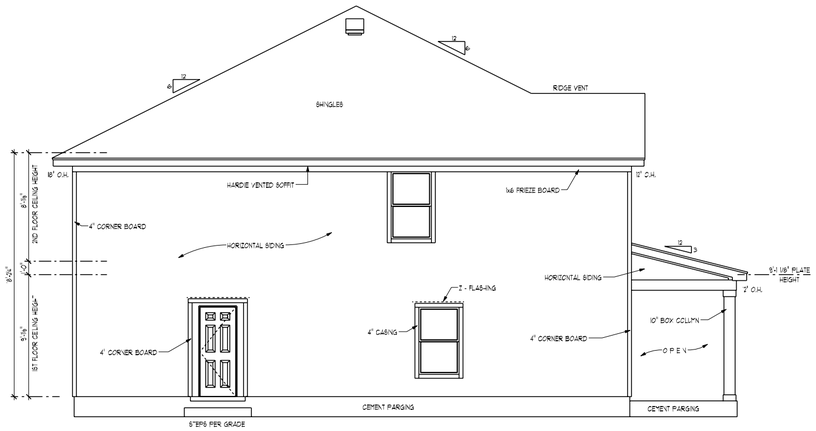
TMB - 4/2025

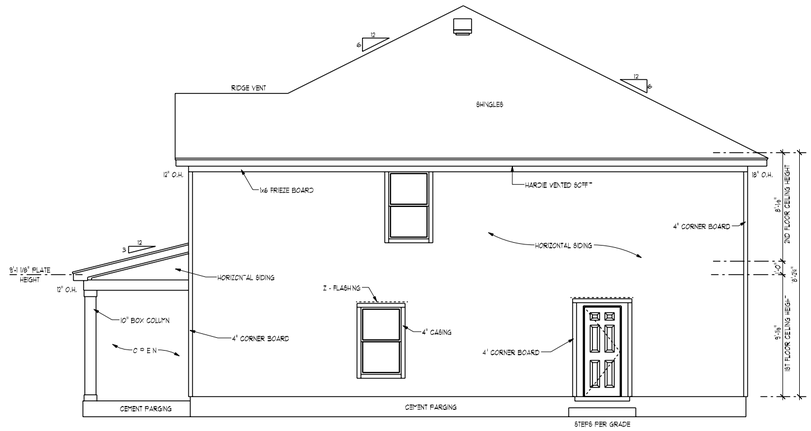
Designed For: Inkan Builders
Location: 3310 Tutwiler Avenue
Plan: D10-151201-A

SECTION
1



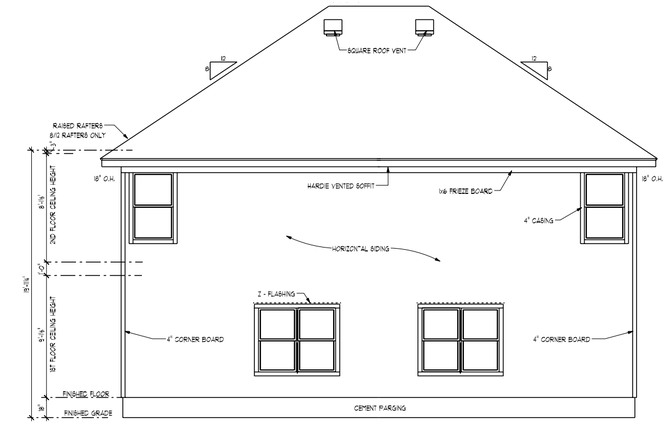
LEFT ELEVATION

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



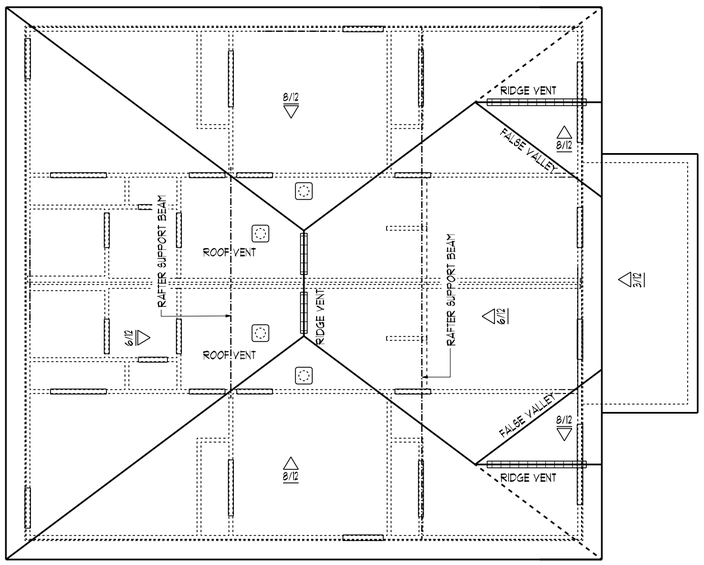
RIGHT ELEVATION

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



REAR ELEVATION

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



ROOF PLAN

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

FRONT ELEVATION

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

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TMB - 4/2025

Designed For: Inkan Builders
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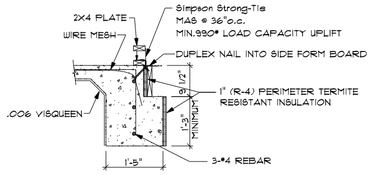
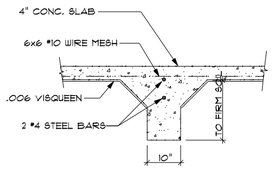
ELEVATIONS

