



Building Permit Application Cover Sheet

Both regular and limited plan Building permits applications are available for the following types of building permits:

- Basement Finish
- Deck
- Residential Accessory Building

To determine which type of permit application is most applicable, please see the **“From Application to Completion”** section in attached guide to help you.

If you choose the limited plan submission process, please see and complete the Statement of Understanding included in this packet.

Still have questions after reviewing the guide?
Contact us at 616-842-5988.



GRAND HAVEN CHARTER TOWNSHIP

13300 168th Avenue, Grand Haven, MI 49417

Phone: (616) 842-5988 | Fax: (616) 842-9419 | building@ghtmi.gov

LIMITED PLAN BUILDING PERMIT APPLICATION
Statement of Understanding

1. The undersigned requests that a limited plan building permit be issued. It is understood that all work performed is done completely at the permit holder's own risk. Any work that is found to not comply with all codes currently in effect shall be corrected at the permit holder's expense.
2. The undersigned acknowledges receipt of the Grand Haven Charter Township construction guidebook that pertains to the project noted on this application.
3. The undersigned understands that all work must conform to the 2015 Michigan Residential Code and that separate permits are required for mechanical, electrical, and plumbing work.
4. The undersigned understands that all proposed residential projects will receive a zoning review at the building department at the time of application.
5. The undersigned understands that all residential accessory building/structures and deck building permit applications, including limited plan applications, require a detailed site plan showing the size of the lot including the location of all existing structure(s), location, size, and shape of proposed projects and distances to all adjacent property lines.

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application. I, the authorized agent and the owner agree to conform to all applicable laws, rules and codes of the State of Michigan and all Grand Haven Charter Township Ordinances. All information submitted on this application is accurate to the best of my knowledge.

Section 23a of the State Construction Code Act of 1972, 1972 PA 230, MCL 125.15239, prohibits a person from conspiring to circumvent the licensing requirements of this state relating to persons who are to perform work on a residential building or a residential structure. Violators of Section 23a are subject to civil fines.

Signature of Applicant

Date



Grand Haven Charter Township
 13300 168th Avenue, Grand Haven, MI 49417
 Phone: (616) 842-5988 | Fax: (616) 842-9419 |
 building@ghtmi.gov

Residential Deck

Separate Applications Must be Completed for Plumbing, Mechanical, or Electrical Work Permits

Decks, Accessory Buildings and Basement Finishes are eligible for both regular and limited plan permits.
 See the **"From Application to Completion"** section of the attached guide for details.

I. Owner/ Job Location <input type="checkbox"/> Owner is Applicant (if homeowner is applicant, complete Section I and continue to Section V)			
Name of Property Owner		Home Phone	Cell
Address		City	State Zip
Job Location (if different than above)		Name of City, Village, or Township Job is located <input type="checkbox"/> City <input type="checkbox"/> Village <input type="checkbox"/> Township of : Grand Haven Township	
Parcel #		Email (REQUIRED)	
II. Builder/Contractor/Licensee Information			
Company Name		Company Address	
Business Phone		Cell	Fax
Email (REQUIRED)			
Licensee Name		State Builder's License #	Expiration Date
Federal ID # (or reason for exemption)		Workers Comp (or reason for exemption)	UIA Employer # (or reason for exemption)
III. Architect or Engineer			
Name		Address	
City		State	Zip Business Phone
Email		State Architect or Engineering License #	Expiration Date
IV. Builder's Affidavit			
<p><i>Section 23a of the State Construction Code Act of 1972, 1972 PA 230, MCL 125.1523A, prohibits a person from conspiring to circumvent the licensing requirements of this state relating to persons who are to perform work on a residential building or a residential structure. Violators of Section 23a are subject to civil fines. I hereby certify that the proposed building work is authorized by the owner of record and that I have been authorizing by the owner to make this application as his/her authorized agent, and we agree to conform to all applicable laws of the State of Michigan. All information submitted on this application is accurate to the best of my knowledge.</i></p>			
Signature of Licensee		Print Name of Licensee	Date
V. Homeowner Affidavit			
<p><i>I hereby certify the work described in this permit application shall be done by myself on my own dwelling in which I am living, or about to occupy. All work shall be done in accordance with the codes and shall not be backfilled, enclosed, dry walled, covered-up, or used until it has been inspected or approved by the appropriate inspector. I understand my responsibility to arrange for the required inspections and I agree not to move anything into, or use the building in any way, until I have received written approval to do so from the appropriate inspector. I understand that for any such affidavit connected to a building permit, I (or appropriate licensed contractors) am required to obtain additional permits before installing any electrical, plumbing, heating, air conditioning, fireplace, wood stove, ventilation component, or other similar work. I understand all of the above and acknowledge that failure to comply with the above requirements may cause revocation of the building permit and/or legal action to be taken against me.</i></p>			
Signature of Homeowner		Print Name of Homeowner	Date

VI. Project Description

A. Type of Improvement

<input type="checkbox"/> NEW BUILDING <input type="checkbox"/> ADDITION	<input type="checkbox"/> ALTERATION <input type="checkbox"/> REPAIR	<input type="checkbox"/> BASEMENT FINISH <input type="checkbox"/> DECK	<input type="checkbox"/> FOUNDATION ONLY <input type="checkbox"/> PREMANUFACTURE	<input type="checkbox"/> MOBILE HOME SET-UP <input type="checkbox"/> SPECIAL INSPECTION
----------------------------------------------------------------------------	------------------------------------------------------------------------	---------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------

B. Residential Building Regulated by the Michigan Residential Code

<input type="checkbox"/> ONE FAMILY <input type="checkbox"/> TWO FAMILY	<input type="checkbox"/> ATTACHED GARAGE <input type="checkbox"/> DETACHED GARAGE	<input type="checkbox"/> OTHER _____
----------------------------------------------------------------------------	--------------------------------------------------------------------------------------	--------------------------------------

C. Detailed Description of Work (REQUIRED)

D. Value of Construction Project

Total value of project minus the price of lot:
\$ _____ (Separate permits are required for Electrical, Mechanical and Plumbing work)

E. Dimensions / Data

Square Foot Breakdown	Finished	Unfinished	Total	Building Setbacks
Basement				Front
1 st Floor				Rear
2 nd Floor				Side 1
Half Story				Side 2

F. Select Characteristics of Building

1. Principal type of framing:
 Wood Frame Structure Steel Masonry Concrete Other

2. Principal type of heating fuel:
 Gas Oil Electricity Hydronic Other _____ N/A

3. Type of sewage disposal:
 Public or Private Company Septic System

4. Type of water supply:
 Public or Private Company Private Well or Cistern

5. Will there be air conditioning:
 Yes No If Yes, what type of system? Coil/Condenser Hydronic

VII. Plan Review Required

Detailed construction documents must be submitted with any application for a building permit, unless waived by the building official when code compliance can be determined based on the description in the application, and the appropriate fee(s) must be paid in full before a permit can be issued. Construction documents must be sealed and signed by an architect or professional engineer in accordance with 1980, PA 299 as amended. The seal and signature are not required for one- and two-family dwellings less than 3,500 square feet of calculated floor area and public works less than \$15,000 in total construction cost. The building official also reserves the right to require architect or engineer supervision on any other construction method deemed unusual or non-typical.

VIII. Site Plan with Setbacks (or attach a site plan and/or survey)

Tip: use an aerial map to draw the Site Plan, go to <https://gis.miottawa.org>, and click  Property Mapping Lite

North

West

East

South

Notes:

IX. Local Government Agency to Complete This Section						
TYPE OF DOCUMENTATION	REQUIRED?		APPROVED	DATE	NUMBER	BY
A. Proof of Ownership	YES	NO				
B. Site Plan (Showing Proposed Setbacks)	YES	NO				
C. Survey	YES	NO				
D. Water Supply (Public / Private) Circle One	YES	NO				
E. Septic or Sewer (Public / Private) Circle One	YES	NO				
F. EGLE Permit	YES	NO				
G. Erosion Control Permit	YES	NO				
H. GHT Driveway Permit	YES	NO				
I. Ottawa County Driveway Permit	YES	NO				
J. 2 Sets of Construction Documents	YES	NO				
K. Roof Loading Data or Prelim. Truss Drawings	YES	NO				
L. Energy Code Compliance Documents	YES	NO				
M. Blower Door Testing Company Noted	YES	NO				
N. 75% High Efficacy Lighting	YES	NO				
O. HVAC Manual S and J Calculation Documents	YES	NO				
P. Whole House Mechanical Ventilation Noted	YES	NO				
Q. Cold Weather Concrete Affidavit	YES	NO				
R. Other	YES	NO				

Type of Construction	Use Group	Base Fee
Square Feet		
Approval Signature		
Title	Date	

Zoning District Information	
Zoning Approval Signature	Date



CONTRACTOR REGISTRATION APPLICATION

Are there other applications on file for this company OR one of its licensees? Yes No Unknown

Company Name _____

Street Address _____

City/State/Zip _____

Name of Owner _____

Business Phone _____ Business Fax _____

Cell Phone _____

Company Email _____

Federal ID# (if applicable) _____ ***No Social Security Numbers please**

Company Type Sole Proprietor Corporation LLC Partnership

Contractor Type Building Electric Manufactured Housing
 Mechanical Plumbing Repairs

Workers Compensation Carrier _____

UIA Employer Number _____

LICENSEE INFORMATION

**A PHOTO ID AND COPIES OF ANY LICENSES LISTED
WILL BE REQUIRED TO COMPLETE THE REGISTRATION**

License Type	License Holder Name	License Number	Expiration Date	License Holder Email	Verified By (GHT Use Only)
Master					
Contractor					
Contractor					
Contractor					
Contractor					



RESIDENTIAL DECKS

January 2024

Grand Haven Charter Township Building Department Guide Residential Decks



GRAND HAVEN CHARTER TOWNSHIP

13300 168th Avenue • Grand Haven, Michigan 49417 • Phone: 616.842.5988 • Fax: 616.842.9419

Wood Deck Construction in Accordance with this Guide is Acceptable in the following Michigan Communities:

CITIES

City of Auburn Hills	City of Livonia	City of Plymouth
City of Bloomfield Hills	City of Madison Heights	City of Sterling Heights
City of Clawson	City of Muskegon	City of Troy
City of Fenton	City of New Baltimore	City of Warren
City of Ferndale	City of Northville	City of Wyoming
City of Garden City	City of Norton Shores	
City of Grand Haven	City of Novi	
City of Inkster	City of Oak Park	
City of Lathrup Village	City of Orchard Lake	
City of Lincoln Park	City of Rochester Hills	

TOWNSHIPS

Charter Township of Bloomfield	Charter Township of Oakland
Charter Township of Canton	Charter Township of Orion
Charter Township of Clinton	Charter Township of Port Huron
Charter Township of Grand Haven	Charter Township of Royal Oak
Charter Township of Groveland	Charter Township of Shelby
Charter Township of Macomb	Charter Township of White Lake
Charter Township of Milford	

VILLAGES

Village of Holly
Village of Leonard
Village of Webberville

The following Contractors and Suppliers Support this Wood Deck Construction Guide:

CONTRACTORS

Autumn Wood Construction
Horizon Builders Inc

SUPPLIERS

Dillman & Upton

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INTRODUCTION

Grand Haven Charter Township has prepared this Guide to assist you in the process of building a deck. This Guide contains information that will help you understand the Building Permit and construction process from application to completion. We have included details for areas that have generated confusion or delays in the past. The information is presented in a start-to-finish sequence to guide you as you progress through your project.

FORMS

Building Permit Applications } *All forms are available at our*
Contractor Registration } *counter or online at:*
www.ghc.org

This Guide contains many procedures and requirements. We urge you to read through it completely. It may save you valuable time in completing your project.

NOTE: This Guide is only intended to be a guide and is not all inclusive of the Building Code. For complete details of all requirements, please consult the Michigan Residential Code (MRC). The information in this Guide is subject to change without notice.

CODES CURRENTLY IN EFFECT

Grand Haven Charter Township
March 2016

Building: MRC 2015 (Michigan Residential Code 2015)
Effective February 8, 2016

Plumbing: MRC 2015 (Michigan Residential Code 2015)
Effective February 8, 2016

Mechanical: MRC 2015 (Michigan Residential Code 2015)
Effective February 8, 2016

Electrical: MRC 2015 (Michigan Residential Code 2015)
Effective February 8, 2016

Energy Code: MUEC 2015 (Michigan Uniform Energy Code 2015)
Effective February 8, 2016

Codes can be purchased by going to the Michigan Department of Labor & Economic Growth, Bureau of Construction Codes & Fire Safety, Lansing, MI 48909, or their website at: www.michigan.gov/bcc

BEFORE YOU BUILD

The following should be checked at the beginning of your project. Any of these items can affect the type, location, cost and length of time it takes to build your Residential Deck.

DEFINITIONS

Deck. A raised platform, commonly, but not necessarily, constructed of wood, which does not have a roof and is typically attached to or abuts a house and used for outdoor leisure activities.

Patio. A paved area, seven (7") inches or less above grade at any portion of the structure, which does not have a roof and is typically attached to or abuts a house and used for outdoor leisure activities.

Porch. A covered entrance to a building or structure which projects out from the main wall of said building or structure and has a separate roof or an integral roof with the principal building or structure to which it is attached.

Entryway Stairs. A raised platform that meets the definition of deck, but is located in the front yard, and is less than fifty (50 sf) square feet in area. Required per building code for buildings with elevated entryways.

REGULATIONS

Attached porches, entryway stairs and decks do not count against the maximum area of detached accessory structures on the lot. Patios shall not be considered a structure and shall only be considered a paved area for purposes of the zoning ordinance.

Patios that meet the definition above are exempt from setback requirements and can abut the property line. However, it shall be counted as impervious surface when calculating the maximum lot coverage.

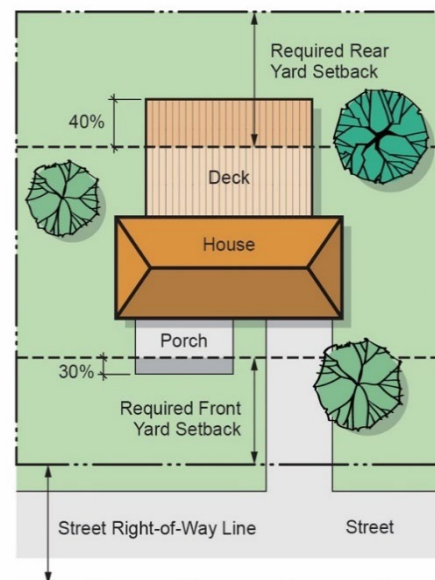
Attached porches, entryway stairs and decks may extend into the front or rear setback for the main building, provided the following are met:

1. Porches, entryway stairs and decks may be built in a waterfront yard but must comply with Section 3.01 of the zoning ordinance, found at www.ghc.org/zoning.
2. Porches, entryway stairs and decks may extend into the required front yard by up to thirty (30%) percent.
3. Porches, entryway stairs and decks may extend into the required rear yard by up to forty (40%) percent.
4. Porches, entryway stairs and decks shall not extend into the required side yard setback.
5. A minimum of twenty (20') feet of open space must be maintained between the lot line and the porch, entryway stairs and deck. If the projection allowance would result in a setback of less than twenty (20') feet from the lot line, then the structure must be reduced in size to maintain the setback

DEED RESTRICTIONS

Please be advised that your subdivision, condominium, or homeowners association may have Deed Restrictions that apply to the construction or expansion of residential decks. Grand Haven Charter Township cannot enforce the potential Deed Restrictions. However, the Township encourages you to verify any restrictions that may apply to the project.

Porch and Deck Setbacks



ZONING REQUIREMENTS

ATTACHED DECKS

Setbacks for Main Building

Setbacks (in feet)	AG	RP	RR	R-1	R-2	R-3
Front Yard	50	50	50	50	50	50
Side Yard	25	20	20	15	10	15
Rear Yard	50	50	50	50	50	50

UNATTACHED DECKS

Standards for Size and Height

Applicable to all Residential Zoning Districts	< ½ Acre	½ < 1 Acre	1 < 2 Acres	2 < 5 Acres	5 < 10 Acres	10 < 15 Acres	15 < 20 Acres	20+ Acres
Number of Accessory Buildings	2	2	3	3	3	4	4	4 ^a
Maximum Total Floor Area ^b	720 sqft	1,000 sqft	1,500 sqft	2,000 sqft	2,500 sqft	3,000 sqft	3,500 sqft	4,000 ^c sqft
Maximum Building Height	24-feet in height, or the height of the Dwelling, whichever is greater.							
	Height = vertical distance from average grade to the mean height level between eaves and ridge for gable, hip, and gambrel roofs; to the highest point of flat roofs; and to the deck-line for mansard roofs.							

^a – Every additional 10-acres is permitted an additional building or structure

^b – Includes a lean-to structure and roof overhang greater than 3-feet

^c – Every additional 5-acres is permitted an additional 2,000 sqft

Residential Unattached Deck Setbacks

Total Floor Area (square footage)	Principal Building	Side Lot Line	Rear Lot Line	Other Accessory Structures
200 or less	5 ft	5 ft	5 ft	5 ft
201 – 600	10 ft	10 ft	10 ft	10 ft
601 – 2,000	15 ft	15 ft	15 ft	15 ft
2,001 or more	25 ft	25 ft	25 ft	25 ft
All Buildings	Shall be setback at least 25-feet from any road right-of-way			
	Setbacks shall be measured from the foundation of the Accessory Building or Structure. A cantilever or overhang up to 3-feet is exempt.			

OTHER PERMITS THAT MAY BE REQUIRED

The following is a list of other permits that maybe required for your project. Please review the list below and obtain the required permits prior to applying for the building permit from Grand Haven Charter Township. Failure to submit the appropriate permits will cause a delay in the project schedule.

The following are types of permits issued by the Michigan Department of Environment, Great Lakes and Energy (EGLE) under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

1. Part 353, Sand Dunes Protection And Management:
 - a. A permit is required for alteration of lands identified as critical dune areas including removal of vegetation, site contour changes, and any construction activities.
2. Part 323, Shorelands Protection And Management:
 - a. Environmental Areas – a permit is required for any dredging, filling, alteration of drainage or vegetation, or construction of a structure within a designated area
 - b. High Risk Erosion Areas – a permit is required for construction of any permanent structure, which will require a set-back from the bluff, within a designated area
 - c. Flood Risk Areas- a permit is required for construction of any permanent structure with a designated flood area.
3. Part 325, Great Lakes Submerged Lands:
 - a. A permit is required for any filling, dredging, or construction of a permanent structure (groin, seawall, dock) below the ordinary high water mark of any of the Great Lakes.
4. Part 31, Flood Plain/Water Resources Protection:
 - a. A permit is required for any filling, grading, or construction of a building within the 100-year floodplain of any river, stream or lake
5. Part 303, Wetland Protection:
 - a. A permit is required for any dredging, filling, draining, or construction in any wetland contiguous to a lake or stream, or any isolated wetland at least five acres in size
6. Part 301, Inland Lakes And Streams:
 - a. A permit is required for any dredging, filling, or construction of a permanent structure below the ordinary high water mark of any inland stream, or lake greater than five acres in size. A permit is also required for dredging within 500 feet of a lake or stream.

