

### DETAIL A1 LVL BEAM OVER KITCHEN AREA

**DIMENSION A= 21'**  
**DIMENSION B= 17' SPAN**  
**BEAM DIMENSIONS= (2) 16" X 17' LVL BEAMS FASTENED EVERY 12"**  
**BEAM BEARING EACH SIDE= 3"**

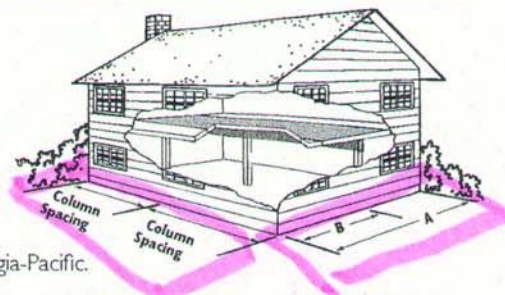
#### 2.0E GP LAM LVL FLOOR BEAMS

This table shows the size (e.g. 2-1 1/4" = 2 plies of 1 3/4" x 1 1/4") of beams needed to support loads of one floor only, i.e., a second story floor or one story floor over a basement. (See drawing at right.)

When floor joists span continuously from wall to wall (not cut at beam) this table requires that "B" be not less than 45%, or greater than 55% of "A".

Example: If "A" = 32', "B" must be between 14.4' (32x.45) and 17.6' (32x.55)

For non-conforming situations, use FASTBeam® analysis and selection software or contact Georgia-Pacific.



		COLUMN OR SUPPORT SPACING (CENTER-TO-CENTER)									
		11'	12'	13'	14'	15'	16'	17'	18'	19'	20'
TOTAL FLOOR JOIST SPAN "B"	24'	2-1 1/2" 3-9/16"	2-1 1/4" 3-9/16"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"
	28'	2-1 1/2" 3-9/16"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"
	32'	2-1 1/2" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"
	36'	2-1 1/2" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"
	40'	2-1 1/2" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"	2-1 1/4" 3-1 1/4"

#### NOTES:

- Table is based on continuous floor joist span and simple or continuous beam span conditions. If floor joists are not continuous above the beam, take the sum of the joist spans then multiply by 0.8. This is the total floor joist span to consider.
- Required end bearing length (based on 565 psi) is 3.0' unless the subscript + is shown. In that case, 4.5' is required.
- At intermediate supports of continuous spans, use the following guidelines or refer to page 39:
  - 7/8" bearing length for beams requiring 3" bearing at the beam ends
  - 10/8" bearing length for beams requiring 4 1/2" bearing at the beam ends
- All headers require full-width bearing support, e.g., 2x6 for 5 1/4", 3-ply members. The adequacy of supporting columns to be verified by others.
- Table is based on residential floor loading of 40 psf live load and 12 psf dead load.
- Live load reductions have been applied per IBC section 1607.9.1.
- Deflection is limited to L/360 at live load and L/240 at total load.
- For other uniform load conditions refer to pages 41-42.
- A single 3/8" thick ply can be substituted for any two 1/2" thick plies.
- For multiple ply fasteners, see pages 47-48.

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### BEARING DETAILS, TYP



#### GP LAM LVL BEARING DETAILS

- Confirm the actual required bearing is provided by a support that has adequate strength to carry the load.
- Minimum bearing length for GP Lam LVL beams and headers is 1 1/2" for end and 3" for intermediate bearings. Size bearing for applied loads.
- For fastening recommendations for multiple-ply GP Lam LVL members, see pages 47-48.

##### BEAM-TO-BEAM CONNECTION

Hangers must be properly installed to achieve full capacity.

##### BEARING ON WOOD COLUMN

Where column caps are not used, side plates may be required for lateral restraint and/or load transfer. Consult designer of record. See tables on page 51 and 52 for column cap information.

##### BEARING ON STEEL COLUMN

##### POCKET IN CONCRETE OR MASONRY

Prevent direct contact of GP Lam LVL with concrete or masonry, or protect per code. Consult local building code for additional requirements.

##### BEARING ON EXTERIOR WALL

Consult local building code for requirements.

##### BEARING FOR DOOR OR WINDOW HEADER

See "Bearing Length Requirements" on page 39.

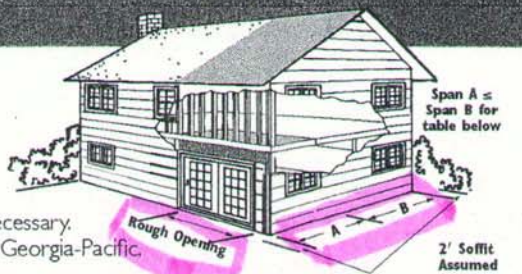
### DETAIL A2 LVL BEAM ABOVE PATIO DOOR

**ROOF SPAN= 16'6"**  
**ROUGH OPENING= 6'3"**  
**BEAM SIZE= (2) 7 3/4" X 6'6" LVL BEAMS FASTENED EVERY 12"**  
**BEAM BEARING EACH SIDE= 3"**



#### 2.0E GP LAM LVL WINDOW AND PATIO DOOR HEADERS, 2-STORY

This table shows the size (e.g. 2-1 1/4" = 2 plies of 1 3/4" x 1 1/4") of beams needed to support the combined loads from a wall, second story floor (1/4 of total floor joist span) and various roof truss spans with a 2' soffit. If the soffit exceeds 2', additional design is necessary. For non-conforming situations, use FASTBeam® analysis and selection software or contact Georgia-Pacific.