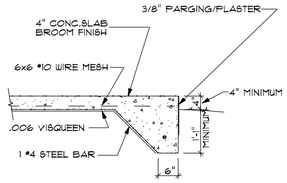
PG. 1 OF 1



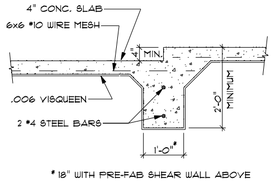
A FOOTING AT BRICK
SEE DETAIL "I" FOR CONSTRUCTION IN OAKLAND, TN



B INTERIOR GRADE BEAM

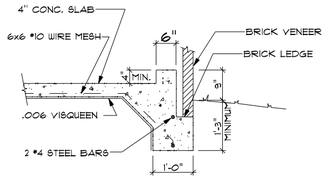


C FOOTING AT PORCH

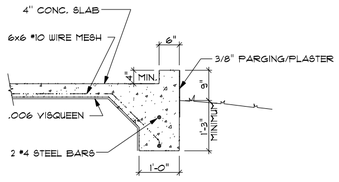


18" WITH PRE-FAB SHEAR WALL ABOVE

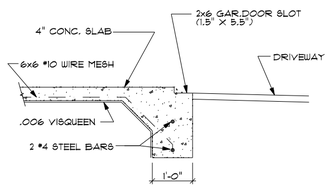
D LOWERED SLAB DETAIL



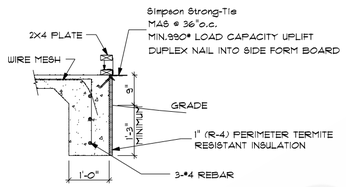
E CURB DETAIL AT GARAGE
BRICK VENEER WALL



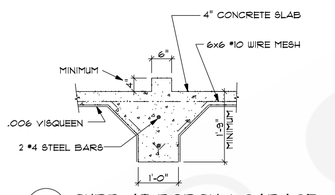
E CURB DETAIL AT GARAGE
SIDING WALL



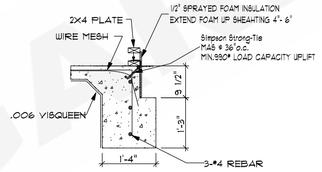
F FOOTING AT GARAGE DOOR



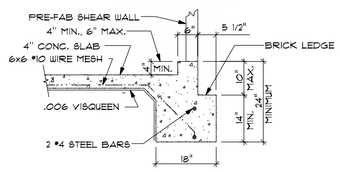
G FOOTING AT SIDING



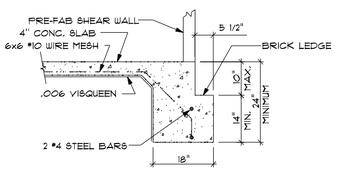
H CURB AT PORCH & GARAGE



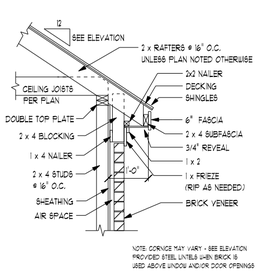
I FOOTING AT BRICK
FOR CONSTRUCTION IN OAKLAND,TN ONLY



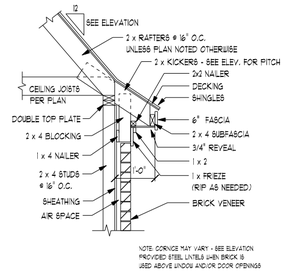
J CURB DETAIL AT GARAGE
WITH SIMPSON SHEAR WALL



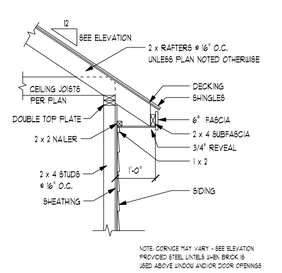
K FOOTING AT BRICK
WITH SIMPSON SHEAR WALL