EGLE Contact Information:

Grand Rapids District, Water Resources Division
Bonnie Broadwater
350 Ottawa Ave NW, Grand Rapids, MI 49503
Ph: 616-356-0500 | Cell: 616-591-8163 | Fax: 616-356-0202
broadwaterb@michigan.gov | www.michigan.gov/egle

The following are types of permits issued by Ottawa County:

1. Part 91, Soil Erosion And Sedimentation Control: (NREPA, 1994 PA 451, as amended)
 - A permit is required for any earth changes greater than one acre in size or within 500 feet of a lake, river or stream.

Ottawa County Water Resources (OCWR) Soil Erosion Contact Information:

Erosion Control Agent
Ottawa County Water Resources Department
Soil Erosion & Sediment Control Agency
Ph: 616-994-4528 | 616-994-4530 | Fax: 616-994-4529
<http://www.miottawa.org/Departments/Drain>

2. Driveway Permit:
 - A permit is required if a driveway will be installed out the road right of way.

Ottawa County Road Commission (OCRC) Contact Information:

Special Services Department
Ottawa County Road Commission
14110 Lakeshore Dr.
Grand Haven, MI 49417
Ph: 616-842-5400
www.ottawacorc.com | jforner@ottawacorc.com

FROM APPLICATION TO COMPLETION

A General Guide through the Complete Process:

A Building Permit from Grand Haven Charter Township is required prior to construction starting. Included in this Guide is a checklist of items needed for application submittal. The Building Permit Application can be found online at www.ghc.org or can be obtained at the front desk of the administration building. Once the Building Permit is issued, an Electrical permit can then be obtained.

1. Types of Building Permit Applications available
 - a. Building Permit Application with limited plans.
 - i. A Building Permit can be issued as soon as possible from the time of application. Only a site plan drawing and a basic deck framing plan are required. See Site Plan Requirements on page 16 for site plan drawing requirement. See the Deck Framing Plan For Building Permit Applications With Limited Plans section on page 46 for the required information on your Deck Framing Plan. **Figure 32** on page 47 may be used as a fill-in the blank deck framing plan.
 - b. Regular Building Permit Application.
 - i. Full plan review of construction documents is required. This may occur if the applicant requests a full Plan Review before starting construction, or if a Plan Reviewer determines the project needs a full review due to its complexity. The Permit Applicant will be contacted when the Building Permit is ready to be picked up. Plan review time varies depending on the Building Department's work load.
2. Information Required For Permit Application
 - a. Building Permit Application
 - i. Forms are available online at www.ghc.org or at the front desk of the administration building. Applications shall be filled out completely.
 - b. Site Plan – Two Copies
 - i. See Site Plan Requirements on page 16 for site plan drawing requirement.
 - ii. See Sample Site Plan – page 17.
 - c. Construction Drawings – Two Sets
 - i. Building Permit Application with limited plans
 1. Deck framing plan including the following information: (see Residential Wood Deck Construction Guide)

Figure 32 on page 47 may be used as a fill-in the blank deck framing plan or you may need to create your own deck framing plan if **Figure 32** can not be used for your specific deck design.

 - a. Layout of Footings, Posts, Beams, and Joists (see **Figure 32**)
 - b. Footing size, thickness, and depth below final grade
 - c. Post size and height
 - d. Beam size and span
 - e. Joist size, spacing and span
 - f. Ledger board size and fastener spacing (if used)

- g. Profile of house, note exterior surfaces (brick or siding)
 - h. Include all dimensions
 - ii. Regular Permit Applications
 - 1. Complete set of construction plans are required. See Residential Wood Deck Construction Guide for deck construction plan requirements, pages 19 – 46 and “Typical Deck Framing Plan,” page 47.
 - 2. Plans that contain all the necessary information and details will help expedite the plan review process. Plans must match Site Plans.
 - d. Owners may submit a Building Permit application for work on property that is or will be, upon completion, their place of residence. Owners of rental property may submit a Building Permit application to do maintenance and alterations to the rental property.
 - e. **Please Note: Any Contractor, hired by an Owner for a project with a total project price of \$600.00 or more, shall be licensed in accordance with the State of Michigan Residential Builders Laws.**
- 3. Registration of Builder’s License
 - a. A Builder shall be currently registered with Grand Haven Charter Township to submit an application.
 - b. Builders not currently registered can register at the time of application by providing the following:
 - i. The original or a copy of the Builder’s license.
 - ii. Copy of Drivers license
 - iii. Contractor Registration form.
 - 1. A Contractor Registration form is available at our office or online at www.ghc.org
- 4. Plan Review and Approval
 - a. Building Permit Application with limited plans
 - i. Only a site plan drawing and a basic deck framing plan are required. The Deck shall comply with the Michigan Residential Code (MRC).
 - b. Regular Building Permit Application
 - i. Construction drawings and Site Plans will be reviewed for compliance with Township Ordinances and the Michigan Residential Code (MRC).
 - ii. Plans are reviewed in the order they are received, based on the application date. Plan review time varies depending on the Building Department’s work load.
 - iii. Plans that contain all the necessary information and details will help expedite the Plan Review process.
 - iv. The Permit Applicant will be notified if the plans do not meet Zoning Ordinance or Building Code requirements, or if any additional information is required.

5. Building Permit Ready

- a. Building Permits with limited plans
 - i. The Building Permit will be issued as soon as possible from the date of application.
- b. Regular Permit Applications
 - i. The Permit Applicant will be called when the Building Permit is ready to be picked up.
- c. Permit Fees
 - i. See Building Permit Fees on pages 13 and 14.
- d. **Note:**
 - i. All Permit fees are due at the time of Permit issuance.
 - ii. Permit fees may be paid by cash, credit card, debit card or check. There is a convenience fee for payments made with credit or debit cards.
 - iii. The Permit shall be issued within 6 months of the application date or the application will be canceled. Permit applicants may request extensions.
 - iv. Permits that have no activity for more than 6 months may be canceled.
 - v. Once the Building Permit is issued, Electrical permits can then be obtained (if applicable). Electrical work requires a separate application and permit.

When all required permits are obtained, construction may begin. Revisions to the project after issuance of the Building Permit may require re-submittal and Building Department approval.

6. The following items shall be maintained on site throughout the construction process:

- The street address shall be posted on the house and visible from the street.
- The building permit shall be posted near the project where it can be easily found by the inspectors.
- The street shall be kept clean.
- All construction materials and debris shall be contained on the property.
- Temporary soil erosion control shall be erected and maintained.

7. Inspections

Once your Building Permit has been issued, you can begin construction. **If you have received a Building Permit with limited plans, this Construction Guide provided to you shall be on site at the time of inspections.** Your deck will be reviewed and inspected in accordance with the requirements of the Michigan Residential Code (MRC). As your project progresses, the Building Department will need to perform the following inspections:

- a. Footing Form Inspection
 - i. After footings are dug and formed up. All organic materials shall be removed from footing area.
 - ii. Approved plans shall be on site for all inspections when a regular Building Permit has been issued. For limited plan submissions this Construction Guide provided to you shall be on site for inspections.

- iii. Common items the Inspector looks for are:
 - 1. Location of structure.
 - 2. Property lines shall be clearly marked to verify the distance between the property lines and the structure.
 - 3. Footings are being installed in accordance with the construction guide or the approved plans.
 - 4. The size of the footing forms are being installed in accordance with the construction guide or the approved plans.

- b. Footing Done Inspection
 - i. After footings are complete
 - ii. Before any backfilling

- c. Underground Electrical Inspection (if applicable)
 - i. After wire or conduit is installed and all underground Electrical work is completed.
 - ii. Shall be inspected before covering. Please note: Proper materials shall be used. Contact the Electrical Inspector if you have questions. (616) 842-5988.
 - iii. All work must comply with the Michigan Residential Code (MRC).

- d. Rough-In Electrical Inspection (if applicable)
 - i. After all wiring, boxes, and fixtures are installed with grounds and neutrals properly terminated.

- e. Rough-In Building Inspection (Only if deck is less than 5' above final grade.)
 - i. After electrical rough-in inspection is approved (if applicable)
 - ii. All of the framing work is complete

- f. Final Electrical Inspection (if applicable)
 - i. After all electrical equipment, switches, plugs, covers, and fixtures are installed and are operational.
 - ii. The Inspector may need access to the inside of the house to complete the inspection. An adult of at least 18 years of age shall be present for the Inspector to enter the house.

- g. Final Building Inspection
 - i. After the deck is completed
 - ii. After Electrical Inspections are done (if applicable)
 - iii. A Rough Building Inspection is required prior to a Final Building inspection if Deck is less than 5' above final grade.
 - iv. Approved plans shall be on site for all inspections. For limited plan submissions this Construction Guide provided to you shall be on site for inspections.

v. Common items the Inspector looks for:

1. Treatment of lumber and corrosion protection of fasteners
2. Post size, placement, bearing, and connections
3. Beams size, span, bearing, and connections
4. Joists size, span, spacing, blocking and connections
5. Ledger board size, connections, and flashing
6. Lateral restraint devices placement and connections
7. Walking surface boards, size and connections
8. Guard rail post size, placement, and connections to deck
9. Guard rail height, size of openings, strength of guard rail assembly
10. Stairway rise, run, width, landings, and lighting
11. Stairway guard rail height, size of openings, strength of guard rail assembly
12. Stairway handrail height, graspability, strength of handrail assembly

This itemized list is provided as a guide to help you understand the process for building a deck in Grand Haven Charter Township. It covers the most common types of projects. If your project is beyond the scope of this Guide it may require additional information, Inspections or Permits. Please call the Building Department at (616) 842-5988 or email building@ght.org if you have any questions on how to apply this Guide to your specific project.

BUILDING PERMIT FEES

1. Building Permit Fee (Limited Plans and Regular Permits)

Based on the Construction Valuation of the project excluding site work. Refer to Fee Charts below. Electrical, Mechanical and Plumbing permits are not included in the Building permit fee. Electrical, Mechanical and Plumbing permits require separate applications and fees.

2. Reinspection Fee.....\$125/hour (\$75 minimum)

3. Schedule of Fees for Basement Finish:

Fee Schedule	
793.40	for the first \$100,000
5.25	for each additional \$1,000 (up to \$500,000)
2,893.40	for the first \$500,000
4.45	for each additional \$1,000 (up to \$1,000,000)
5,118.40	for the first \$1,000,000
3.15	for each additional \$1,000

CONSTRUCTION VALUATION

From	To	Rate
\$ -	\$ 500	\$ 75.00
\$ 501	\$ 1,000	\$ 75.00
\$ 1,001	\$ 2,000	\$ 75.00
\$ 2,001	\$ 3,000	\$ 75.00
\$ 3,001	\$ 4,000	\$ 75.00
\$ 4,001	\$ 5,000	\$ 89.25
\$ 5,001	\$ 6,000	\$ 105.00
\$ 6,001	\$ 7,000	\$ 120.75
\$ 7,001	\$ 8,000	\$ 136.50
\$ 8,001	\$ 9,000	\$ 152.25
\$ 9,001	\$ 10,000	\$ 168.00
\$ 10,001	\$ 11,000	\$ 183.75
\$ 11,001	\$ 12,000	\$ 190.60
\$ 12,001	\$ 13,000	\$ 197.45
\$ 13,001	\$ 14,000	\$ 204.30
\$ 14,001	\$ 15,000	\$ 211.15
\$ 15,001	\$ 16,000	\$ 218.00
\$ 16,001	\$ 17,000	\$ 224.85
\$ 17,001	\$ 18,000	\$ 231.70
\$ 18,001	\$ 19,000	\$ 238.55

From	To	Rate
\$ 19,001	\$ 20,000	\$ 245.40
\$ 20,001	\$ 21,000	\$ 252.25
\$ 21,001	\$ 22,000	\$ 259.10
\$ 22,001	\$ 23,000	\$ 265.95
\$ 23,001	\$ 24,000	\$ 272.80
\$ 24,001	\$ 25,000	\$ 279.65
\$ 25,001	\$ 26,000	\$ 286.50
\$ 26,001	\$ 27,000	\$ 293.35
\$ 27,001	\$ 28,000	\$ 300.20
\$ 28,001	\$ 29,000	\$ 307.05
\$ 29,001	\$ 30,000	\$ 313.90
\$ 30,001	\$ 31,000	\$ 320.75
\$ 31,001	\$ 32,000	\$ 327.60
\$ 32,001	\$ 33,000	\$ 334.45
\$ 33,001	\$ 34,000	\$ 341.30
\$ 34,001	\$ 35,000	\$ 348.15
\$ 35,001	\$ 36,000	\$ 355.00
\$ 36,001	\$ 37,000	\$ 361.85
\$ 37,001	\$ 38,000	\$ 368.70
\$ 38,001	\$ 39,000	\$ 375.55

CONSTRUCTION VALUATION CONTINUED

From	To	Rate
\$ 39,001	\$ 40,000	\$ 382.40
\$ 40,001	\$ 41,000	\$ 389.25
\$ 41,001	\$ 42,000	\$ 396.10
\$ 42,001	\$ 43,000	\$ 402.95
\$ 43,001	\$ 44,000	\$ 409.80
\$ 44,001	\$ 45,000	\$ 416.65
\$ 45,001	\$ 46,000	\$ 423.50
\$ 46,001	\$ 47,000	\$ 430.35
\$ 47,001	\$ 48,000	\$ 437.20
\$ 48,001	\$ 49,000	\$ 444.05
\$ 49,001	\$ 50,000	\$ 450.90
\$ 50,001	\$ 51,000	\$ 457.75
\$ 51,001	\$ 52,000	\$ 464.60
\$ 52,001	\$ 53,000	\$ 471.45
\$ 53,001	\$ 54,000	\$ 478.30
\$ 54,001	\$ 55,000	\$ 485.15
\$ 55,001	\$ 56,000	\$ 492.00
\$ 56,001	\$ 57,000	\$ 498.85
\$ 57,001	\$ 58,000	\$ 505.70
\$ 58,001	\$ 59,000	\$ 512.55
\$ 59,001	\$ 60,000	\$ 519.40
\$ 60,001	\$ 61,000	\$ 526.25
\$ 61,001	\$ 62,000	\$ 533.10
\$ 62,001	\$ 63,000	\$ 539.95
\$ 63,001	\$ 64,000	\$ 546.80
\$ 64,001	\$ 65,000	\$ 553.65
\$ 65,001	\$ 66,000	\$ 560.50
\$ 66,001	\$ 67,000	\$ 567.35
\$ 67,001	\$ 68,000	\$ 574.20
\$ 68,001	\$ 69,000	\$ 581.05
\$ 69,001	\$ 70,000	\$ 587.90

From	To	Rate
\$ 70,001	\$ 71,000	\$ 594.75
\$ 71,001	\$ 72,000	\$ 601.60
\$ 72,001	\$ 73,000	\$ 608.45
\$ 73,001	\$ 74,000	\$ 615.30
\$ 74,001	\$ 75,000	\$ 622.15
\$ 75,001	\$ 76,000	\$ 629.00
\$ 76,001	\$ 77,000	\$ 635.85
\$ 77,001	\$ 78,000	\$ 642.70
\$ 78,001	\$ 79,000	\$ 649.55
\$ 79,001	\$ 80,000	\$ 656.40
\$ 80,001	\$ 81,000	\$ 663.25
\$ 81,001	\$ 82,000	\$ 670.10
\$ 82,001	\$ 83,000	\$ 676.95
\$ 83,001	\$ 84,000	\$ 683.80
\$ 84,001	\$ 85,000	\$ 690.65
\$ 85,001	\$ 86,000	\$ 697.50
\$ 86,001	\$ 87,000	\$ 704.35
\$ 87,001	\$ 88,000	\$ 711.20
\$ 88,001	\$ 89,000	\$ 718.05
\$ 89,001	\$ 90,000	\$ 724.90
\$ 90,001	\$ 91,000	\$ 731.75
\$ 91,001	\$ 92,000	\$ 738.60
\$ 92,001	\$ 93,000	\$ 745.45
\$ 93,001	\$ 94,000	\$ 752.30
\$ 94,001	\$ 95,000	\$ 759.15
\$ 95,001	\$ 96,000	\$ 766.00
\$ 96,001	\$ 97,000	\$ 772.85
\$ 97,001	\$ 98,000	\$ 779.70
\$ 98,001	\$ 99,000	\$ 786.55
\$ 99,001	\$ 100,000	\$ 793.40

INSPECTION REQUESTS

To request inspections, please call:

- **Inspection Request Line** – An Inspection may be requested by calling our Inspection Request Line at (616) 842-5988 or email building@ght.org and providing the following information:
 - **The Street Address of the job site.**
 - **The Permit Number.**
 - **The type of Inspection you are requesting.**

Inspections requests will be scheduled between 9:30 a.m. and 11:30 a.m. or 2:30 p.m. and 4:30 p.m. Inspections may be done earlier or later depending on the Inspector's workload. Inspections will be done Monday through Friday. Inspections need to be called in 24 hours in advance.

A request to cancel an Inspection needs to be called in to the Building Department at (616) 842-5988 or email building@ght.org before 9:00 a.m. on the day of the requested Inspection.

Please make sure your project is ready for your inspection. If your project is not ready for an inspection, the inspection will not be done and a \$125.00/hr (\$75.00 minimum) re-inspection fee may be charged. The following items shall be completed or in place at the time of the inspection:

- The Street address and lot number posted and visible from the street.
- Building Permit posted where inspector can easily locate it.
- Safe access to the job site and throughout the area to be inspected.
- Approved plans on site.
- The job ready for inspection

Inspection results will be left on site after each inspection has been completed.

Green Sticker on Building Permit:

Your Inspection has been approved.

No Green Sticker on Building Permit:

Your Inspection has not been approved. The inspector will email you a report that will contain a list of items that need to be addressed before calling for a re-inspection. This email will indicate whether a \$125/hr (\$75 minimum) re-inspection fee will be required. Inspections shall be approved before proceeding with the next phase of your construction project.