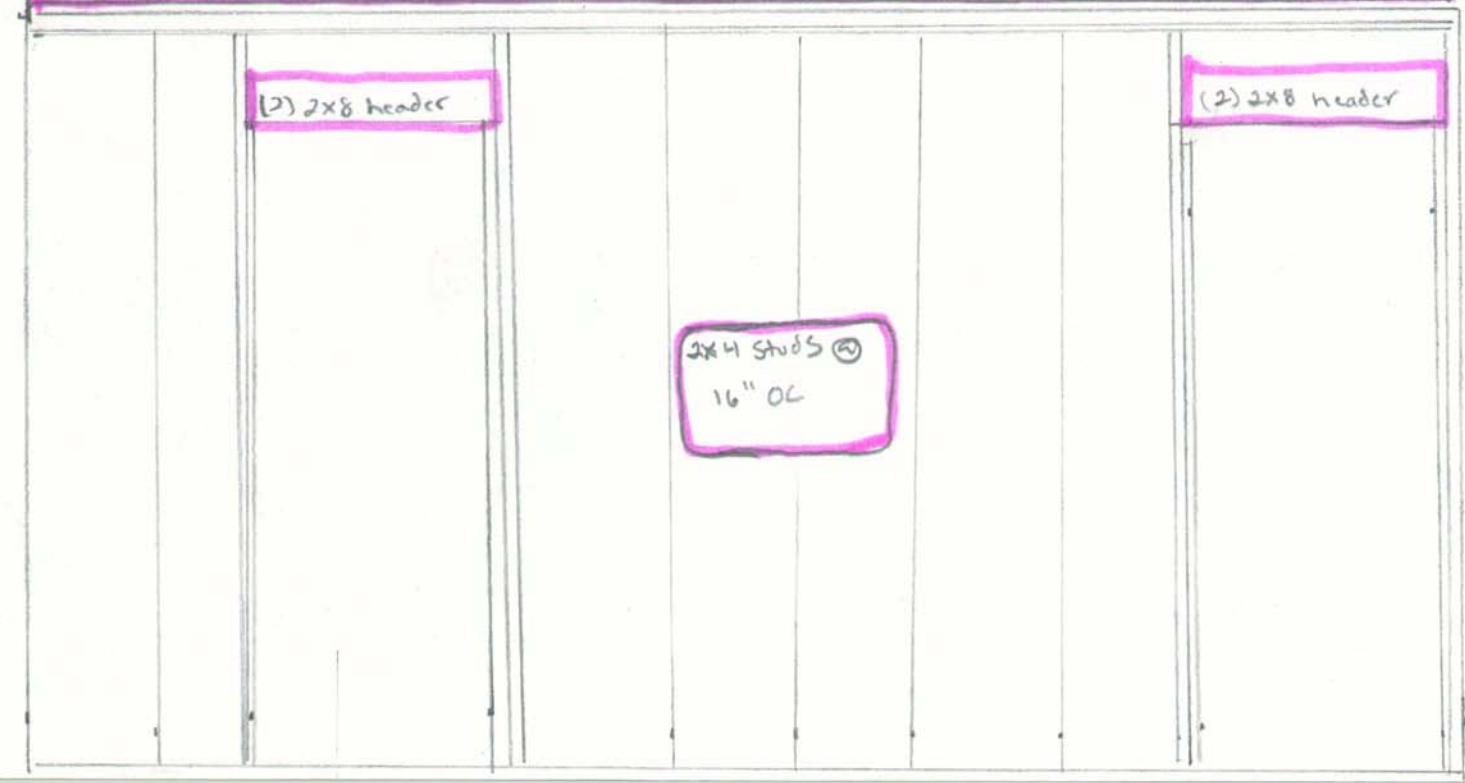


ROOF LOADING	ROUGH OPENING	SNOW (15PSF)										NON-SNOW (25PSF)									
		25 PSF LL + 20 PSF DL					40 PSF LL + 20 PSF DL					20 PSF LL + 15 PSF DL					20 PSF LL + 25 PSF DL				
		6'	8'	9'	10'	12'	6'	8'	9'	10'	12'	6'	8'	9'	10'	12'	6'	8'	9'	10'	12'
ROOF TRUSS SPAN WITH 2' SOFFIT ASSUMED	20'	1-9/16" 2-7/16"	1-11/16" 2-9/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-16"	1-14" 2-16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-16"	1-14" 2-16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-16"	1-14" 2-16"
	24'	1-9/16" 2-7/16"	1-11/16" 2-9/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"
	28'	1-9/16" 2-7/16"	1-11/16" 2-9/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"
	32'	1-9/16" 2-7/16"	1-11/16" 2-9/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"
	36'	1-9/16" 2-7/16"	1-11/16" 2-9/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-14" 2-11/16"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"	1-9/16" 2-9/16"	1-11/16" 2-11/16"	1-14" 2-14"	1-14" 2-18"	1-14" 2-18"

#### NOTES:

- Required end bearing length (based on 625 psi) is 3.0' unless the subscript + is shown. In that case, 4.5' is required.
- All headers require full-width bearing support, e.g., 2x6 for 5 1/4", 3-ply members. The adequacy of supporting columns to be verified by others.
- Table is based on residential floor loading of 40 psf live load and 12 psf dead load and exterior wall weight of 100 plf.
- A beam line supporting the center of the second floor is assumed.
- Deflection is limited to L/360 and the lesser of L/240 or 1/4" at total load.
- Roof live and dead loads shown are applied vertically to the horizontal projection.
- When using a single ply 1 1/2", consider the effect on hanger capacity, and the available bearing surface the LVL provides to other framing elements.
- A single 3/8" thick ply can be substituted for any two 1/2" thick plies.
- For multiple ply fasteners, see pages 47-48.
- This table does not address a brick loaded condition.

### LOAD BEARING WALL, DETAIL A3



A1.3  
 DETAILS