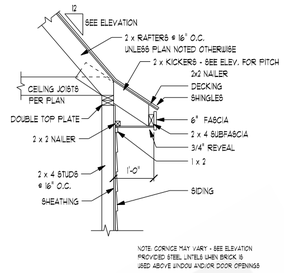
CORNICE DETAIL 'B1'
BRICK VENEER



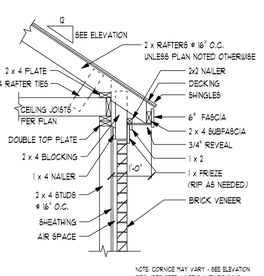
CORNICE DETAIL 'B2'
BRICK VENEER



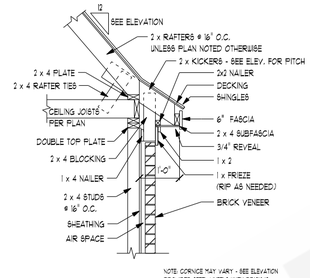
CORNICE DETAIL 'S1'
HORIZONTAL SIDING



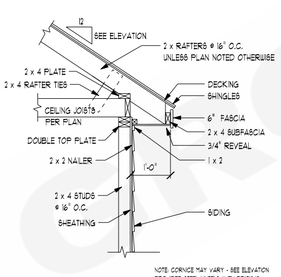
CORNICE DETAIL 'S2'
HORIZONTAL SIDING



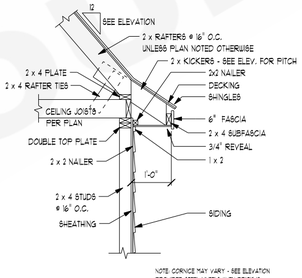
CORNICE DETAIL 'B3'
RAISED RAFTERS
BRICK VENEER



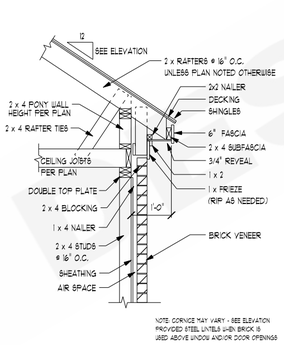
CORNICE DETAIL 'B4'
RAISED RAFTERS
BRICK VENEER



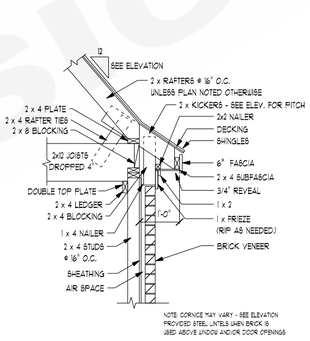
CORNICE DETAIL 'S3'
RAISED RAFTERS
HORIZONTAL SIDING



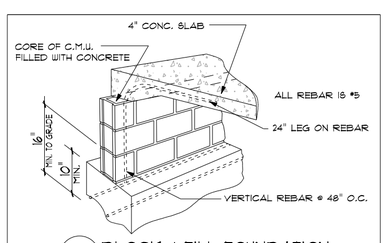
CORNICE DETAIL 'S4'
RAISED RAFTERS
HORIZONTAL SIDING



CORNICE DETAIL 'B5'
RAISED PLATE
BRICK VENEER



CORNICE DETAIL 'B6'
RAISED RAFTERS
BRICK VENEER
JOISTS DROPPED OVER GARAGE



BF BLOCK & FILL FOUNDATION

BLOCK & FILL FOUNDATION NOTES:
4" 3000# concrete reinforced with 6 x 6 #10 wire mesh
over .006 visqueen moisture barrier
Provide 10" concrete filled post holes 6'-0" O.C.
3'-0" O.C. under load bearing walls (as shown)
Tamped or vibrated while being poured
Steel trowaled to smooth finish
21" x 16" footings with two #5 rebars
continuously. Average concrete depth is
12" (10" minimum). Provide vertical
rebars @ 48" O.C. with 24" leg (as shown).

FOUNDATION NOTES:
1. Foundation is designed for a maximum soil bearing pressure of 1,500 P.S.F. for spread footings.
2. Bottom of all footings shall bear on approved natural soil or compacted approved fill. All foundation and soil works shall be done in accordance with the project soils report.
3. All concrete shall develop a minimum 28-day compressive strength of 3,000 P.S.I. except as shown.
4. Reinforcing shall be A.S.T.M. spec. A625, Grade 60.
5. All reinforcing and accessories shall be detailed, fabricated and placed in accordance with the latest edition of A.C.I. detailing manual.
6. Reinforcing in all concrete wall and footings shall be continuous around corners.
7. Lap all steel reinforcing bars 18" minimum at splices.
8. The engineer, before construction, shall approve all shop drawings.
9. The G.C. is responsible for employing a qualified consulting engineer to inspect footing excavations and to certify that foundation soils supporting footings and slabs are adequate to properly support design loads.
10. All monolithic slabs to be designed and inspected by a licensed engineer.
11. The G.C. is responsible for ensuring that ALL details comply with the Local Code requiremsnts in their area.

FRAMING NOTES:
1. All wood framing shall be visually graded lumber with the following minimum properties:

Member	Bending Stress	Modules of Elasticity
Joist & beams	1,500 psi (#2KD)	1,600,000 psi
Studs, bracing, blocking	1,100 psi (#2)	1,400,000 psi
Rafters	1,500 psi (#2KD)	1,600,000 psi
Laminated Wood	2,400 psi	1,900,000 psi

2. All studs to be #2 spruce (2x4 @ 16" O.C. unless otherwise noted)
3. Beam sizes not noted shall be designed be a licensed engineer.
4. Provide solid support as required under all beams and headers.
5. Rafter and joist spans are based on #2 yellow pine (K.D.)
6. Where applicable, provide double joists under partition walls above which run parallel to joist spans.
7. Where applicable, provide solid blocking between joists under partition walls above which run perpendicular to joist span.

GENERAL NOTES:
1. Provide steel lintels at all brick openings as required.
2. Brick veneer must be supported by non-combustible materials to footing per licensed engineer.
3. Provide screened soffit vents at 96" O.C. around house; continuous at all vaults; and provide proper roof ventilation per local building code requirements.
4. All window sizes shown are nominal--consult window manufacturer and/or general contractor for actual sizes and rough opening sizes. Verify that all applicable windows meet egress requirements for local building codes.
5. These plans are to comply with the 2018 International Energy Conservation Code (IECC).
6. Gardo Design Group, LLC, will not be responsible for any unauthorized changes made to this plan.

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

A|B|D
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gardo DESIGNGROUP

GARDO DESIGN GROUP, LLC DOES NOT PRACTICE STRUCTURAL ENGINEERING, THEREFORE ALL BEAMS, GIRDERS, & BEARING STRUCTURAL AND ALLIED STRUCTURAL ITEMS ARE TO BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER. GARDO DESIGN GROUP, LLC ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL INTEGRITY OF THE BUILDING. HOWEVER, ANY DESIGN ELEMENTS THAT MAY NEED TO BE ALTERED DUE TO STRUCTURAL ITEMS, MUST BE APPROVED BY THE OWNER AND/OR GARDO DESIGN GROUP, LLC.