It is your responsibility as the permit holder to check the job site for the inspection results. Please read the information on all Inspection Reports. If you have any questions regarding this information, call (616) 842-5988 or email building@ght.org between 8:00 a.m. and 5:00 p.m. and ask to speak with the Inspector that wrote the Inspector's Report.

SITE PLAN REQUIREMENTS

Two copies of the Site Plan containing all the information and details noted below shall be submitted with the Building Permit Application. The Site Plan may be drawn by the Homeowner, Contractor, Land Surveyor, Engineer or Architect. Special circumstances may require the Site Plan to be drawn by a licensed Land Surveyor. This will be determined during the Plan Review process (if not a limited plan permit.)

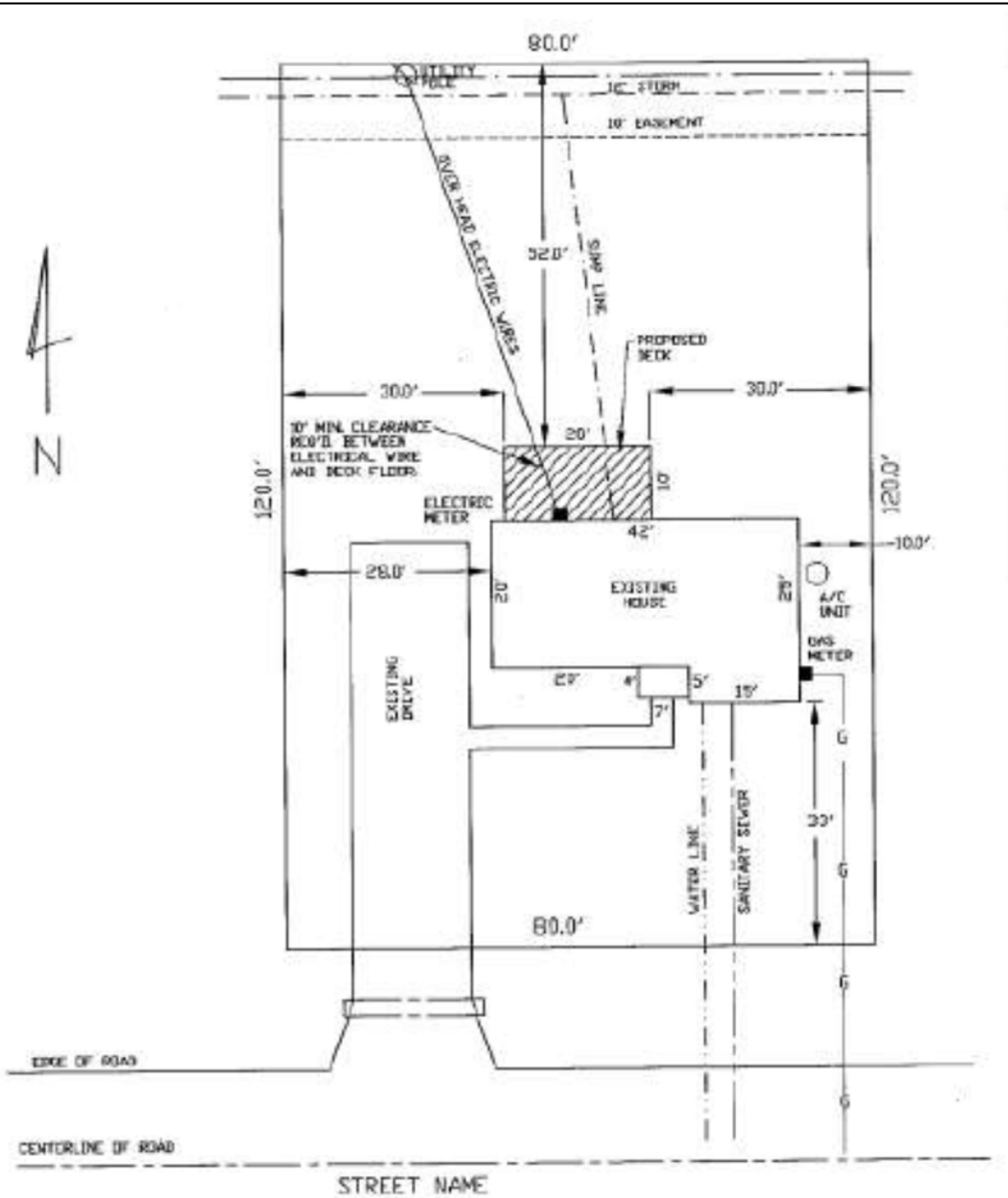
GENERAL SITE PLAN REQUIREMENTS

1. Builder's name, address, and telephone number.
2. The North arrow, street right-of-way and street name.
3. Deck size and location shall be per pages 4 and 5 of this guide.
4. Show all site property lines.
5. Show all easements on the site.
6. Show all existing accessory buildings/structures, pool houses, storage sheds, decks, and existing home.
7. Dimension:
 - a. Site property lines and easements
 - b. The size of the proposed deck
 - c. The location of the proposed deck from all property lines, easements, and existing accessory buildings/structures, pool houses, storage sheds, decks, and existing home
8. The total combined floor area of all decks on the site.
9. Decks shall not be built in the required front yard setback, required side yard setback or in any easement, or on a vacant parcel.

The Ottawa County Geographic Information System (GIS) property mapping website is a very good place to begin creating a site plan for your project. Start with the search by address link to find your property. Then turn on the most recent aerials map layer to see your existing structures.

The link below is to the basic GIS property mapping site.

<https://gis.miottawa.org/ottawa/geocortex/propertymapping/>

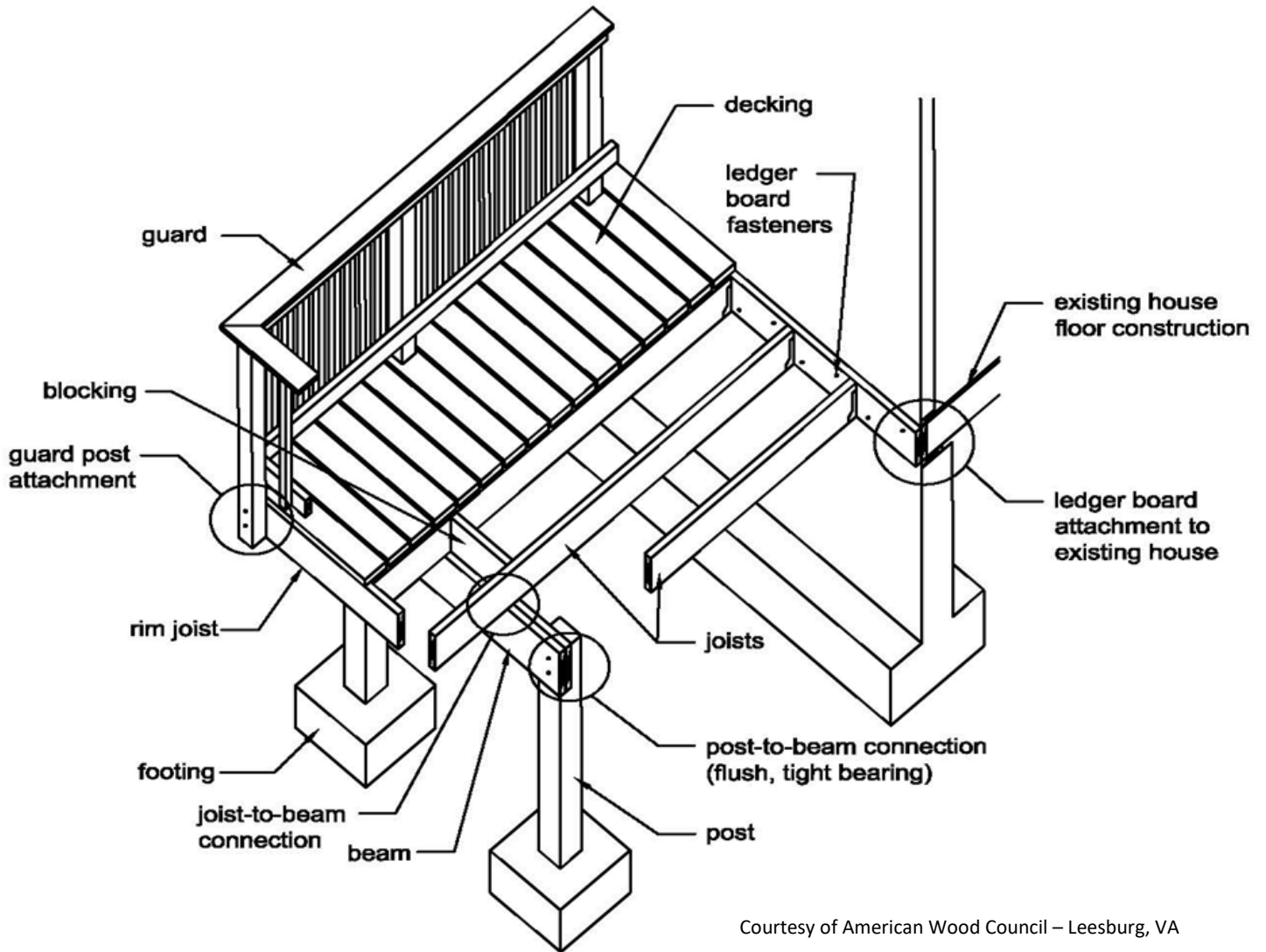


SAMPLE PLOT PLAN

SHOW THE UTILITY LOCATIONS BOTH ABOVE AND BELOW GROUND.
 SHOW THE LOCATION OF THE ELECTRIC METER, GAS METER AND A/C UNIT.
 SHOW THE LOCATION OF WATER, SANITARY, AND SUMP LINES

BUILDER: XYZ CONST.	
ADDRESS: XXX	PHONE: XXX
OWNER: RESIDENT	
ADDRESS: XXX	PHONE: XXX

RESIDENTIAL WOOD DECK CONSTRUCTION GUIDE



Courtesy of American Wood Council – Leesburg, VA

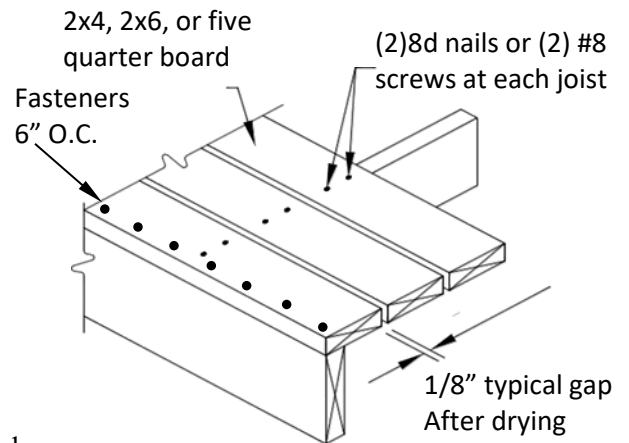
GENERAL INFORMATION

1. This information is provided in a “User-friendly” format as a general guide to help you apply the standard Building Code requirements to your project. It covers the most common types of projects. The actual Building Code language may contain additional requirements that may apply if your project is beyond the scope of this Guide.
2. This Guide is only intended for Residential Wood Deck Construction and is not all inclusive of the Building Code Requirements. For complete details of all requirements please see the Michigan Residential Code. The information in this guide is subject to change without notice.
3. Your Residential Deck will be reviewed and inspected in accordance with the requirements of the State of Michigan Residential Code (MRC) and Grand Haven Charter Township Zoning Ordinance No. 138-41.
4. This document only applies to single level wood residential decks that do not support large concentrated loads, such as hot tubs and/or spas.
5. The overall deck width at the house shall be equal to or greater than the distance the deck extends from the house.
6. All wood in contact with the ground shall be approved pressure treated wood suitable for ground contact.
7. All other wood not in contact with the ground shall be approved pressure treated, or naturally durable wood, such as; Redwood, Cedar, or other approved material.
8. Wood-Plastic Composite shall bear a label indicating the required performance levels and compliance to ASTM D 7032. Wood-plastic composites shall be installed per the manufacturer’s instructions.
9. All screws, nails, bolts, washers, and nuts used with preservative treated wood shall be hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper.
10. Hardware and connectors (joist hangers, or post anchors) shall be protected in accordance with the manufacturer’s recommendations; minimum ASTM-A 653 Type G185 zinc-coated galvanized steel.
11. Information regarding permit, application, plan review, and inspection requirements can be found before the construction guide section of this document.
12. If a building permit application with limited plans is submitted the deck must be constructed in accordance with this guide. If a regular building permit application is submitted the use of other construction methods and/or materials maybe approved by the building official if the proper construction documents and evaluation reports are submitted with the building permit application.

DECKING

- Decking shall be wood 2x4, 2x6, five quarter board, or Wood-Plastic Composite sizes per the manufacturer's specifications.
- Wood decking shall be attached as shown in **Figure 1**. Decking should also be attached to the rim board with fasteners at 6" O.C.
- Each wood decking member must rest on three joists minimum.
- Wood-Plastic Composite Decking shall be installed in accordance with the manufacturer's installation instructions.
- Wood-Plastic Composite Decking must be labeled and the manufacturer's installation instructions shall be onsite for review by the inspector.
- A valid Evaluation Report from a recognized evaluation service must be provided and approved by the local building official prior to installation for any other deck products proposed. Including decking, guard rail systems, handrails, and structural systems.

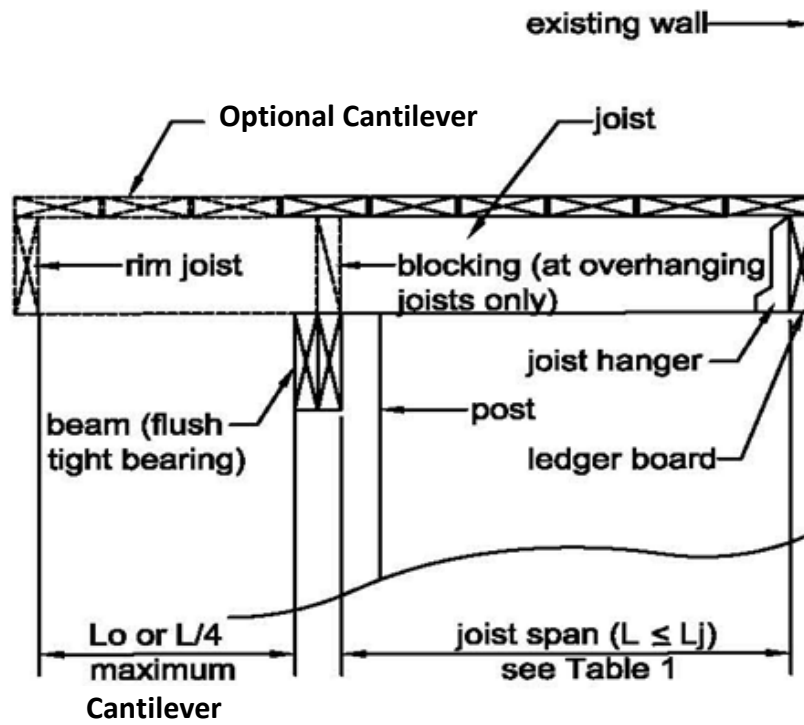
Figure 1. Wood Decking Attachments



JOISTS

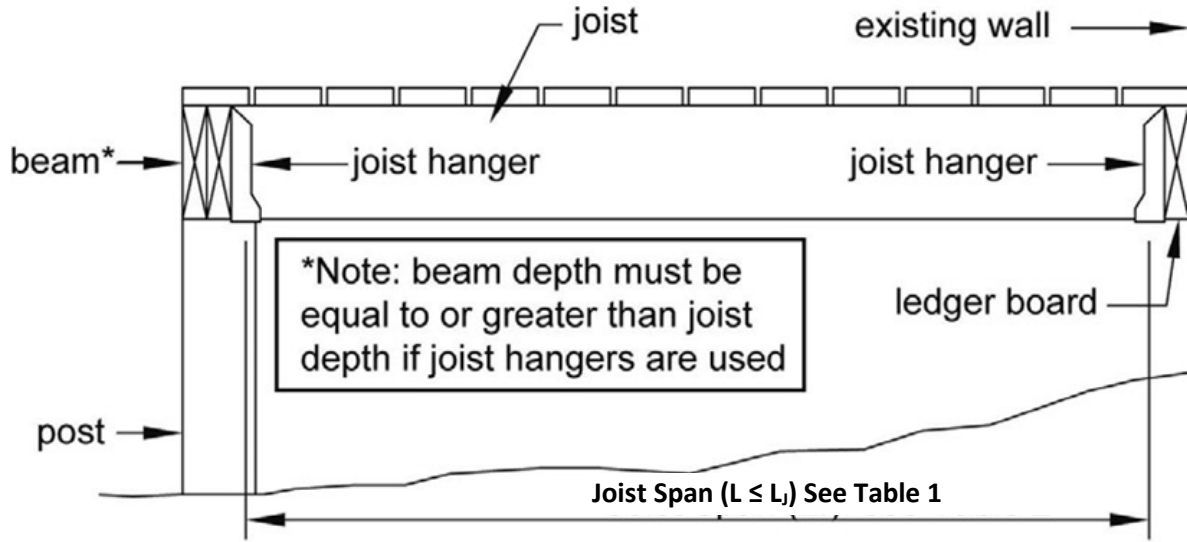
The joist span L is the distance between the two points supporting the joist and does not include the length of the cantilever (See **Figures 2A, 2B, and 2C**). Use **Table 1** to determine allowable joist span L_j . The maximum allowable cantilever length is $L/4$. When joists are cantilevered, blocking shall be installed between the joists directly above the supporting beam. (See **Figures 2A and 2C**)