Designed For:
Location:
Plan:

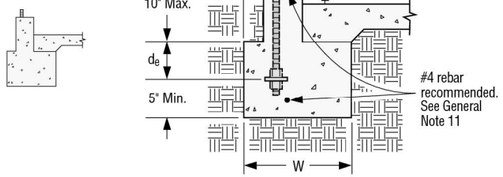
TYPICAL DETAILS

Slab on Grade – Garage Curb

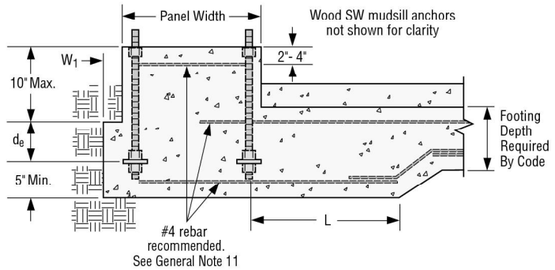
STEEL STRONG-WALL®: 12" WIDE MODELS (¾" DIAMETER ANCHOR)

Minimum Concrete Strength, f'c (psi)	Anchorage Classification	Minimum Footing Width, W / W1 (in)	Cast-in-Place Anchor			Post-Installed Anchor (Adhesive)[2,3,4]		
			Anchor Bolt Type	Minimum Footing Length, L (in)	Minimum Embedment Depth, de (in)	Minimum Footing Length, L (in)	Embedment Depth, de (in)	
							Garage Front Installation	
							SET-XP™/SET	AT
2500	A	12 / 2	SSWAB¾	9	6	24	12	12
	B	12 / 2	SSWAB¾	12	8	24	16	20
	C	12 / 2	SSWAB¾	21	14	—[1]	—[1]	—[1]
	D	18 / 2	SSWAB¾	24	16	—[1]	—[1]	—[1]
	E	24 / 10	SSWAB¾HS	12	8	NS	NS	NS
	F	30 / 12	SSWAB¾HS	15	10	NS	NS	NS
3000	A	12 / 2	SSWAB¾	9	6	24	12	12
	B	12 / 2	SSWAB¾	9	6	24	16	16
	C	12 / 2	SSWAB¾	18	12	24	20	20
	D	18 / 2	SSWAB¾	21	14	—[1]	—[1]	—[1]
	E	24 / 8	SSWAB¾HS	12	8	NS	NS	NS
	F	30 / 10	SSWAB¾HS	15	10	NS	NS	NS
3500	A	12 / 2	SSWAB¾	9	6	24	12	12
	B	12 / 2	SSWAB¾	9	6	24	16	16
	C	12 / 2	SSWAB¾	15	10	24	20	20
	D	18 / 2	SSWAB¾	21	14	—[1]	—[1]	—[1]
	E	24 / 8	SSWAB¾HS	12	8	NS	NS	NS
	F	24 / 10	SSWAB¾HS	12	8	NS	NS	NS

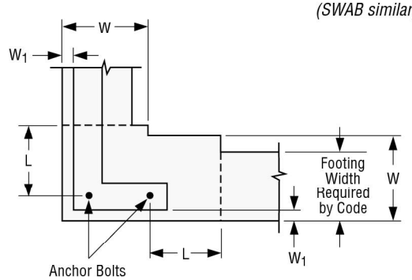
1. See page 52 for additional post-installed adhesive anchorage solutions.
2. Post-installed anchor rods shall be ¾" diameter ASTM F1554 Grade 36 or ASTM A36 minimum threaded rods.
3. Post-installed solutions must be installed with Simpson Strong-Tie® SET-XP™, SET or AT Acrylic-Tie® anchoring adhesives.
4. Simpson Strong-Tie SET-XP™ anchoring adhesive may be required in some building jurisdictions.
5. NS = No solution available.
6. See general note 11 for additional anchorage and foundation information.



Section View
SSWAB Application
(SWAB similar)



Elevation View
SSWAB Application
(SWAB similar)



Plan View
Cast-in-Place/Adhesive Application

SSWAB DETAILS

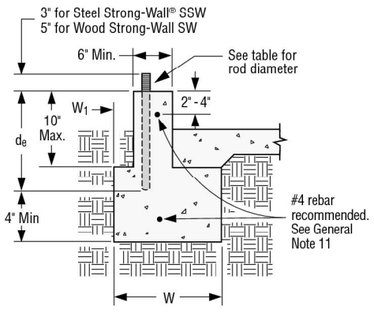
1. See page 47 for perspective view and post-installed anchor *(adhesive)* details.

Slab on Grade – Garage Curb

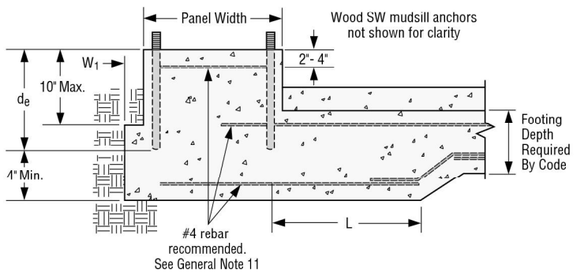
STEEL STRONG-WALL®: 15" AND WIDER MODELS (1" DIAMETER ANCHOR)

Minimum Concrete Strength, f'c (psi)	Anchorage Classification	Minimum Footing Width, W / W1 (in)	Cast-in-Place Anchor			Post-Installed Anchor (Adhesive)[2,3,4]		
			Anchor Bolt Type	Minimum Footing Length, L (in)	Minimum Embedment Depth, de (in)	Minimum Footing Length, L (in)	Embedment Depth, de (in)	
							Garage Front Installation	
							SET-XP™/SET	AT
2500	A	12 / 2	SSWAB1	9	6	24	12	12
	B	12 / 2	SSWAB1	12	8	24	16	16
	C	12 / 2	SSWAB1	21	14	24	20	20
	D	18 / 2	SSWAB1	24	16	—[1]	—[1]	—[1]
	E	24 / 10	SSWAB1	12	8	—[1]	—[1]	—[1]
	F	30 / 12	SSWAB1	15	10	NS	NS	NS
	G	36 / 14	SSWAB1HS	18	12	NS	NS	NS
	H	42 / 18	SSWAB1HS	21	14	NS	NS	NS
3000	A	12 / 2	SSWAB1	9	6	24	12	12
	B	12 / 2	SSWAB1	9	6	24	16	16
	C	12 / 2	SSWAB1	18	12	24	20	20
	D	18 / 2	SSWAB1	21	14	—[1]	—[1]	—[1]
	E	24 / 8	SSWAB1	12	8	—[1]	—[1]	—[1]
	F	30 / 10	SSWAB1	15	10	NS	NS	NS
	G	36 / 14	SSWAB1HS	18	12	NS	NS	NS
	H	36 / 16	SSWAB1HS	21	14	NS	NS	NS
3500	A	12 / 2	SSWAB1	9	6	24	12	12
	B	12 / 2	SSWAB1	9	6	24	16	16
	C	12 / 2	SSWAB1	15	10	24	20	20
	D	18 / 2	SSWAB1	21	14	—[1]	—[1]	—[1]
	E	24 / 8	SSWAB1	12	8	—[1]	—[1]	—[1]
	F	24 / 10	SSWAB1	12	8	NS	NS	NS
	G	30 / 12	SSWAB1HS	18	12	NS	NS	NS
	H	36 / 16	SSWAB1HS	18	12	NS	NS	NS

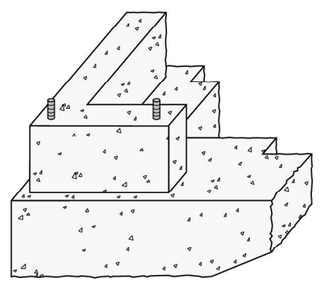
1. See page 52 for additional post-installed adhesive anchorage solutions.
2. Post-installed anchor rods shall be 1" diameter ASTM F1554 Grade 36 or ASTM A36 minimum threaded rods.
3. Post-installed solutions must be installed with Simpson Strong-Tie® SET-XP™, SET or AT Acrylic-Tie® anchoring adhesives.
4. Simpson Strong-Tie SET-XP™ anchoring adhesive may be required in some building jurisdictions.
5. NS = No solution available.
6. See general note 11 for additional anchorage and foundation information.



Section View
Adhesive Application



Elevation View
Adhesive Application



Perspective View
(Slab not shown for clarity)

POST-INSTALLED ANCHOR (ADHESIVE) DETAILS

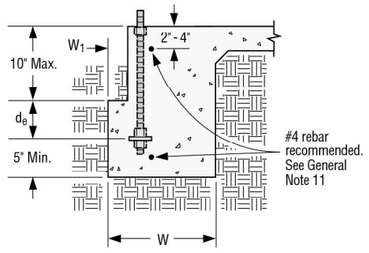
1. See page 46 for plan view and SSWAB details.

Slab on Grade – Slab Edge

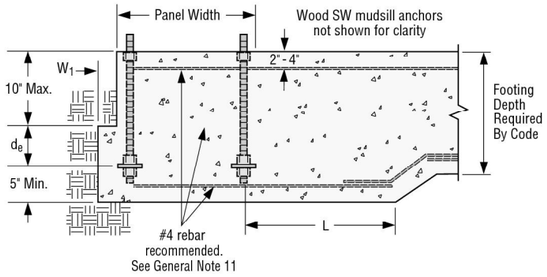
STEEL STRONG-WALL®: 12" WIDE MODELS (¾" DIAMETER ANCHOR)

Minimum Concrete Strength, f'_c (psi)	Anchorage Classification	Minimum Footing Width, W / W_1 (in)	Cast-in-Place Anchor			Post-Installed Anchor (Adhesive)[2,3,4]				
			Anchor Bolt Type	Minimum Footing Length, L (in)	Minimum Embedment Depth, d_e (in)	Minimum Footing Length, L (in)	Embedment Depth, d_e (in)			
							Corner Installation		Interior Installation	
							SET-XP™/SET	AT	SET-XP™/SET	AT
2500	A	12 / 2	SSWAB¾	9	6	24	12	12	12	12
	B	12 / 2	SSWAB¾	12	8	24	16	20	12	12
	C	12 / 2	SSWAB¾	21	14	24	—[1]	—[1]	16	16
	D	18 / 2	SSWAB¾	24	16	24	—[1]	—[1]	20	20
	E	24 / 10	SSWAB¾HS	12	8	NS	NS	NS	NS	NS
	F	30 / 12	SSWAB¾HS	15	10	NS	NS	NS	NS	NS
3000	A	12 / 2	SSWAB¾	9	6	24	12	12	12	12
	B	12 / 2	SSWAB¾	9	6	24	16	16	12	12
	C	12 / 2	SSWAB¾	18	12	24	20	20	12	16
	D	18 / 2	SSWAB¾	21	14	24	—[1]	—[1]	16	20
	E	24 / 8	SSWAB¾HS	12	8	NS	NS	NS	NS	NS
	F	30 / 10	SSWAB¾HS	15	10	NS	NS	NS	NS	NS
3500	A	12 / 2	SSWAB¾	9	6	24	12	12	12	12
	B	12 / 2	SSWAB¾	9	6	24	16	16	12	12
	C	12 / 2	SSWAB¾	15	10	24	20	20	12	12
	D	18 / 2	SSWAB¾	21	14	24	—[1]	—[1]	12	16
	E	24 / 8	SSWAB¾HS	12	8	NS	NS	NS	NS	NS
	F	24 / 10	SSWAB¾HS	12	8	NS	NS	NS	NS	NS