Figure 2A. Joist Span – Joist Attached at House and Bearing over Beam



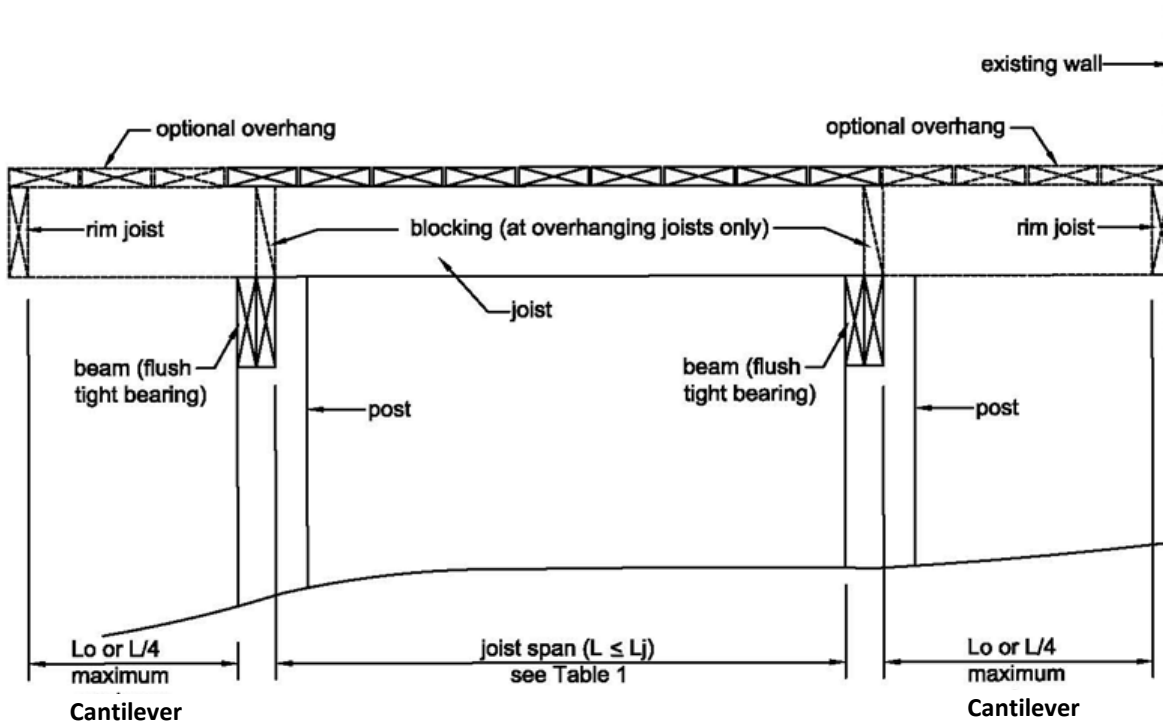
Courtesy of
 American Wood
 Council –
 Leesburg, VA

Figure 2B. Joist Span – Joists Attached at House and to Side of Beam



Courtesy of American Wood Council – Leesburg, VA

Figure 2C. Joist Span – Non-Ledger Deck



Courtesy of American Wood Council – Leesburg, VA

Table 1. Maximum Joist Spans¹

		Joist Spacing (O.C.)					
		12"	16"	24"	12"	16"	24"
Species	Size	Allowable Span without Cantilever ²			Allowable Span with Cantilever ³		
Southern Pine	2x6 ⁶	9'-11"	9'-0"	7'-7"	6'-8"	6'-8"	6'-8"
	2x8	13'-1"	11'-10"	9'-8"	10'-1"	10'-1"	9'-8"
	2x10	16'-2"	14'-0"	11'-5"	14'-6"	14'-0"	11'-5"
	2x12	18'-0" ⁷	16'-6"	13'-6"	18'-0"	16'-6"	13'-6"
Douglas Fir-Larch, Hem-Fir, Spruce-Pine-Fir ⁴	2x6 ⁶	9'-6"	8'-8"	7'-2"	6'-3"	6'-3"	6'-3"
	2x8	12'-6"	11'-1"	9'-1"	9'-5"	9'-5"	9'-1"
	2x10	15'-8"	13'-7"	11'-1"	13'-7"	13'-7"	11'-1"
	2x12	18'-0" ⁷	15'-9"	12'-10"	18'-0"	15'-9"	12'-10"
Redwood, Western Cedars, Ponderosa Pine ⁵ , Red Pine ⁵	2x6 ⁶	8'-10"	8'-0"	7'-0"	5'-7"	5'-7"	5'-7"
	2x8	11'-8"	10'-7"	8'-8"	8'-6"	8'-6"	8'-6"
	2x10	14'-11"	13'-0"	10'-7"	12'-3"	12'-3"	10'-7"
	2x12	17'-5"	15'-1"	12'-4"	16'-5"	15'-1"	12'-4"

¹ Assumes 40 psf live load, 10 psf dead load, No. 2 stress grade, and wet service conditions.

² Assumes L/360 deflection.

³ Maximum allowable cantilever cannot exceed L/4 or ¼ of actual main span. Assumes cantilever length/180 deflection with 220 point load (See **Figure 2A and 2C**).

⁴ Incising assumed for Douglas Fir-Larch, Hem-Fir, and Spruce-Pine-Fir.

⁵ Design Values based on northern species with no incising assumed.

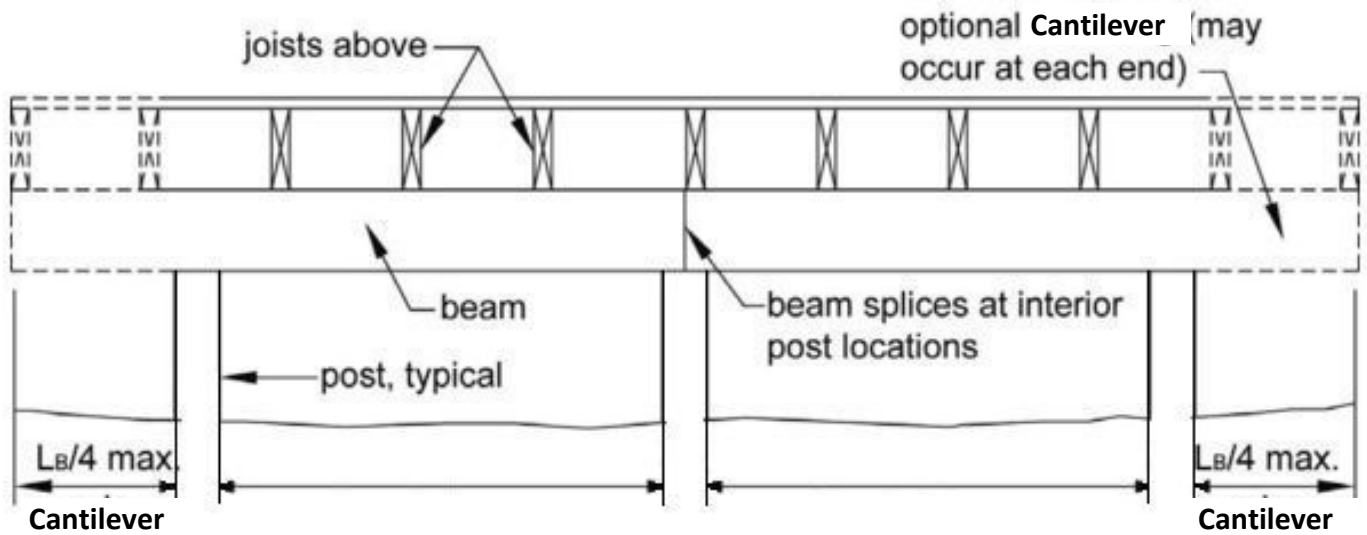
⁶ Ledger shall be a minimum of 2x8 nominal. Where guards are required, outside joists and rim joists shall be a minimum length of 2x8 nominal.

⁷ Joist length prescriptively limited to 18'-0" for footing design.

BEAMS

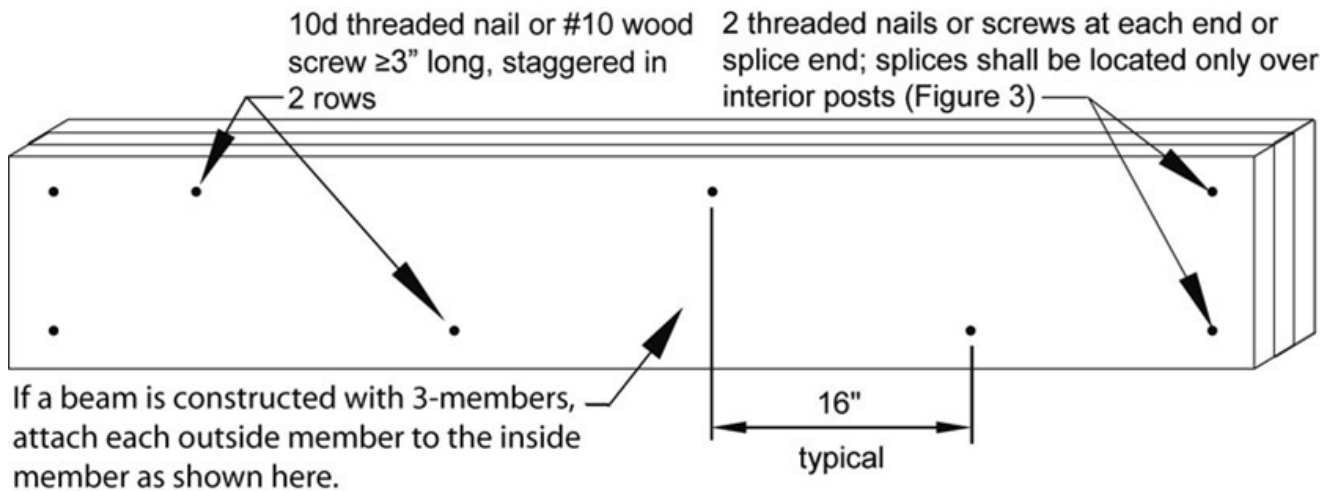
- Beam span is measured between the supporting posts and does not include the cantilever(s). The 2015 Michigan Residential Code (MRC) Table R507.6 shows beam spans to the center of each post. The difference in measuring between the posts and to the post centers is the difference in the beam span between the 2015 MRC and this deck construction guide. See **Figure 3**.
- Beam size is determined by using **Table 2A** for joist framing from one side only. Joists may bear on the beam and extend past the beam centerline up to L/4, as shown in **Figures 2A and 2C**.
- Use **Table 2B** for joist framing from both sides.
- Beam may cantilever past the supporting post up to one-fourth the beam span as indicated in **Figure 3**.
- Beams with multiple members shall be assembled in accordance with **Figure 4**.

Figure 3. Beam Span



Courtesy of American Wood Council – Leesburg, VA

Figure 4. Beam Assembly Details



Courtesy of American Wood Council – Leesburg, VA

Table 2A. Deck Beam Spans (L_B)¹ for Joists Framing from One Side Only

Species	Size ⁴	Joist Spans (L) Less Than or Equal to:						
		6'	8'	10'	12'	14'	16'	18'
Southern Pine	2-2x6	6'-8"	5'-8"	5'-1"	4'-7"	4'-3"	4'-0"	3'-9"
	2-2x8	8'-6"	7'-4"	6'-6"	5'-11"	5'-6"	5'-1"	4'-9"
	2-2x10	10'-1"	8'-9"	7'-9"	7'-1"	6'-6"	6'-1"	5'-9"
	2-2x12	11'-11"	10'-4"	9'-2"	8'-4"	7'-9"	7'-3"	6'-9"
	3-2x6	7'-11"	7'-2"	6'-5"	5'-10"	5'-5"	5'-0"	4'-9"
	3-2x8	10'-7"	9'-3"	8'-3"	7'-6"	6'-11"	6'-5"	6'-1"
	3-2x10	12'-9"	11'-0"	9'-9"	8'-9"	8'-3"	7'-8"	7'-3"
	3-2x12	15'-0"	13'-0"	11'-7"	10'-6"	9'-9"	9'-1"	8'-7"
Douglas Fir-Larch², Hem-Fir², Spruce-Pine-Fir², Redwood, Western Cedars, Ponderosa Pine³, Red Pine³	3x6 or 2-2x6	5'-2"	4'-5"	3'-11"	3'-7"	3'-3"	2'-10"	2'-6"
	3x8 or 2-2x8	6'-7"	5'-8"	5'-1"	4'-7"	4'-3"	3'-10"	3'-5"
	3x10 or 2-2x10	8'-1"	7'-0"	6'-3"	5'-8"	5'-3"	4'-10"	4'-5"
	3x12 or 2-2x12	9'-5"	8'-2"	7'-3"	6'-7"	6'-1"	5'-8"	5'-4"
	4x6	6'-2"	5'-3"	4'-8"	4'-3"	3'-11"	3'-8"	3'-5"
	4x8	8'-2"	7'-0"	6'-3"	5'-8"	5'-3"	4'-11"	4'-7"
	4x10	9'-8"	8'-4"	7'-5"	6'-9"	6'-3"	5'-10"	5'-5"
	4x12	11'-2"	9'-8"	8'-7"	7'-10"	7'-3"	6'-9"	6'-4"
	3-2x6	7'-1"	6'-5"	5'-9"	5'-3"	4'-10"	4'-6"	4'-3"
	3-2x8	9'-5"	8'-3"	7'-4"	6'-8"	6'-2"	5'-9"	5'-5"
	3-2x10	11'-9"	10'-2"	9'-1"	8'-3"	7'-7"	7'-1"	6'-8"
	3-2x12	13'-8"	11'-10"	10'-6"	9'-7"	8'-10"	8'-3"	7'-10"

¹ Assumes 40 psf live load, 10 psf dead load, L/360 simple span beam deflection limit, cantilever length/180 deflection limit, No. 2 stress grade, and wet service conditions.

² Incising assumed for Douglas Fir-Larch, Hem-Fir, and Spruce-Pine-Fir.

³ Design values based on northern species with no incising assumed.

⁴ Beam depth must be equal to or greater than joist depth if joist hangers are used (see **Figure 5**, option 3).

Table 2B. Deck Beam Spans (L_B)¹ for Joists Framing from Both Sides

Species	Size ⁴	Joist Spans (L) ⁶ Loading Beam from Both Sides in Feet:					
		6'	8'	10'	12'	14'	16'
Southern Pine	2-2x6	6'-3"	5'-5"	4'-10"	4'-5"	4'-1"	3'-10"
	2-2x8	7'-11"	6'-11"	6'-2"	5'-7"	5'-2"	4'-10"
	2-2x10	9'-4"	8'-1"	7'-3"	6'-7"	6'-1"	5'-9"
	2-2x12	10'-9"	9'-4"	8'-4"	7'-8"	7'-1"	6'-7"
	3-2x6	8'-2"	7'-1"	6'-4"	5'-10"	5'-4"	5'-0"
	3-2x8	10'-5"	9'-0"	8'-1"	7'-5"	6'-10"	6'-5"
	3-2x10	12'-3"	10'-8"	9'-6"	8'-8"	8'-0"	7'-6"
	3-2x12	14'-2"	12'-3"	11'-0"	10'-0"	9'-3"	8'-8"
Douglas Fir-Larch ² , Hem-Fir ² , Spruce-Pine-Fir ² , Redwood, Western Cedars, Ponderosa Pine ³ , Red Pine ³	2-2x6	4'-10"	4'-2"	3'-9"	3'-5"	3'-2"	3'-0"
	2-2x8	6'-1"	5'-3"	4'-8"	4'-4"	4'-0"	3'-9"
	2-2x10	7'-5"	6'-5"	5'-9"	5'-3"	4'-10"	4'-7"
	2-2x12	8'-7"	7'-5"	6'-8"	6'-1"	5'-8"	5'-3"
	3-2x6	6'-6"	5'-8"	5'-0"	4'-7"	4'-3"	4'-0"
	3-2x8	8'-7"	7'-5"	6'-8"	6'-1"	5'-8"	5'-3"
	3-2x10	10'-8"	9'-3"	8'-3"	7'-6"	7'-0"	6'-6"
	3-2x12	12'-4"	10'-8"	9'-7"	8'-9"	8'-1"	7'-7"

¹ Assumes 40 psf live load, 10 psf dead load, L/360 simple span beam deflection limit, L/180 cantilever deflection limit, No. 2 grade, and wet service conditions.

² Incising assumed for refractory species including Douglas Fir-Larch, Hem-Fir, and Spruce-Pine-Fir.

³ Design values based on northern species with no incising assumed.

⁴ Beam depth must be equal to or greater than joist depth if joist hangers are used.

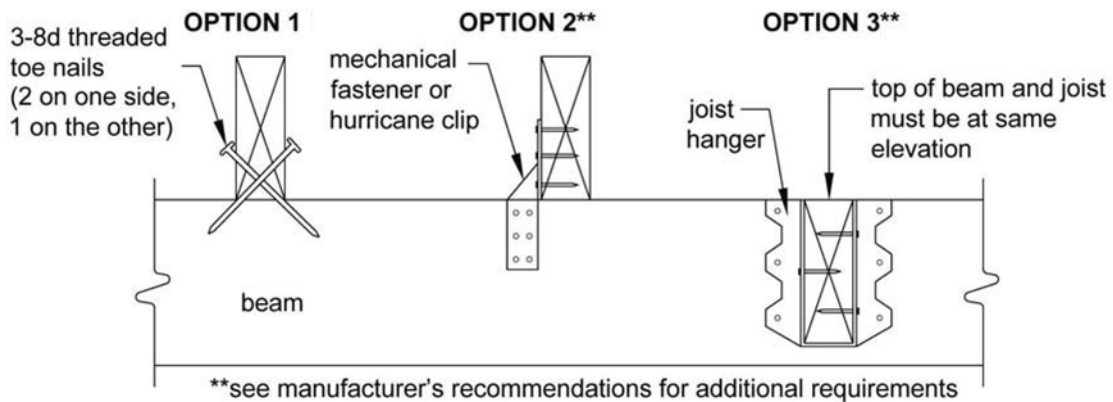
⁵ Loading based on joist span L on each side of beam x ½ x (10 psf dead load + 40 psf live load).

⁶ Joist span in table based on joist span on each side of beam x ½. Example: Joist span L between Beams A and B = 10 ft and joist span L between Beams B and C = 6 feet. 10ft + 6ft = 16ft x ½ = 8. (Joist span used in **Table 2B**).

JOIST TO BEAM CONNECTION

- The ends of joist and beams shall have at least 1 ½" of bearing on wood or metal and at least 3" on concrete or masonry for full width of the joist and/or beam.
- Attach joist to beam using one of the options shown in **Figure 5**. Blocking is required between the joists at the beam when the joist cantilevers past the beam.
- Hurricane clips or mechanical fasteners used for option 2 must have a minimum capacity of 100lbs in both uplift and lateral load directions. Must be installed per manufacturer's requirements.

Figure 5. Joist-to-Beam Detail

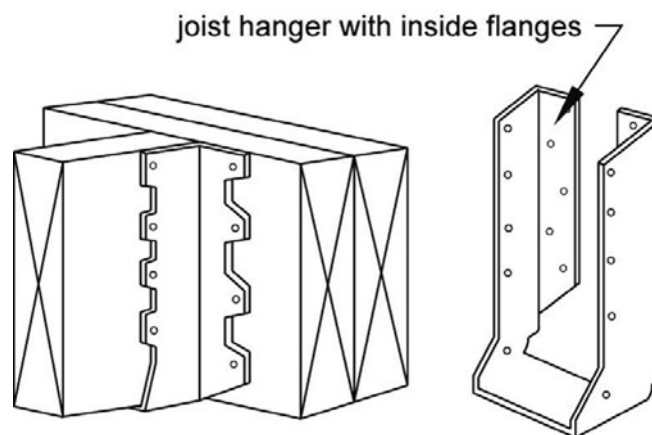


Courtesy of American Wood Council – Leesburg, VA

JOIST HANGERS

- Joist hanger shall have a depth of at least 60% of the joist depth. See **Figure 6**.
- Joist hangers shall be sized properly to accommodate the load and number of plies being carried.
- Hangers shall not be bent to accommodate field conditions.
- Brackets or clip angles are not allowed for joist connections.
- Fasten joist hangers per manufacturer's recommendation.
- Joist hangers with inside flanges shall be used as field conditions dictate.

Figure 6. Typical Joist Hangers



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POST REQUIREMENTS

- Post size and maximum height shall be in accordance with **Table 3**.
- Post height is measured from grade or top of the footing to the underside of the beam. The measuring method that yields the shorter post height is to be used as the post height.
- Cut ends of posts shall be field treated with an approved preservative (such as Copper Naphthenate).

Table 3. Maximum Post Height

Post Size	Maximum Height
4x4	8'-0"
4x6	8'-0"
6x6	14'-0"

POST TO BEAM CONNECTIONS

- Beams shall be attached to the post by one of the acceptable methods shown in **Figure 7**.
- 6x6 post minimum required where post supports a beam splice.
- Attachment of the beam to the side of the post is prohibited.

Figure 7. Post to Beam Connection

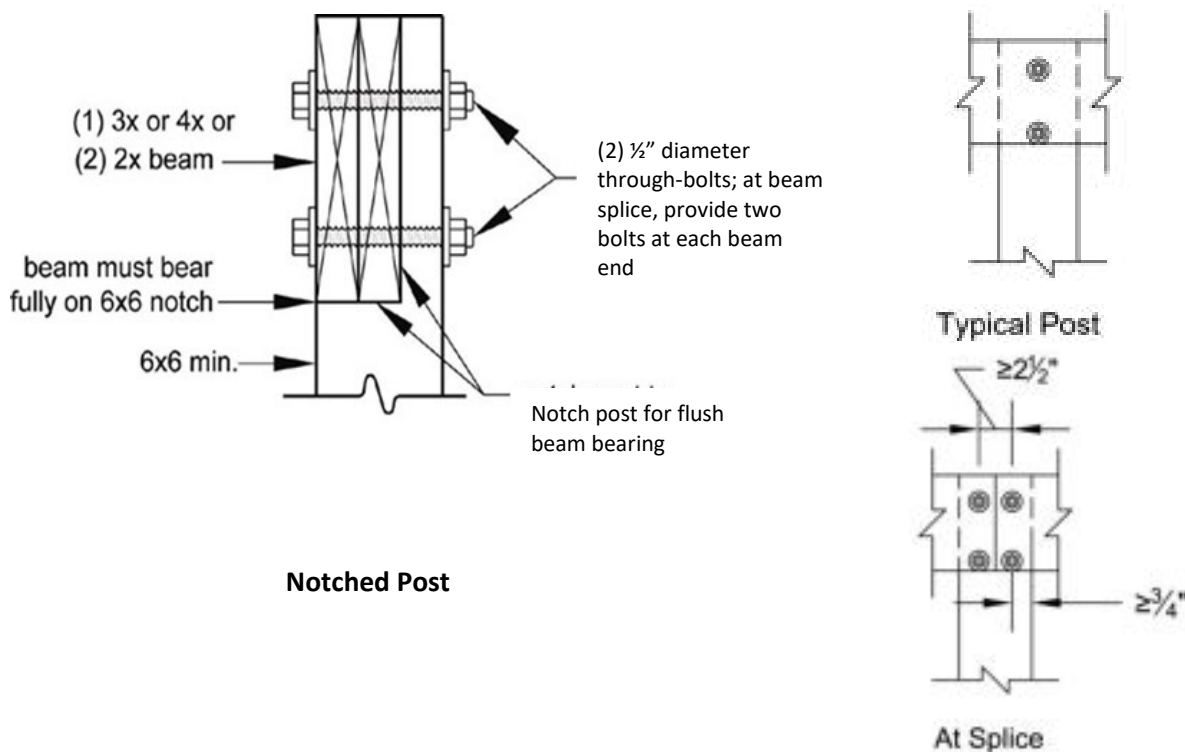
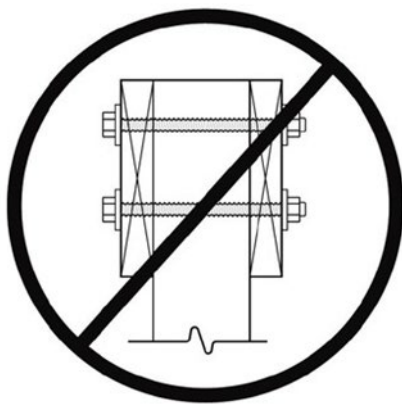
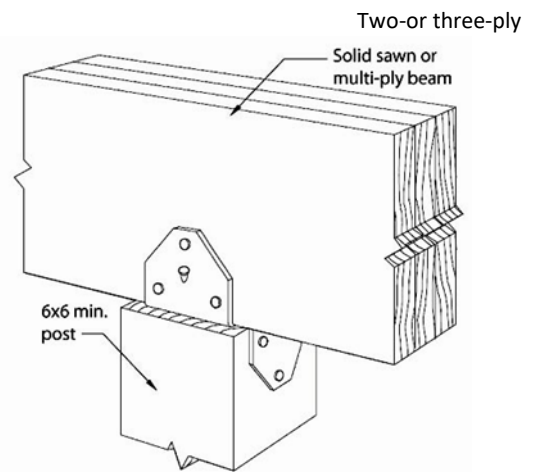


Figure 7. Post to Beam Connection (continued)



Prohibited Connection



Post Cap

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FOOTINGS

- Concrete shall have a minimum compressive strength of 2,500 lbs per square inch.
- Footing size and thickness shall be in accordance with **Table 4** for 1,500 psf soil bearing capacity and **Table 4A** for 2,000 psf soil bearing capacity. Use **Table 4A** for decks constructed in Grand Haven Charter Township.
- See **Figure 8** for typical footing options.
- The use of precast concrete footing pads without a valid evaluation report from a recognized evaluation service is prohibited.
- Post shall be centered on the footing.
- All footings for attached decks and free standing decks that are attached to the house per the free standing deck attachment to house section shall bear on undisturbed soil at least 42” below grade. A footing form inspection is required prior to placement of concrete.
- All footing for unattached decks shall bear on undisturbed soil. Frost protected footings are not required for unattached decks, soil coverage depth measured from the bottom of the footing is the permit applicant’s choice. All unattached decks must abide by the zoning regulations for unattached decks on pages 4 and 5 of this guide. A footing form inspection is required prior to placement of concrete
- Footings closer than 5’-0” to an existing house foundation wall must bear on undisturbed soil at the same elevation as the house foundation.
- Do not construct footings over septic system, leach field, utility lines, or enclosed meters. Contact Miss Dig at 811 prior to digging.

Table 4. Footing Sizes¹

Beam Span L _B	Joist Span L	Round Footing Diameter	Square Footing Dimension	Footing Thickness ²
6'	≤ 10'	15"	13"	6"
	≤ 14'	17"	15"	6"
	≤ 18'	20"	18"	7"
8'	≤ 10'	17"	15"	6"
	≤ 14'	20"	18"	8"
	≤ 18'	23"	21"	9"
10'	≤ 10'	19"	17"	7"
	≤ 14'	22"	20"	9"
	≤ 18'	25"	23"	10"
12'	≤ 10'	21"	19"	8"
	≤ 14'	24"	22"	10"
	≤ 18'	28"	26"	11"
14'	≤ 10'	22"	20"	9"
	≤ 14'	26"	24"	11"
	≤ 18'	30"	28"	12"
16'	≤ 10'	24"	22"	9"
	≤ 14'	28"	26"	12"
	≤ 18'	32"	30"	13"
18'	≤ 10'	25"	23"	10"
	≤ 14'	30"	28"	12"
	≤ 18'	34"	32"	14"

¹ Assumes 1,500 psf soil bearing capacity.

² Assumes 2,500 psi compressive strength of concrete.

Coordinate footing thickness with post base and anchor requirements.

Table 4A. Footing Sizes¹

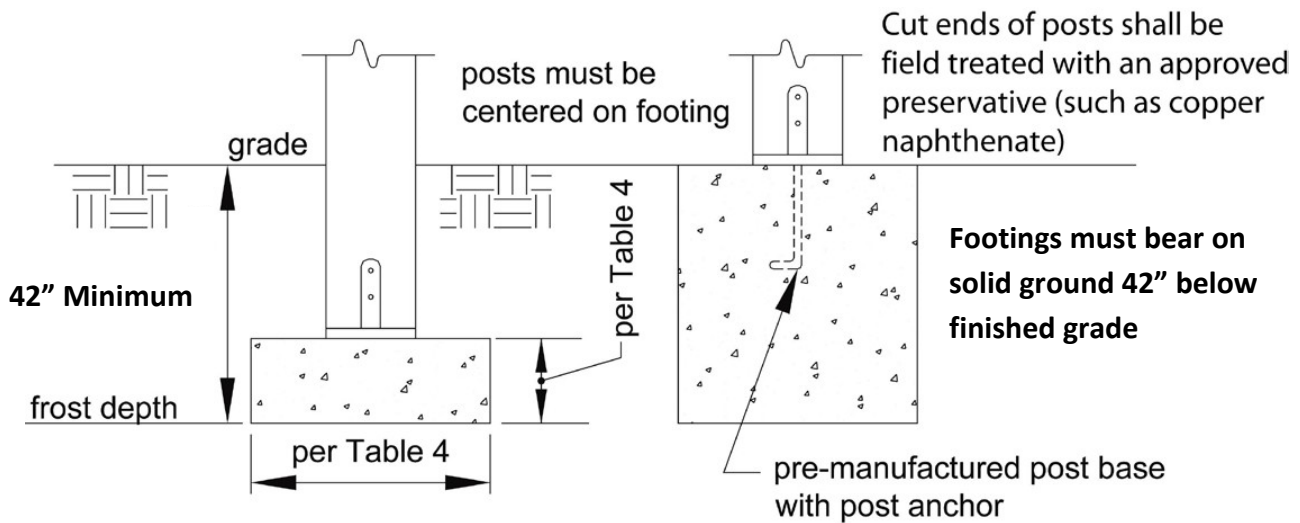
*Note: Table 4A may be used when approved by the local Building Official based on soil conditions.

Beam Span L_B , ft	Joist Span L ft	Round Footing Diameter	Square Footing Dimension	Footing Thickness ²
6'	≤ 10'	13"	11"	6"
	≤ 14'	15"	13"	6"
	≤ 18'	17"	15"	7"
8'	≤ 10'	15"	13"	6"
	≤ 14'	18"	16"	7"
	≤ 18'	20"	18"	8"
10'	≤ 10'	17"	15"	6"
	≤ 14'	20"	17"	8"
	≤ 18'	22"	20"	9"
12'	≤ 10'	18"	16"	7"
	≤ 14'	21"	19"	9"
	≤ 18'	24"	22"	10"
14'	≤ 10'	20"	17"	8"
	≤ 14'	23"	21"	9"
	≤ 18'	26"	23"	11"
16'	≤ 10'	21"	19"	8"
	≤ 14'	25"	22"	10"
	≤ 18'	28"	25"	12"
18'	≤ 10'	22"	20"	9"
	≤ 14'	26"	23"	11"
	≤ 18'	30"	26"	13"

¹ Assumes 2,000 psf soil bearing capacity

² Assumes 2,500 psi compressive strength of concrete

Figure 8. Typical Footing Options



LEDGER BOARD ATTACHMENT

GENERAL REQUIREMENTS

- Ledger board depth shall be greater than or equal to the depth of the deck joists, but not less than a 2x8.
- The ledger board shall be attached in accordance with one of the conditions shown in **Figures 10 and 11**.
- The existing band board shall be capable of supporting the deck. If this cannot be verified or existing conditions differ from the details herein, then a free standing deck or an engineered design is required.
- The ledger board shall not be attached to house as described in the prohibited ledger attachment section and as shown in **Figure 12**. A free standing deck design shall be used as described in the free standing deck attachment to house section and as shown in **Figure 16**.
- The top of the ledger board and top of the deck joists shall be at the same elevation.

WOOD I-JOISTS

As shown in **Figure 9**, located inside the house, must have a 2x band board, or a minimum 1-inch thick engineered wood product (EWP) band board capable of supporting a deck. If a minimum 1-inch EWP or 2x band board is not present, then a free standing deck is required.



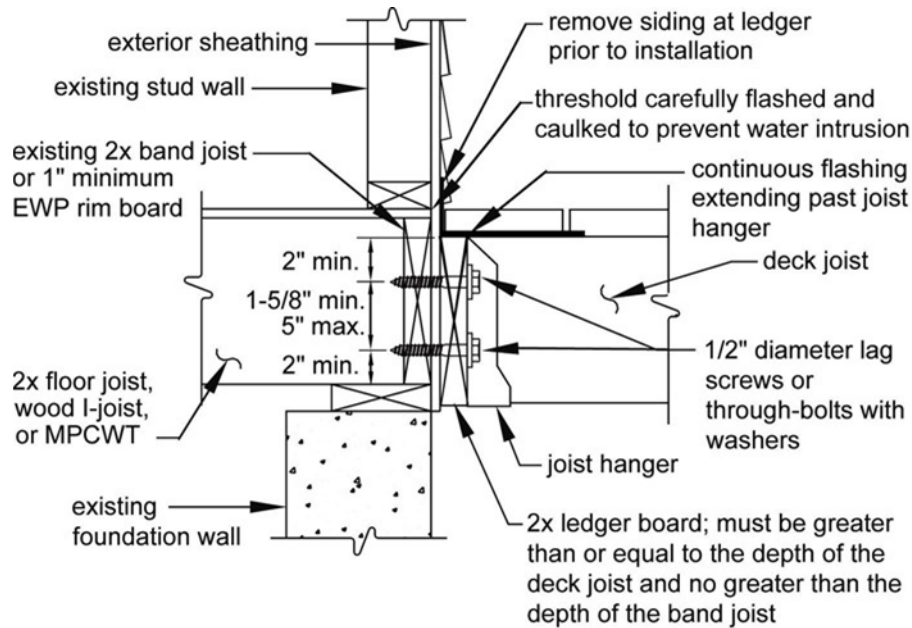
Figure 9. Wood I-Joists

SIDING AND FLASHING

- The exterior finish, i.e., house siding, must be removed prior to the installation of the ledger board.
- Continuous flashing with a drip edge, as shown in **Figure 10**, is required at the ledger board when attached to wood-framed construction.

- Flashing shall be copper (attached using copper nails only), stainless steel, UV resistant plastic or galvanized steel coated with 1.85 ounces of zinc per square foot (G-185 coating).
- Flashing at a door threshold shall be installed to prevent water intrusion from rain or melting snow.

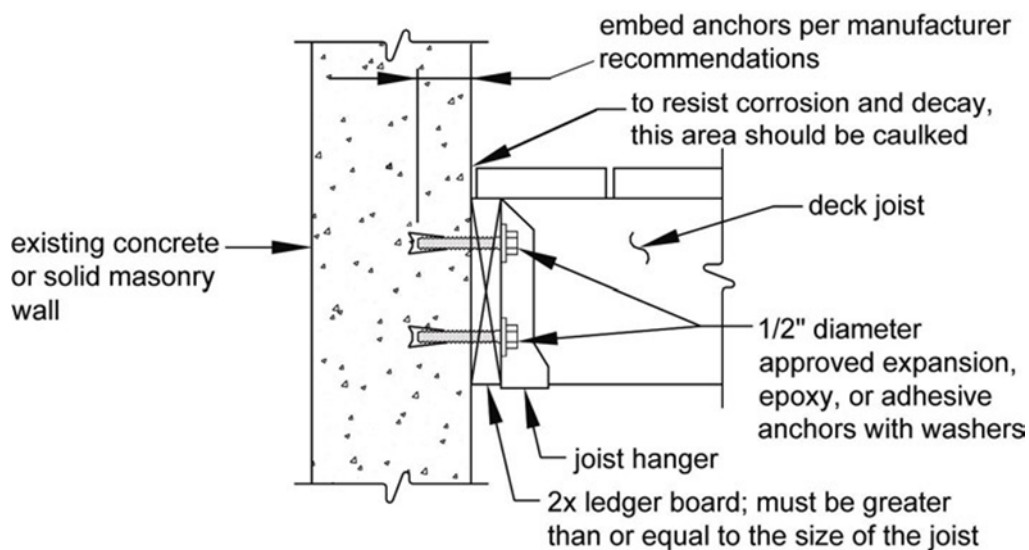
Figure 10. General Attachment of Ledger Board to Band Joist or Rim Board



Courtesy of American Wood Council – Leesburg, VA

Figure 11. Attachment of Ledger Board to Foundation Wall (Concrete or Solid Masonry)

Ledger Boards may not be attached to hollow masonry blocks



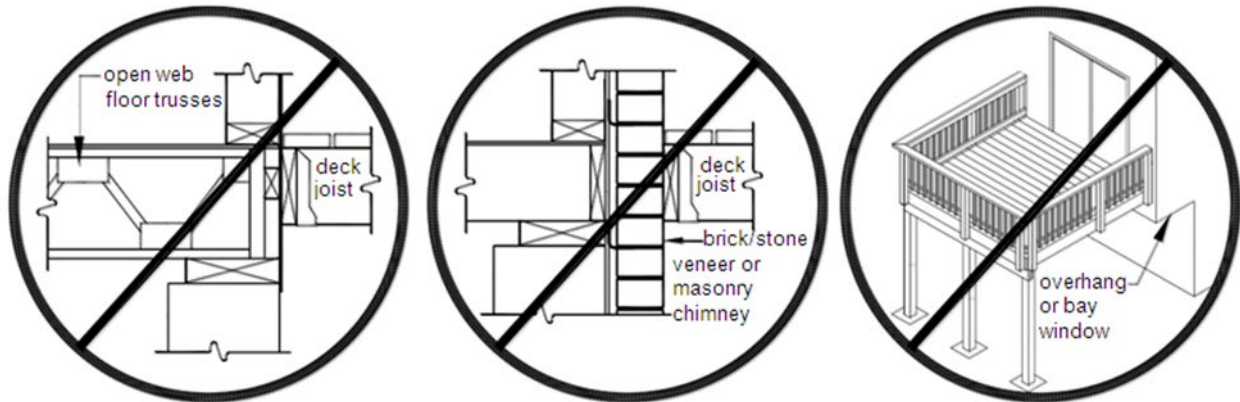
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PROHIBITED LEDGER BOARD ATTACHMENTS

The ledger board attachments shown in **Figure 12** are prohibited. These conditions require a free standing deck design, as described in the free standing deck attachment to house section and as shown in **Figure 16**.