1. See page 52 for additional post-installed adhesive anchorage solutions.
2. Post-installed anchor rods shall be ¾" diameter ASTM F1554 Grade 36 or ASTM A36 minimum threaded rods.
3. Post-installed solutions must be installed with Simpson Strong-Tie® SET-XP™, SET or AT Acrylic-Tie® anchoring adhesives.
4. Simpson Strong-Tie SET-XP™ anchoring adhesive may be required in some building jurisdictions.
5. NS = No solution available.
6. See general note 11 for additional anchorage and foundation information.



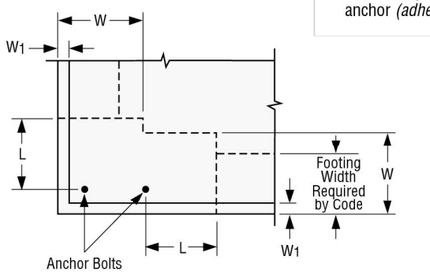
Section View
SSWAB Application
(SWAB similar)



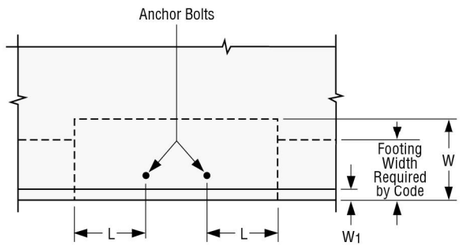
Elevation View – Corner Installation
SSWAB Application
(SWAB similar)

SSWAB DETAILS

1. See page 50 for perspective views and post-installed anchor *(adhesive)* details.



Plan View
Corner Installation
Cast-in-Place/Adhesive Application



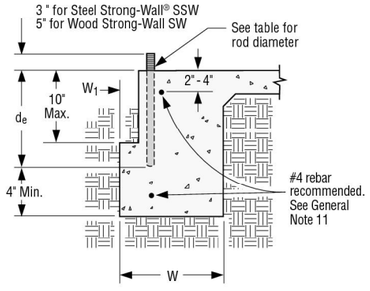
Plan View
Interior Installation
Cast-in-Place/Adhesive Application

Slab on Grade – Slab Edge

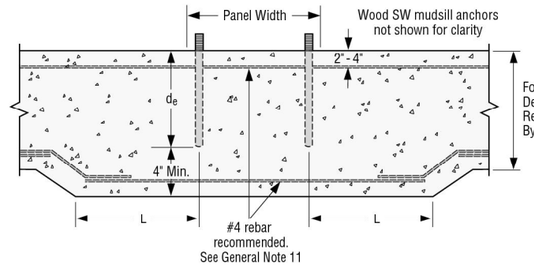
STEEL STRONG-WALL®: 15" AND WIDER MODELS (1" DIAMETER ANCHOR)

Minimum Concrete Strength, f'_c (psi)	Anchorage Classification	Minimum Footing Width, W / W_1 (in)	Cast-in-Place Anchor			Post-Installed Anchor (Adhesive)[2,3,4]				
			Anchor Bolt Type	Minimum Footing Length, L (in)	Minimum Embedment Depth, d_e (in)	Minimum Footing Length, L (in)	Embedment Depth, d_e (in)			
							Corner Installation		Interior Installation	
							SET-XP™/SET	AT	SET-XP™/SET	AT
2500	A	12 / 2	SSWAB1	9	6	24	12	12	12	12
	B	12 / 2	SSWAB1	12	8	24	16	16	12	12
	C	12 / 2	SSWAB1	21	14	24	—[1]	—[1]	16	16
	D	18 / 2	SSWAB1	24	16	24	—[1]	—[1]	20	20
	E	24 / 10	SSWAB1	12	8	—[1]	—[1]	—[1]	—[1]	—[1]
	F	30 / 12	SSWAB1	15	10	NS	NS	NS	NS	NS
	G	36 / 14	SSWAB1HS	18	12	NS	NS	NS	NS	NS
	H	42 / 18	SSWAB1HS	21	14	NS	NS	NS	NS	NS
3000	A	12 / 2	SSWAB1	9	6	24	12	12	12	12
	B	12 / 2	SSWAB1	9	6	24	16	16	12	12
	C	12 / 2	SSWAB1	18	12	24	20	20	12	12
	D	18 / 2	SSWAB1	21	14	24	—[1]	—[1]	16	16
	E	24 / 8	SSWAB1	12	8	24	—[1]	—[1]	20	20
	F	30 / 10	SSWAB1	15	10	NS	NS	NS	NS	NS
	G	36 / 14	SSWAB1HS	18	12	NS	NS	NS	NS	NS
	H	36 / 16	SSWAB1HS	21	14	NS	NS	NS	NS	NS
3500	A	12 / 2	SSWAB1	9	6	24	12	12	12	12
	B	12 / 2	SSWAB1	9	6	24	12	12	12	12
	C	12 / 2	SSWAB1	15	10	24	16	16	12	12
	D	18 / 2	SSWAB1	21	14	24	20	—[1]	12	16
	E	24 / 8	SSWAB1	12	8	24	—[1]	—[1]	16	20
	F	24 / 10	SSWAB1	12	8	24	NS	NS	20	NS
	G	30 / 12	SSWAB1HS	18	12	NS	NS	NS	NS	NS
	H	36 / 16	SSWAB1HS	18	12	NS	NS	NS	NS	NS

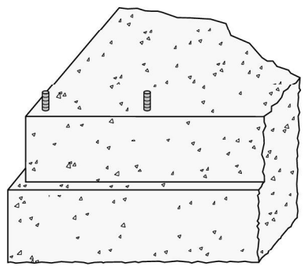
1. See page 52 for additional post-installed adhesive anchorage solutions.
2. Post-installed anchor rods shall be 1" diameter ASTM F1554 Grade 36 or ASTM A36 minimum threaded rods.
3. Post-installed solutions must be installed with Simpson Strong-Tie® SET-XP™, SET or AT Acrylic-Tie® anchoring adhesives.
4. Simpson Strong-Tie SET-XP™ anchoring adhesive may be required in some building jurisdictions.
5. NS – No solution available.
6. See general note 11 for additional anchorage and foundation information.



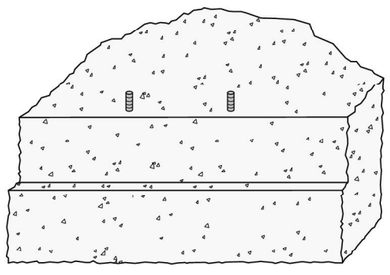
Section View
Adhesive Application



Elevation View – Interior Installation
Adhesive Application



Perspective View – Corner Installation



Perspective View – Interior Installation

POST-INSTALLED ANCHOR (ADHESIVE) DETAILS

1. See page 49 for plan views and SSWAB details.

The Memphis City Council and Shelby County Commission have recently revised the Alternative Compliance method for seismic bracing in wood framed one and two family dwellings. The primary requirement in this compliance method is full sheathing of the structure in 7/16 inch exterior rated OSB or similar plywood. This sheathing method also requires proper nail patterns be followed in placing this OSB or plywood on the structure.

In order to clarify the existing requirements for the use of this alternative method, the following summary of all of its framing requirements is provided. The Department reminds builders, architects and owners, they are also free to follow the other code methods for meeting these seismic protection requirements.

I. Anchor exterior walls (R301.2.2.3.8.1)

The sole plates for exterior walls must be anchored to the foundation or framing by either:
½ inch anchor bolts with 3"X 3" washers on 4 foot centers, embedded at least 7 inches into the foundation with anchor bolts provide within 12 inches of the end of each plate section,
OR
A minimum of at least 2 MASA anchors or equivalent embedded in the foundation on 4 foot centers and within 12 inches of the end of each plate section

For elevated floors, 10d nails on 8 inch centers in a continuous rim board which matches depth of floor framing must be used. Rim board must also be nailed to the end of each floor framing member with three 10d nails. If floor framing members parallels the exterior wall, use 2 rim board nailed as provided in Table R602.3(1). A copy of that Table is attached for reference.

Rim board is to be attached to the wall top plate with metal plates on 6 foot centers with an installed capacity of 440 pounds.

II Anchoring Structural Interior Wall
Interior structural walls must be anchored to the foundation by either:
½ inch anchor bolts with 3"X 3" washers on 4 foot centers, embedded at least 7 inches into the foundation with anchor bolts provide within 12 inches of the end of each plate section,
OR
Power actuated fasteners with 210 pounds shear capacity on 2 foot centers and within 12 inches of each plate section with a minimum of 2 anchors per plate section.

Anchoring for elevated floors shall be with 10d nails on 8 inch centers embedded it one of the following locations with nailing according to Table R602.3(1):

Structural wall top plate flush with bottom of floor sheathing, or
Floor joist parallel with and directly below plate, or
Depth matched blocking, placed between floor joists and running the length of the plate.

III. Exterior Wall Stud Spacing

Exterior wall studs shall be 2"x 4" on 16" center up to three stories, but no gypcrete flooring for leveling can be used on elevated floors with the exception for use of thin-set required for installation of flooring products in confined spaces such as bathrooms.

IV. Wall Sheathing (R301.2.2.3.8.4)
Exterior wall sheathing must be 7/16 inch exterior rated OSB or equivalent plywood fastened every 6 inches on the edges and 12 inches at intermediate supports. Interior structural wall sheathing must be ½ inch gypsum fastened every 7 inches on edges and at intermediate supports.

V**. Connections across floor joist space. (R301.2.2.3.8.7)**
Connections across floor joist space must be accomplished using 18 gauge galvanize steel coil strapping installed at 4 foot centers across the floor joist space on all exterior walls and stacked interior structural walls. Strapping must run vertical along the edge of studs and must be centered on the floor joist space. Studs shall be aligned vertically.

VI. Roof framing connections (R301.2.2.3.8.8)
In addition to the fastening requirements in Table R602.3(1), roof framing members must be fastened at all their contact points with load bearing walls, to wall top plate with 18 gauge galvanized steel clips at 4 foot centers. Check wind load requirements to determine most stringent tie down requirement.