Ledger Boards may not be attached to hollow masonry blocks

Figure 12. Prohibited Ledger Attachments



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LEDGER BOARD FASTENERS

- Spacing and placement of fasteners shall be in accordance with **Figure 14** and **Table 5**.
- Lead anchors are prohibited.
- See General Information #9.
- **Thru-Bolts** shall have a diameter of 1/2". Washers are required at the bolt head and nut.
- **Expansion and Adhesive Anchors**: Use approved expansion or adhesive anchors when attaching a ledger board to a concrete or solid masonry wall, as shown in **Figure 11**. Expansion and adhesive anchor bolts shall have a diameter of 1/2", be equipped with washers, and installed per manufacturer's instructions.
- **Lag Screws** shall have a diameter of 1/2". Lag screws may be used only when the field conditions conform to those shown in **Figure 10**. See **Figure 13** for lag screw requirements. Lag screws shall be installed with washers.

Figure 13. Lag Screw Requirements

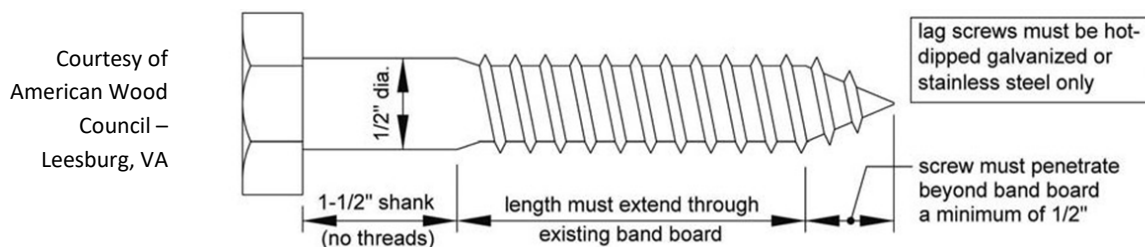
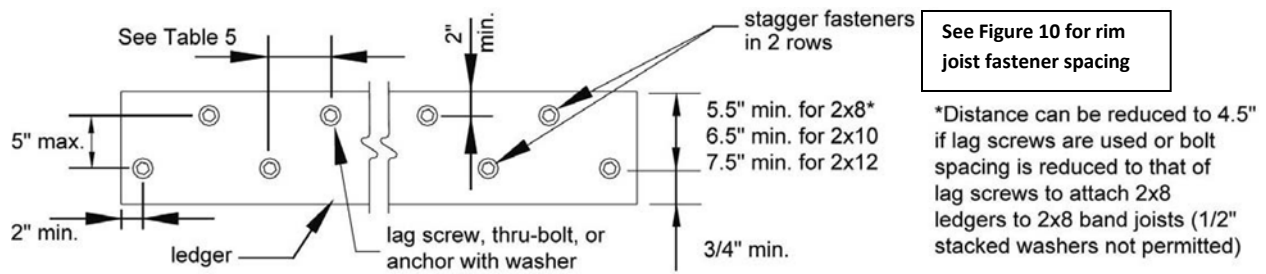


Figure 14. Ledger Fastener Spacing and Clearances



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Table 5. Fastener Spacing for a Southern Pine, Douglas-Fir-Larch, or Hem-Fir Deck Ledger and a 2-inch Nominal Solid-Sawn Spruce-Pine-Fir Band Joist or EWP Rim Board^{3,4,5,6,8}

(Deck Live Load = 40 psf, Deck Dead Load = 10 psf)

¹The tip of the lag screw shall fully extend beyond the inside face of the band joist.

Connection Details	Rim Board or Band Joist	Joist Span						
		6'-0" and less	6'- 1" to 8'- 0"	8'- 1" to 10'- 0"	10'- 1" to 12'- 0"	12'- 1" to 14'- 0"	14'- 1" to 16'- 0"	16'- 1" to 18'- 0"
¹ / ₂ " diameter lag screw ¹ with ¹⁵ / ₃₂ " maximum sheathing	1" EWP 1- ¹ / ₈ " EWP 1- ¹ / ₂ " Lumber	24" 28" 30"	18" 21" 23"	14" 16" 18"	12" 14" 15"	10" 12" 13"	9" 10" 11"	8" 9" 10"
¹ / ₂ " diameter bolt with ¹⁵ / ₃₂ " maximum sheathing	1" EWP 1- ¹ / ₈ " EWP 1- ¹ / ₂ " Lumber	24" 28" 36"	18" 21" 36"	14" 16" 34"	12" 14" 29"	10" 12" 24"	9" 10" 21"	8" 9" 19"
¹ / ₂ " diameter bolt with ¹⁵ / ₃₂ " maximum sheathing and ¹ / ₂ " stacked washers ^{2,7}	1- ¹ / ₂ " Lumber	36"	36"	29"	24"	21"	18"	16"

²The maximum gap between the face of the ledger board and face of the wall sheathing shall be ¹/₂".

³Ledgers shall be flashed or caulked to prevent water from contacting the house band joist (see **Figures 10, 16, & 17**).

⁴Lag screws and bolts shall be staggered per **Figure 14**.

⁵Deck ledgers shall be minimum 2x8 pressure-preservative-treated No. 2 grade lumber, or other approved materials established by standard engineering practice.

⁶When solid-sawn pressure-preservative-treated deck ledgers are attached to engineered wood products (minimum 1" thick wood structural panel band joist or structural composite lumber including laminated veneer lumber), the ledger attachment shall be designed in accordance with accepted engineering practice. Tabulated values based on 300lbs and 350lbs for 1" and 1-¹/₈" EWP rim board, respectively.

⁷Wood structural panel sheathing, gypsum board sheathing, or foam sheathing not exceeding 1" thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1".

⁸Fastener spacing also applies to southern pine, Douglas-Fir-Larch, and Hem-Fir band joists.

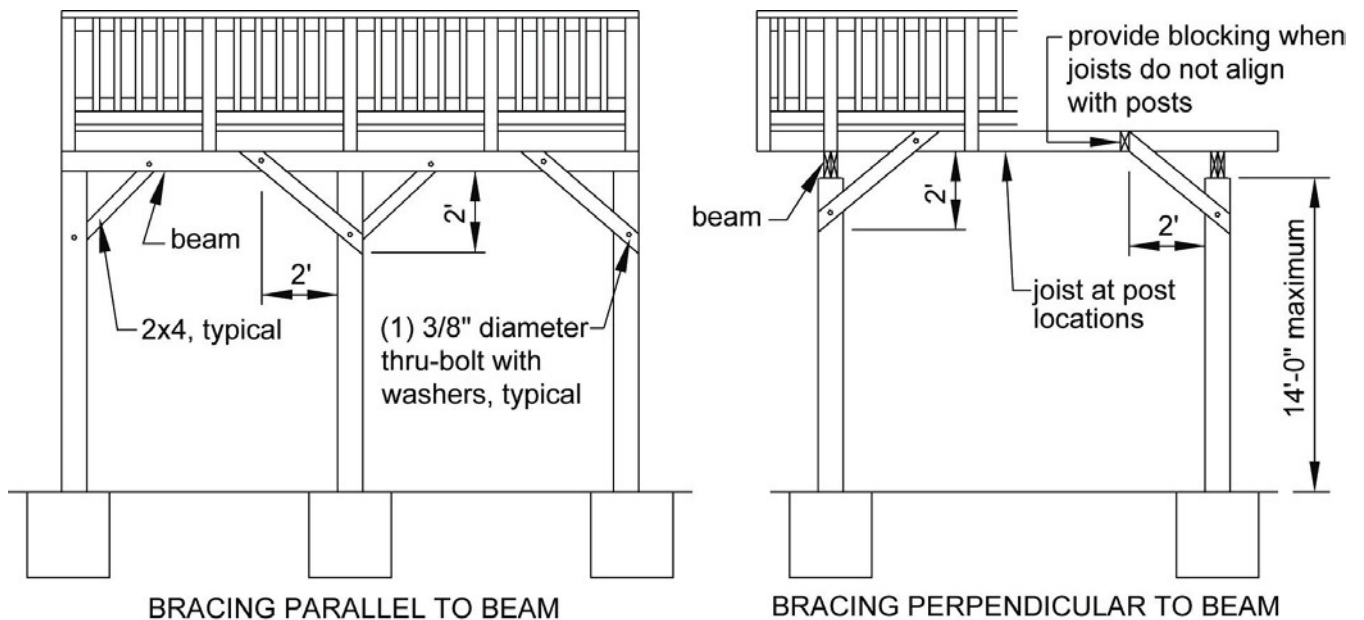
DECK STABILITY

Decks greater than 2 feet above grade shall be provided with diagonal bracing.

DIAGONAL BRACING

- Diagonal bracing shall be provided both parallel and perpendicular to the beam at each post as shown in **Figure 15**.
- When parallel to the beam, the bracing shall be bolted to the post at one end and beam at the other.
- When perpendicular to the beam, the bracing shall be bolted to the post at one end and a joist or blocking between joists at the other end.
- Provide blocking between the adjacent joists, when a joist does not align with the bracing location.
- Decks attached to the house as shown in **Figure 17 or 17A** do not require diagonal bracing perpendicular to the house.
- Diagonal bracing parallel to the house may be omitted at the beam adjacent to the house for a free standing deck attached as shown in **Figure 16**.

Figure 15. Diagonal Bracing Requirements



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DIAGONAL BRACING OPTION

- Diagonal bracing as shown in **Figures 15A and 15B**, is only allowed when the deck is supported by a ledger attached to the house as indicated in **Figures 10 and 11**; and lateral load connections as shown in **Figure 17 or 17A**, are provided near the outside edge of the deck on each side.
- Bracing material must be 2x6 preservative treated wood.
- Bracing must be attached with 3-16D nails at each joist.
- Nails shall be hot dipped zinc coated galvanized steel or stainless steel.

Figure 15A. Diagonal Bracing Attached to Underside of Joist on Single Span Deck

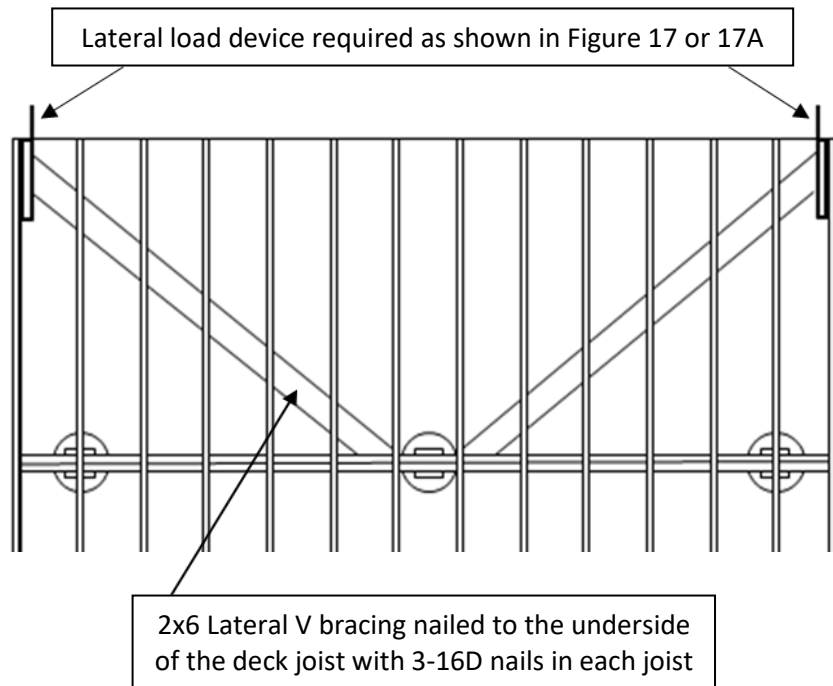
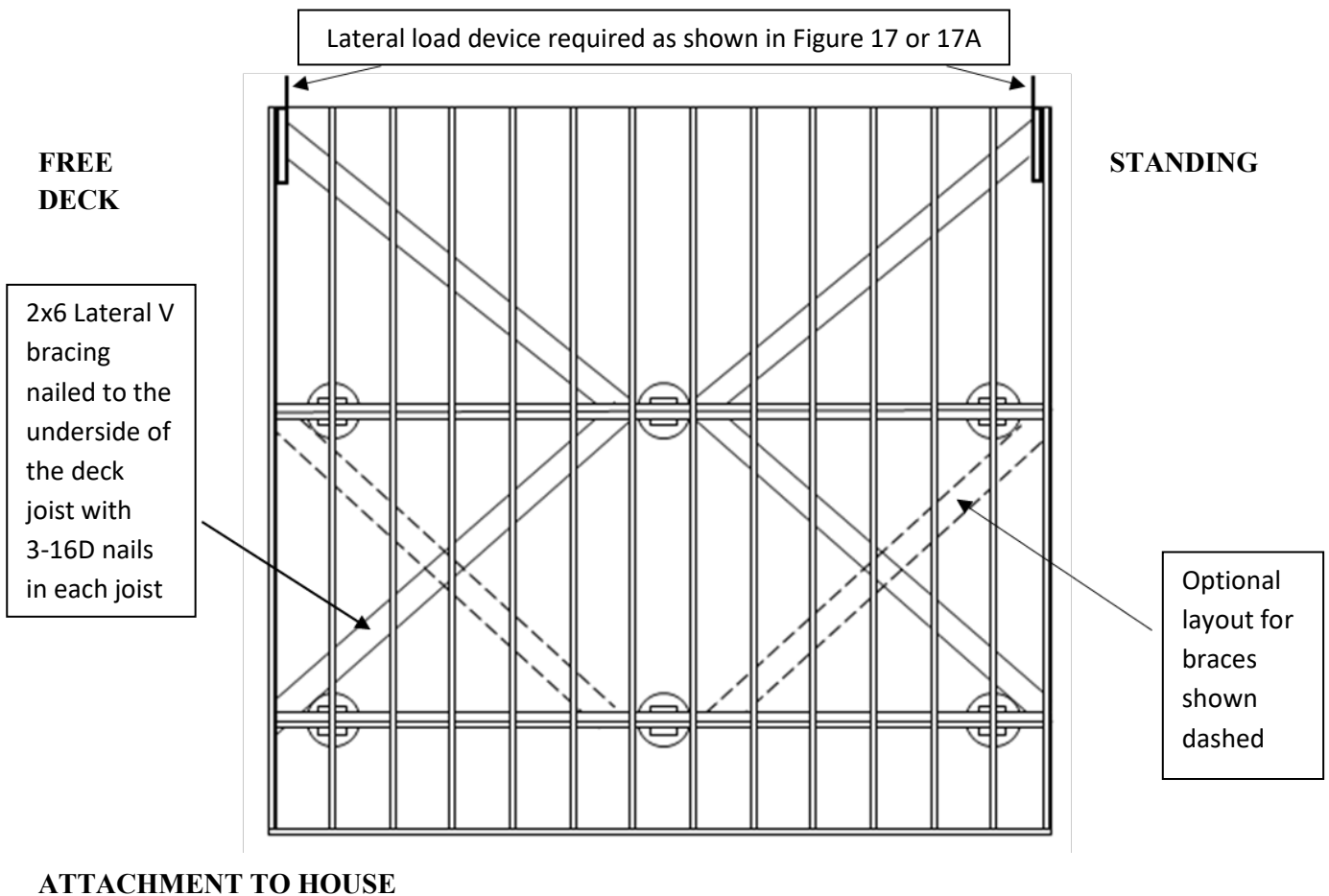
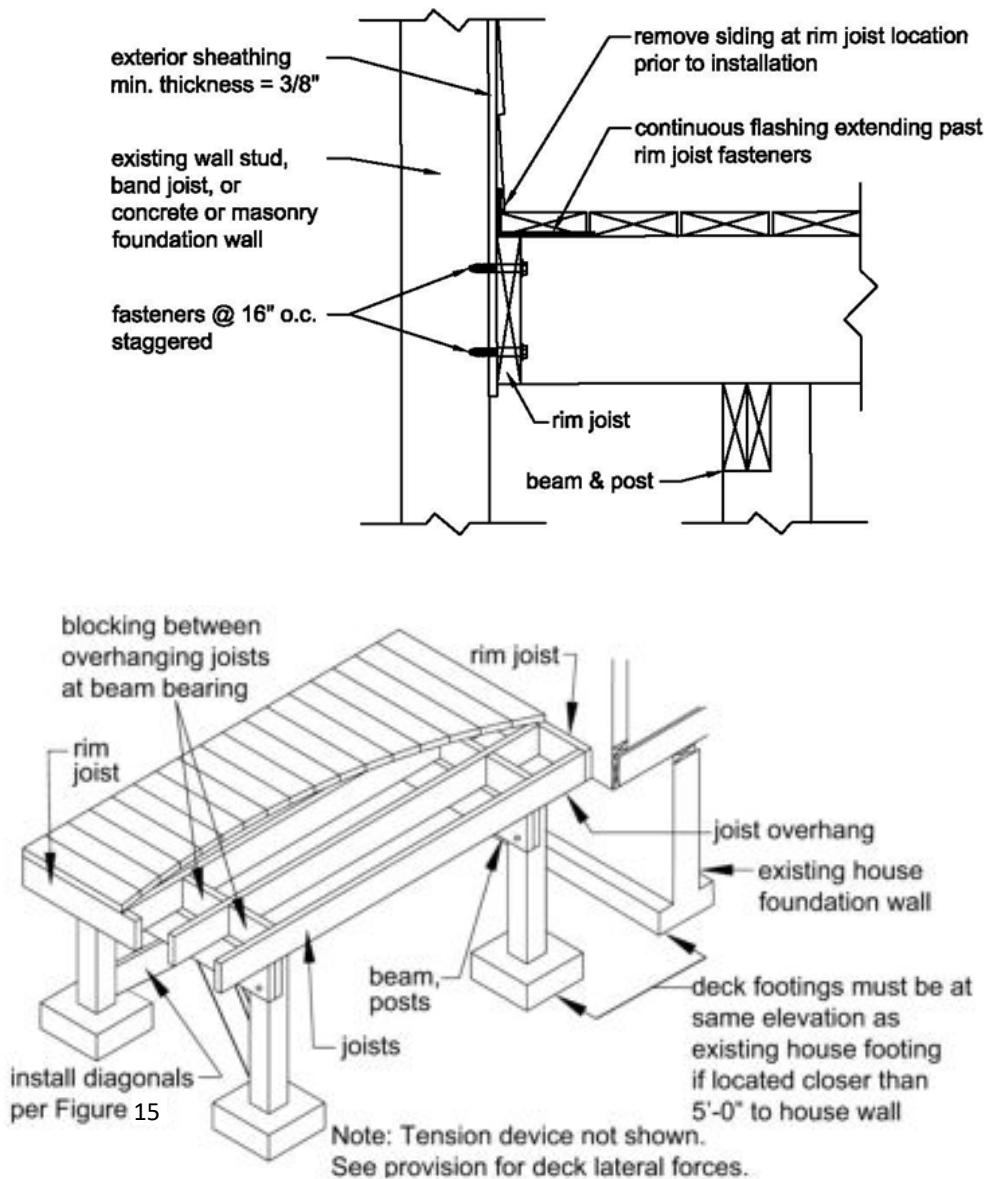


Figure 15B. Diagonal Bracing Attached to Underside of Joists on Double Span Deck



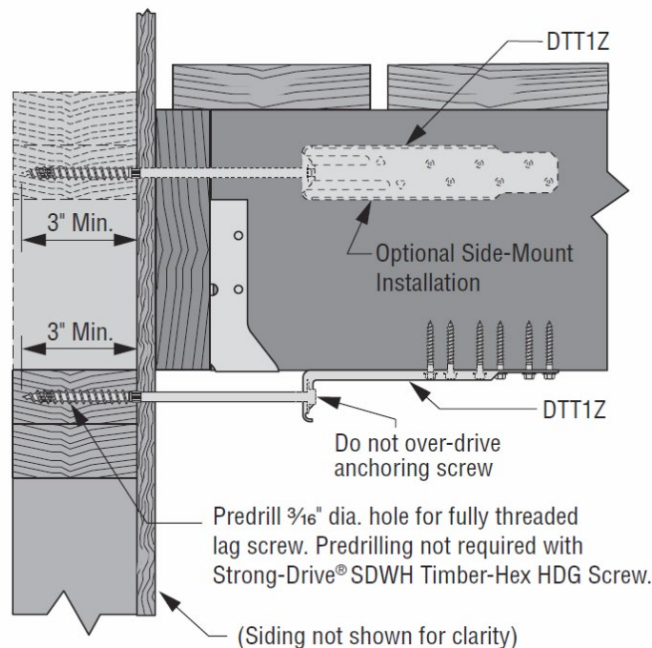
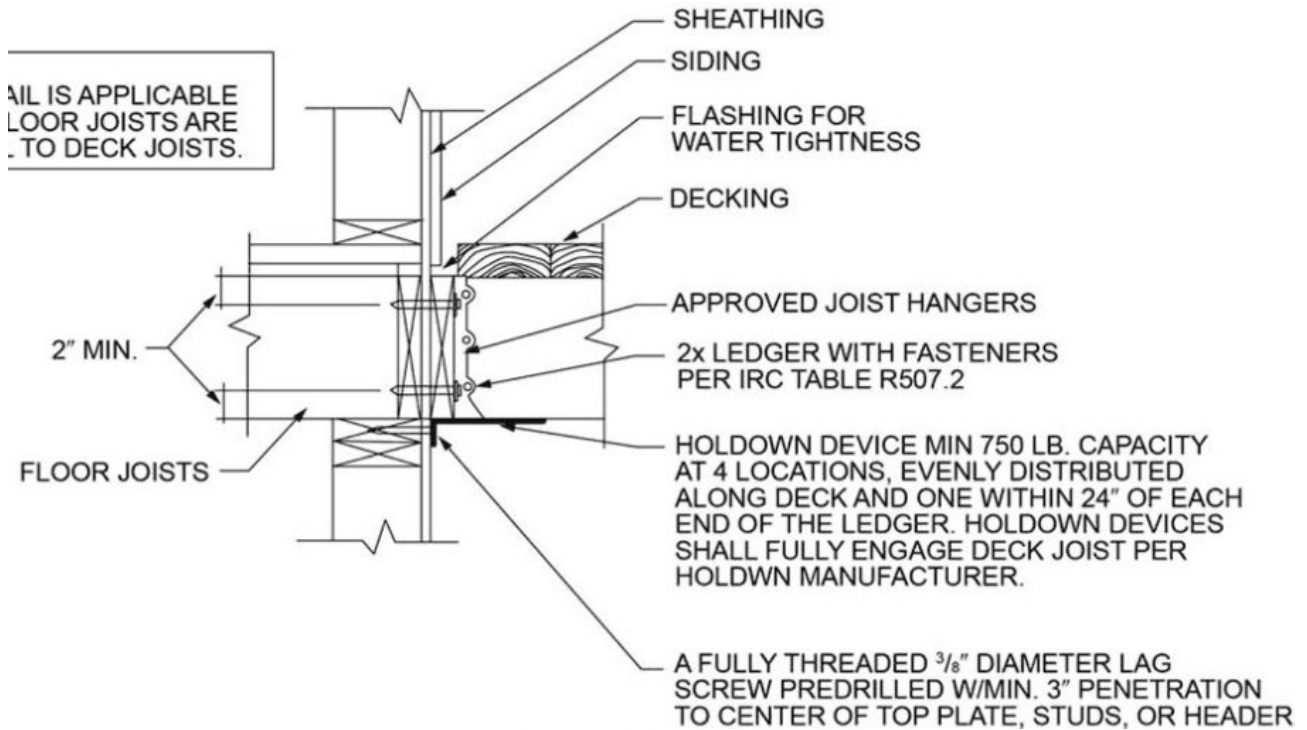
- Attach the deck rim joist to the existing house exterior wall as shown in **Figure 16** for a free standing deck.
- The wall must be sheathed with minimum 3/8" wood structural panel sheathing.
- Use lag screws or thru-bolts when fastening to an existing band joist or wall stud.
- Use expansion anchors or epoxy anchors when fastening to concrete or masonry.
- **DO NOT ATTACH TO BRICK VENEERS.**
- Fasteners shall be 16" on center and staggered in 2 rows for free standing decks.
- Flashing is required over the rim joist. See "Ledger Board Attachment" for flashing details.

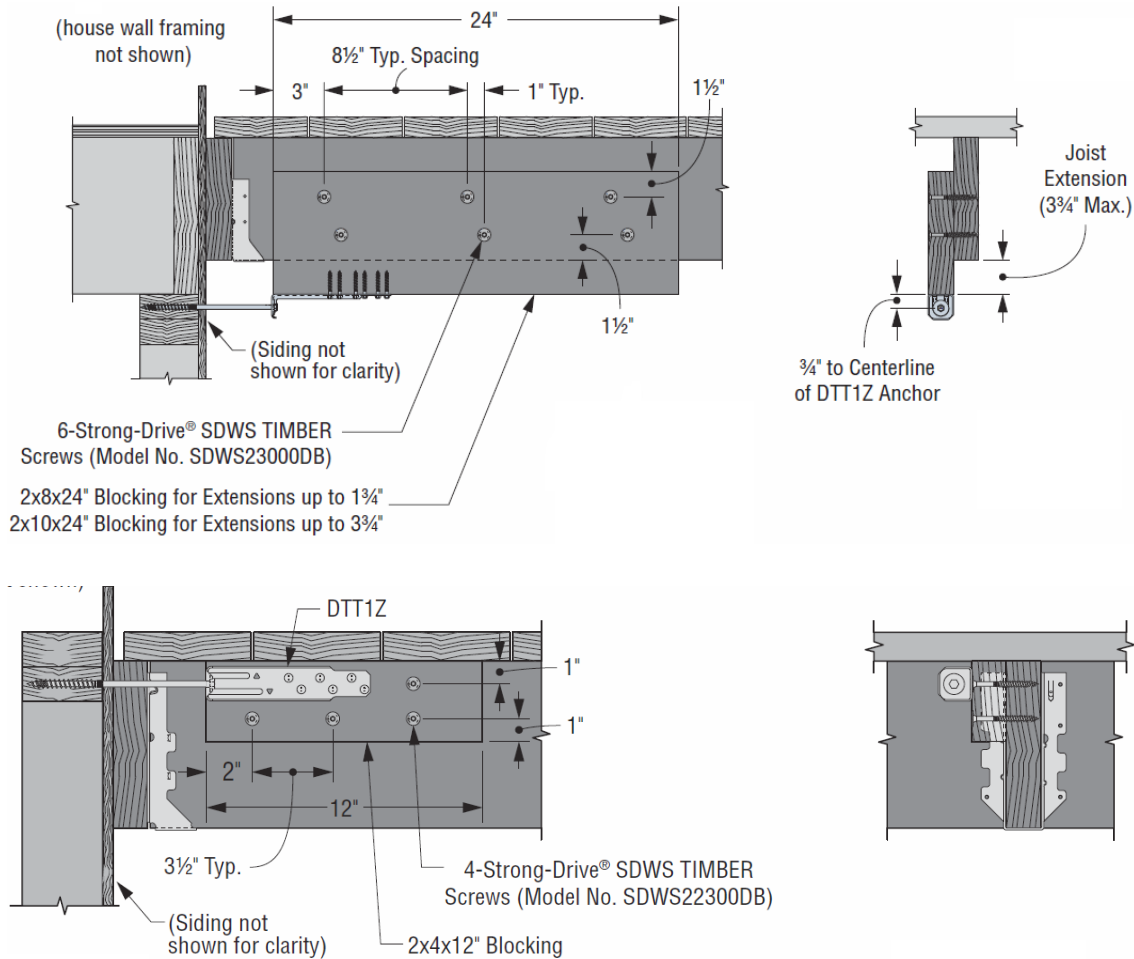
Figure 16. Attachment of Free Standing Deck to House for Deck Stability



- Where supported by attachment to an exterior wall (**Figures 10 or 11**), decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads as applicable.
- The lateral load connection required shall be permitted to be in accordance with **Figure 17**.
- Alternative lateral load devices with a valid Evaluation Report from a recognized evaluation service must be submitted to and approved by the local building official prior to installation of the alternative lateral load devices. The alternative lateral load devices shall be installed in accordance with the manufacturer's instructions.

Figure 17. Lateral Load Device to Deck Joists

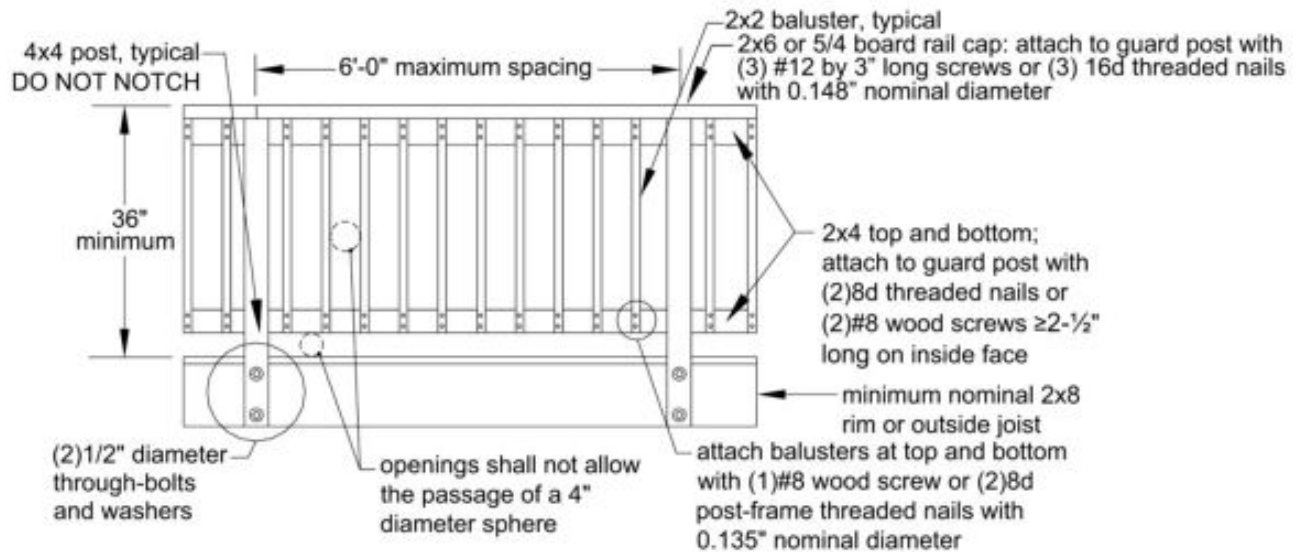




GUARDS

- A guard is required when a deck is greater than 30 inches above grade at any point within 36 inches of the deck edge.
- Wood-plastic composites used in guard systems shall be labeled, indicating the performance level and demonstrating compliance with ASTM D 7032. Wood-plastic composite guard systems with a valid Evaluation Report from a recognized evaluation service must be submitted to and approved by the local building official prior to installation of the wood-plastic composite guard system. Wood-plastic composites shall be installed in accordance with the manufacturer’s instructions.
- Alternative guard systems with a valid Evaluation Report from a recognized evaluation service must be submitted to and approved by the local building official prior to installation of the alternative guard system. Alternative guard systems shall be installed in accordance with the manufacturer’s instructions.
- Guards shall be no less than 36 inches above the adjacent walking surface or fixed seating.
- Stair guards shall have a height no less than 34 inches measured vertically from a line connecting the leading edges of the treads. See **Figure 26**.
- Openings in guards shall not allow the passage of a 4-inch diameter sphere through any opening from the walking surface to the required guard height.

Figure 18. Example Guard Detail



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GUARD POST ATTACHMENT

- Guard posts shall be 4x4 minimum.
- Outside joist and rim joist to which guard posts are attached shall be a minimum of 2x8.
- Notching of guard posts; as shown in **Figure 19**, is prohibited.
- Guard posts shall be attached as shown in **Figures 20 and 21**.
- Hold down anchors shall have a minimum capacity of 1,800lbs and must be installed in accordance with the manufacturer's instructions.

Figure 19. Post Notches Prohibited

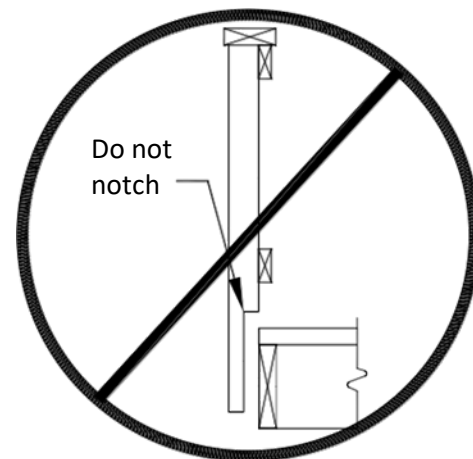
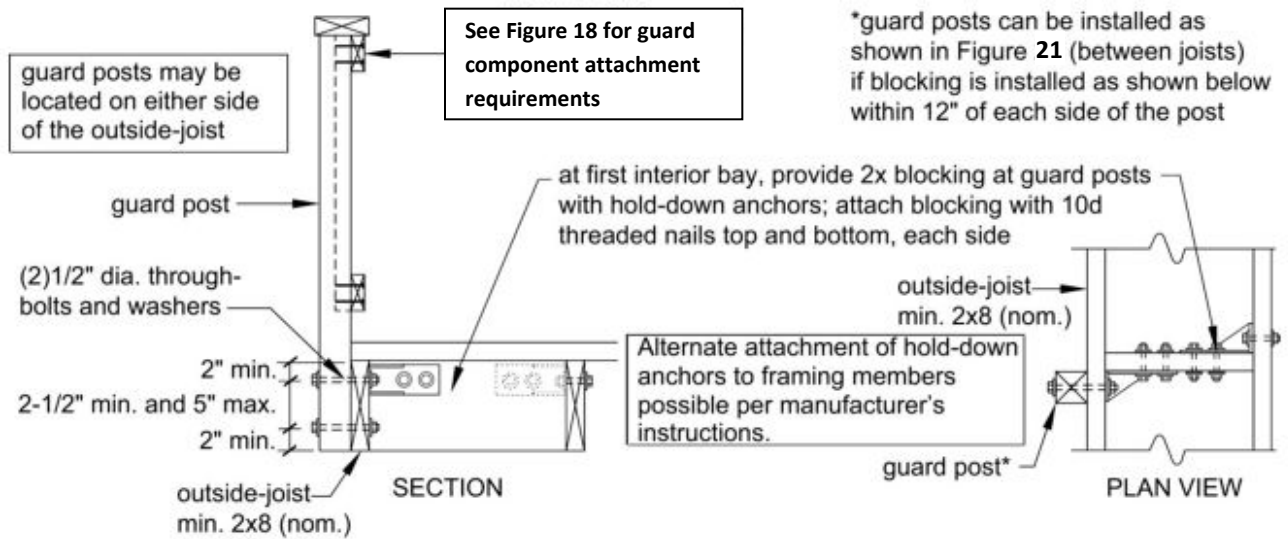
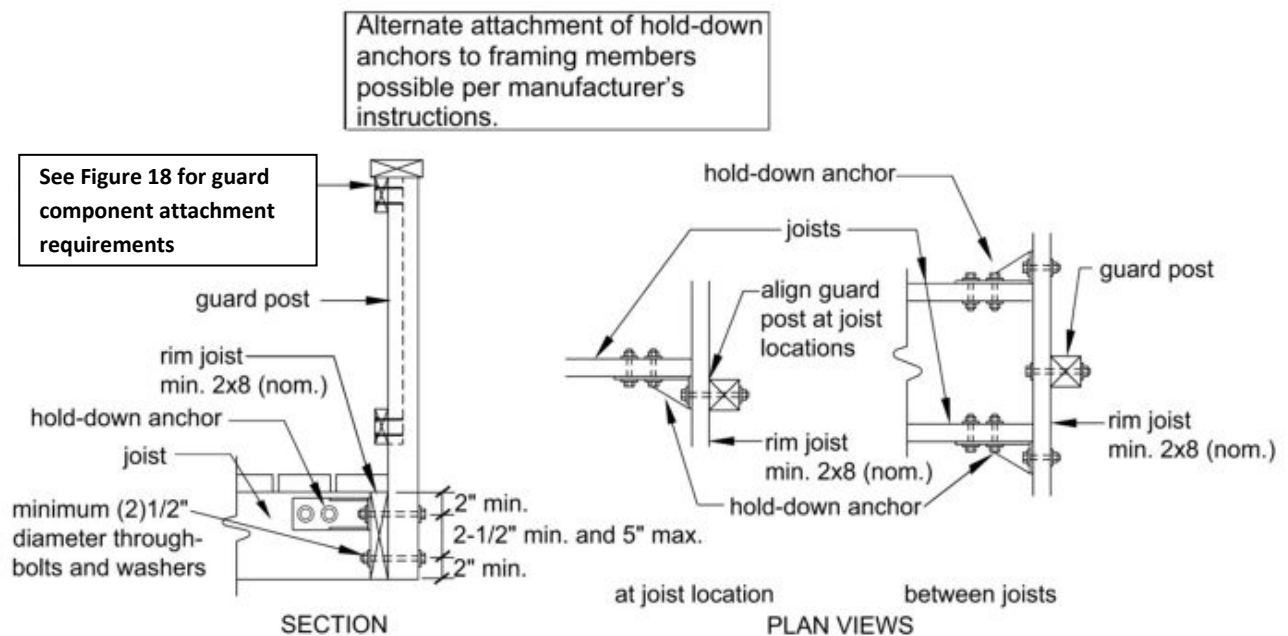


Figure 20. Guard Post to Outside Joist Examples



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Figure 21. Guard Post to Rim Joist Example



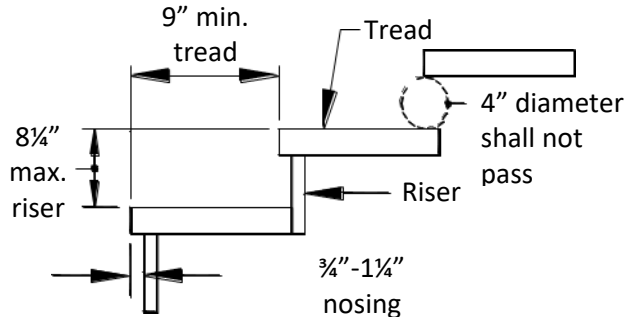
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STAIR REQUIREMENTS

STAIR DIMENSIONS

- Stairs shall have a minimum clear width of 36 inches.
- Stair treads, risers, nosing, and opening limitations shall meet the requirements shown in **Figure 22**. All tread, riser, and nosing dimensions shall not deviate from one another by more than 3/8" in any flight of stairs.
- Each landing shall be 36" minimum in the direction of travel.
- Stairs with a vertical height exceeding 12'0" are required to have an intermediate landing.
- A landing, with a width no less than the stair, is required at the top and bottom of each stairway.