VII. Shearwall Holddowns (R301.2.2.3.8.9)
For exterior walls, a single holddown at either end of any wall more than 8 feet in length is required. The holddowns should have a capacity equal to 210 lbs/ft times the height of the wall measured from the wall bottom plate to its top plate. The permit application should include a cutsheet showing tested product load rating and manufacturer.

VIII. Openings R301.2.2.3.8.10
On all windows and doors located in an exterior or interior structural wall, studs above and below the header and window sill plate must have 18 gauge galvanized steel clips at 32 inches top and bottom of studs with a minimum of 2 clips per opening.

Headers must bear on at least 1 ply jack post and be fastened to it with 18 gauge galvanized steel clips OR continuous sheathing from king post to header or sill. Window sill plate must be end nailed on each end with three 10d nails through at least 1 ply of the king/jack post OR have continuous sheathing from kingpost to header or sill.

King/Jack posts must have a 20 gauge galvanized steel stud plate connector from post to wall plate, top and bottom. Post plys must be nailed with 10d nails at 8 inch centers staggered full height.

IX. Misc. Requirements
Brace wall panels are required for garage openings as per Section R602.10.6, but engineered pre-manufactured wall panels are also allowed.
APA narrow wall systems may not be used to show compliance with these requirements.

Table 602.3(1) (Note: Footnotes omitted)

Item	Description of Building Element	Number and Type of Fastener	Spacing of Fasteners
Roof			
1	Blocking between joists or rafters to top plate, toe nail	3-8d	-----
2	Ceiling joists to plate, toe nail	3-8d	-----
3	Ceiling joists not attached to parallel rafter, lap over partitions, face nail	3-10d	-----
4	Collar tie to rafter, face nail or 1 ¼ "X20 gage ridge strap	3-10d	-----
5	Rafter or rood truss to plate, toe nail	3-16d box nails or 3-10d common nails	2 toe nails on one side and 1 toe nail on opposite sides of each rafter or truss
6	Roof rafters to ridge, valley or hip rafters: toe nail face nail	4-16d 3-16d	-----
Wall			
7	Built-up studs-face nail	10d	24" o. c.
8	Abutting studs at intersecting wall corners, face nail	16d	12" o. c.
9	Built-up header, two pieces with ½ " spacer	16d	16"o.c along each edge
10	Continued header, two pieces	16d	16"o.c along each edge
11	Continuous header to stud, toe nail	4-8d	---
12	Double stud, face nail	10d	24" o. c.
13	Double top plates, face nail	10d	24" o. c.
14	Double top plates, minimum 24-inch offset of end joints, face nail in lapped area	8-16d	-----
15	Sole Plate to joist or blocking, face nail	16d	16"o.c
16	Sole Plate to joist or blocking wall panels	3-16d	16"o.c
17	Stud to sole plate, toe nail	3-8d or 2-16d	____
18	Top of sole plate to stud, end nail	2-16d	------
19	Top plates, laps at corners and intersections, fail nail	2-10d	------
20	1" brace to each stud and plate, face nail	2-8d 2 staples 1¾ "	------
21	1" X 6" sheathing to each bearing, face nail	2-8d 2 staples 1¾ "	------
22	1" X 8" sheathing to each bearing, face nail	2-8d 3 staples 1¾ "	------
23	Wider than 1" X 8" sheathing to each bearing, face nail	2-8d 4 staples 1¾ "	------
Floor			
24	Joist to sill or girder, toe nail	3-8d	------
25	Rim joist to top plate, toe nail, (roof applications also)	8d	6"o.c
26	Rim joist or blocking to sill plate, toe nail	8d	6"o.c
27	1" X 6" subfloor to joist or girder, blind and face nail	2-8d 2 staples 1¾ "	------
28	2" subfloor to joist or girder, blind and face nail	2-16d	------
29	2" planks (plank & beam – floor & roof)	2-16d	At each bearing
30	Built-up girders and beams, 2-inch lumber layers	10d	Nail each layer as follows:32" o.c. at top & bottom & staggered. 2 nails at ends and at each splice.
31	Ledger strip supporting joists or rafters	3-16d	At each joist or rafter

Item	Description of Building Material	Description of Fastener	Spacing of Fastener (inches)	
			Edges	Intermediate Supports
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing.				
32	3/8 " – ½ "	6d common (subfloor wall) 8d common (roof)	6	12
33	19/32 – 1"	8d common	6	12
34	1 1/8 " – 1 ¼ "	10d Common or 8d Deformed	6	12
Other Wall Sheathing				
35	½ " structural cellulosic fiberboard sheathing	½ galvanized roofing nail, 7/16 " crown or 1"crown staple 16 ga., 1 ¼ " long	3	6
36	25/32 "structural cellulosic fiberboard sheathing	1 ¾ " galvanized roofing nail, 7/16" crown or 1"croen staple 16 ga., 1 ½ " long	3	6
37	½ " gypsum sheathing	1 ½ " galvanized roofing nail; staple galvanized, 1 ½" long; 16 ga. 1 ¼" long	7	7
38	5/8" gypsum sheathing	1 ¾ " galvanized roofing nail; staple galvanized, 1 ½" long; 16 ga. 1 ¼" long	7	7
Wood structural panels, combination subfloor underlayment to framing				
39	¾ " and less	6d deformed or, 8d common	6	12
40	7/8 " – 1"	8d deformed or, 8d common	6	12
41	1 1/8 " – 1 ¼ "	10d common or 8d deformed	6	12