Figure 22. Treads and Risers



STAIR STRINGERS

- Stair stringers shall be 2x12 minimum.
- Stair stringers shall not span more than the dimensions shown in **Figure 23** for cut and solid stringers. If stringer span exceeds these dimensions, proper bearing support to footing(s) shall be provided to shorten the stringer span to within the dimensions shown in **Figure 23**.
- Stair stringers shall be 18" on center maximum.

Figure 23. Stair Stringer Requirements

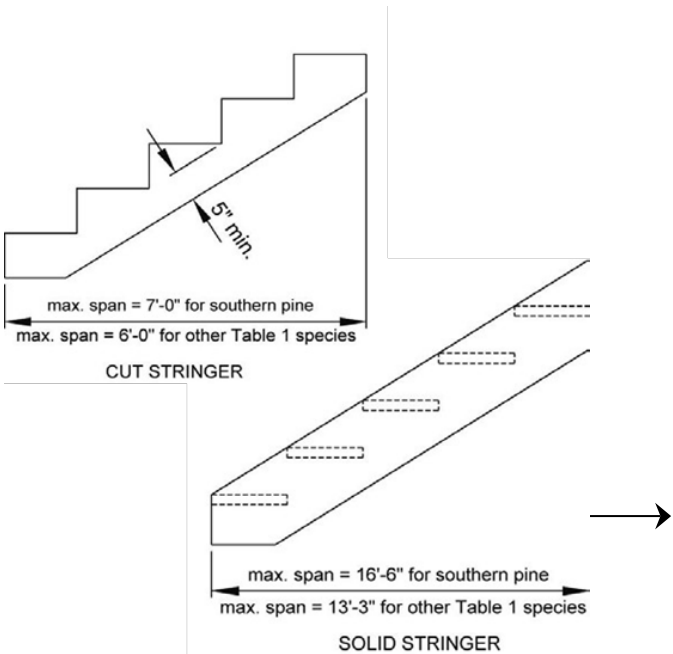
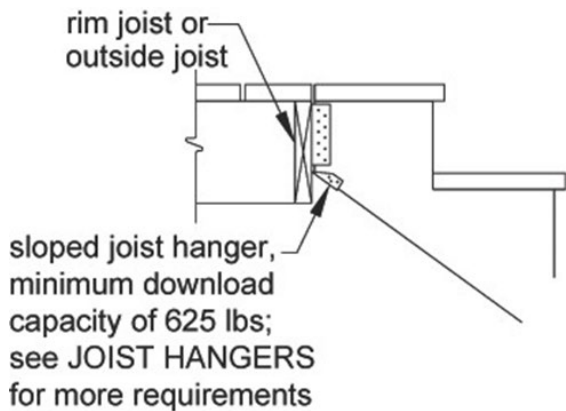


Figure 24. Stair Stringer Attachment Detail



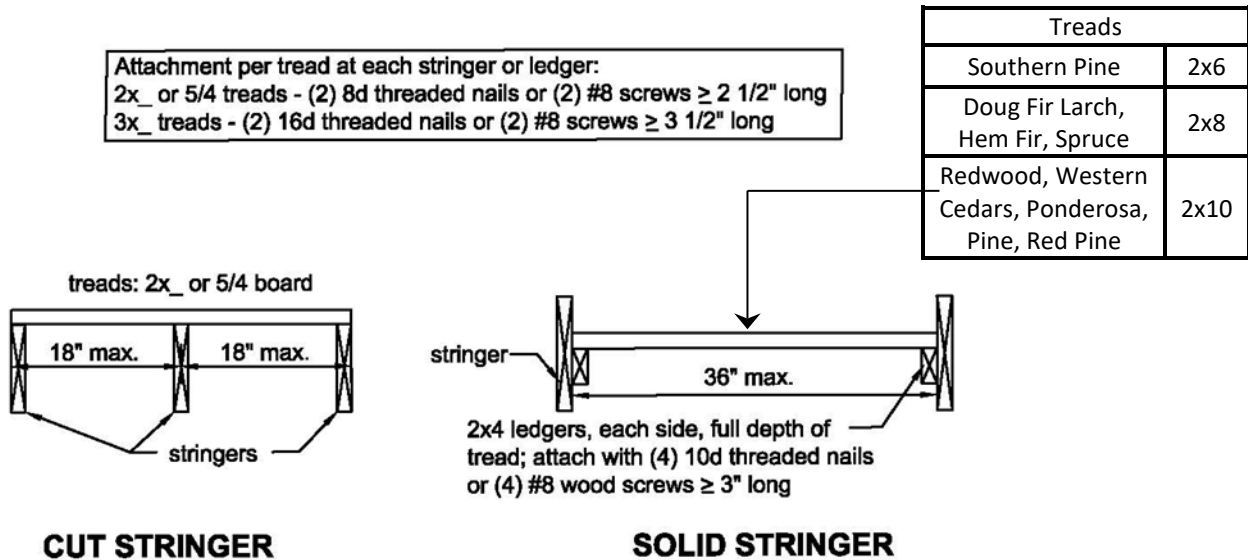
ATTACHMENT WITH HANGERS

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TREADS

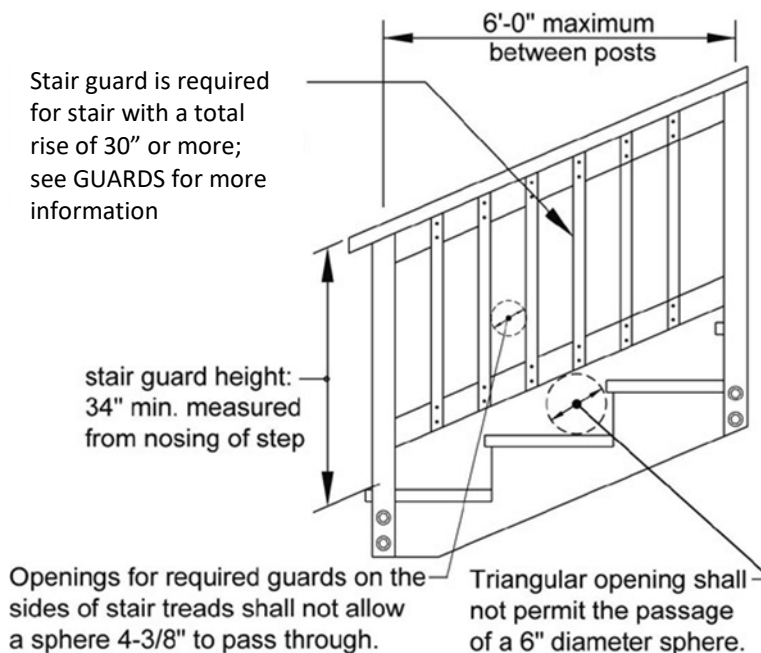
- Tread material shall be equivalent to the decking material specified on pages 19 and 20.
- Stairs constructed with solid stringers shall have treads of 2x wood material. See **Figure 25**.

Figure 25. Tread Connection Requirements



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Figure 26. Stair Guard Requirements

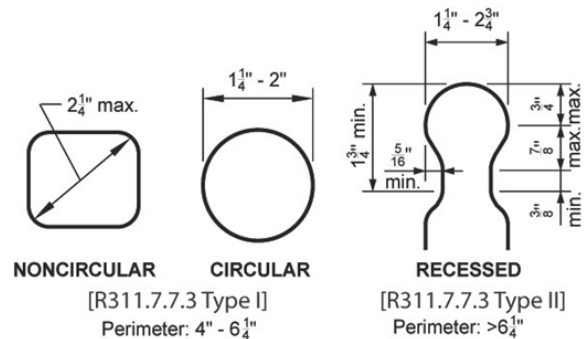


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STAIR HANDRAILS

- Stairs with four or more risers shall have a handrail on at least one side at a height between 34 and 38 inches.
- Handrail height shall be measured vertically from a line connecting the leading edges of the treads. See **Figure 26**.
- Handrails shall be graspable and made of decay-resistant and/or corrosion resistant material. See **Figures 27 and 28**.
- Handrails shall have a smooth surface with no sharp corners.
- Handrails shall run continuously from a point directly over the lowest riser to a point directly over the higher riser and shall return to the guard at each end. See **Figure 29**.
- Handrails may be interrupted by guard posts at a turn in the stair.

Figure 27. Handrail Grip Size



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Figure 28. Handrail Mounting Examples

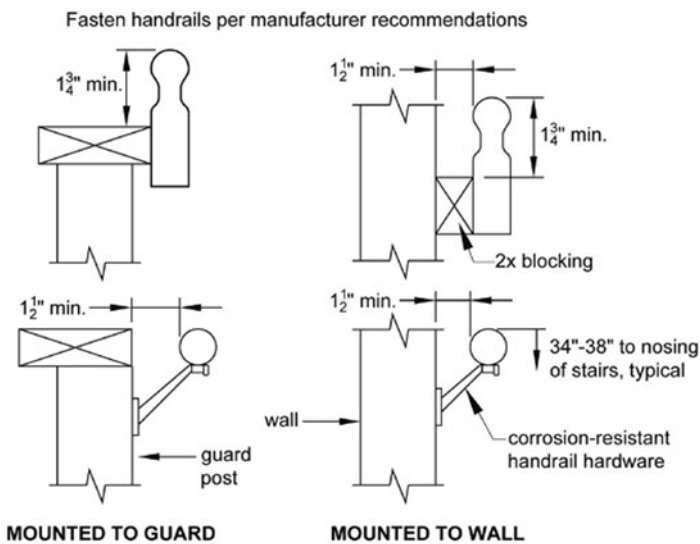
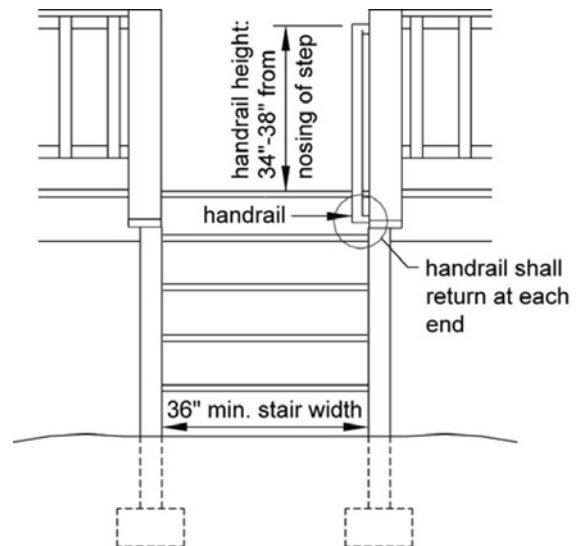


Figure 29. Miscellaneous Stair Requirements

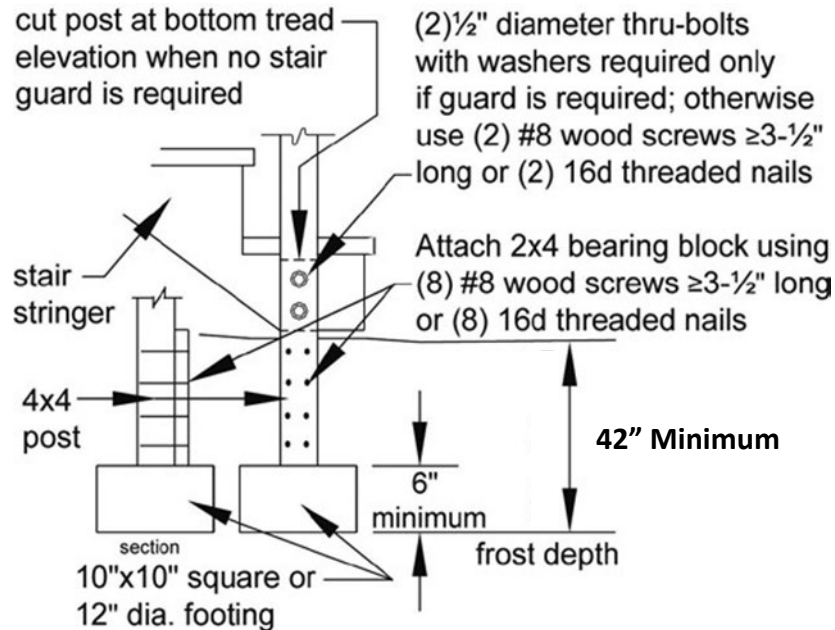


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STAIR FOOTING

- Stair stringers shall be attached to the stair guard posts as shown in **Figure 30**.
- Stair guard posts footing shall bear on solid undisturbed soil a minimum of 42" below grade.
- Stringers shall rest on 2x4 bearing block as shown in **Figure 30**.

Figure 30. Stair Footing Detail



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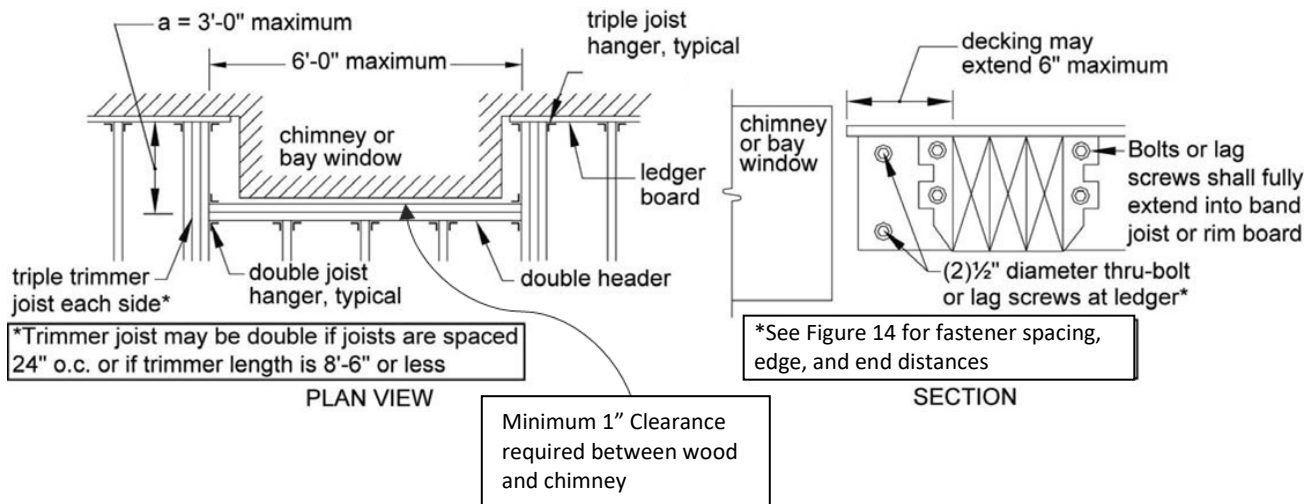
STAIR LIGHTING

- Stairways shall have a light source at the top landing that provides light to the stairs and landings.
- The light switch shall be controlled from the inside of the house. Motion detectors or timed switches are acceptable.

FRAMING AT CHIMNEY OR BAY WINDOW

- Framing at chimney or bay window shall be in accordance with **Figure 31**.
- Header plies shall be equal to the deck joist size.
- Header may span 6'0" maximum.

Figure 31. Detail for Framing Around Chimney or Bay Window



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DECK FRAMING PLAN FOR BUILDING PERMIT APPLICATIONS WITH LIMITED PLANS

Your deck framing plan must including the following information:

- Layout of Footings, Posts, Beams, and Joists (see **Figure 32** on page 47)
- Footing size, thickness, and depth below final grade
- Post size and height
- Beam size and span
- Joist size, spacing and span
- Ledger board size and fastener spacing (if used)
- Profile of house, note exterior surfaces (brick or siding)
- Include all dimensions

Figure 32 on page 47 may be used as a fill-in the blank deck framing plan or you may need to create your own deck framing plan if **Figure 32** cannot be used for your specific deck design.

Figure 32. Typical Deck Framing Plan

