Community Development Department
102206 E. Wiser Parkway
Kennewick, WA 99338
building.department@co.benton.wa.us

Building Division
Brad O'Brien
Building Manager

BENTON COUNTY BUILDING DIVISION
STICK FRAME ACCESSORY BUILDING - GENERAL INFORMATION SHEET

Q. What type of accessory structure requires a building permit?

A. All accessory structures larger than 200 sq. ft. require a building permit. Structures less than 200 sq. ft., which are not attached to an existing structure, do not require a permit but must meet all Benton County setback requirements. If you have a question on whether you need a permit, please call the Benton County Building Division at (509) 735-3500. Structures that are placed on slopes greater than 15% may be required to have noncombustible siding and/or soffits and decks may be required to have noncombustible skirting. All access roads or private driveways over 200 feet long that are over a 12% grade are to be asphalt. Grades over 15% are not permitted. Contact the Benton County Fire Marshal for further information at (509) 735-3500.

Q. Where to obtain a building permit?

A. Benton County Building Division, 102206 E. Wiser Parkway, Kennewick, Monday - Friday, 8:00 am - 12:00 pm and 1:00 pm - 5:00 pm (except holidays).

Q. What items are <u>required</u> before a building permit application may be submitted?

A.
1. Complete attached building application form. Tax parcel number can be obtained from property tax statement or from Assessor's Office. All plumbing/mechanical fixtures must be listed.
2. One complete set of construction plans required for residential garages and agricultural buildings, no larger than 11x17 or digital. A WA. St. Registered Engineer must stamp structures that are over 4000 sq. ft. Plans designed by an architect must have structural calculations submitted and stamped by a WA. St. Registered Engineer. When applicable, engineered truss specifications must be supplied for both manufactured and on-site trusses.
3. One complete plot plan. All required elements shall be shown (see attached sample).
4. Declaration of Occupancy Use required for all accessory structures, form attached.
5. Approval less than one year old from the Benton-Franklin Dist. Health Dept. for lots one acre or less served by a septic system. Benton-Franklin Health Department recommends septic approval for all construction. Current septic approval is also required if the structure includes plumbing.
6. Approved Road approach permit from the Benton County Public Works Dept. (if existing this may not be required, see road approach application), (509) 736-3084 if the site is vacant of structures. For encroachment to a state road, contact Dept. of Transportation at (509) 577-1668.

7. If structure is attached to a factory assembled structure/manufactured home, approval from Dept. of Labor & Industries must be submitted.
8. Flood Elevation Certificate, if applicable. All structures located within a Floodplain are subject to the requirements of BCC 3.26, including certification by a Washington State Registered Surveyor and/or Engineer.
9. Declaration of Owner Builder if owner is acting as general contractor, form attached.

Q. How long does the plan review process take?

A. Ask at the building division for the current estimated review time.

Q. What inspections are required?

A. Footing/foundation, framing and final. Other inspections may be required if needed.

NOTE: Structures that are placed on fill and or placed on or near slopes may require the approval of a Washington State Registered Geo Technical Report.

INSPECTION REQUESTS: Call the Benton County Building Division at (509)736-2763. This line will be available 24 hours per day, 7 days per week. A minimum of 24 hours advance notice is required. Inspection requests called in on Fridays after 4:00 pm will be performed within two working days. Inspection requests called in on weekends and holidays will also be performed within two working days. **All information for items 1 thru 6 below must be provided or the inspection cannot be scheduled:**

1. Name on permit
2. Permit number
3. Project address
4. Type of inspection
5. Date you need inspection
6. Name and telephone number of the person requesting inspection

The above phone number is for inspection requests only. For all other business, please contact the Building Division at 735-3500 during normal working hours, Monday thru Friday, 8:00 am to 12:00 pm and 1:00 pm to 5:00 pm (except holidays).

Be sure to have the permit posted in a conspicuous place, the approved set of plans on the job site and a temporary address posted during construction. It is the responsibility of the owner and/or contractor to verify that a final inspection has been completed.

JURISDICTIONS TO BE CONTACTED

BENTON COUNTY BUILDING DIVISION
Public Services Building - 102206 E Wiser Parkway, Kennewick, WA 99338
(509) 735-3500

BENTON COUNTY PLANNING
Public Services Building – 102206 E Wiser Parkway, Kennewick, WA 99338
Prosser Courthouse – 620 Market Street, Prosser, WA 99350
P.O. Box 910, Prosser, WA 99350
(509) 786-5612

SEPTIC SYSTEMS/WELLS/FOOD SERVICE - BENTON-FRANKLIN DISTRICT HEALTH DEPT.
7102 W. Okanogan Place, Kennewick, WA 99336
(509) 460-4205

ELECTRICAL PERMIT - DEPT. OF LABOR & INDUSTRIES
4310 W. 24th Avenue, Kennewick, WA 99338
(509) 735-0100

BENTON COUNTY PUD
2721 West 10th Avenue, Kennewick, WA 99336
(509) 582-2175

BENTON COUNTY PUBLIC WORKS
Public Services Building – 102206 E Wiser Parkway, Kennewick, WA 99338
Prosser Courthouse - 620 Market Street, Prosser, WA 99350
(509) 786-5612
Contact Public Works regarding mailbox requirements.

BENTON CLEAN AIR AGENCY
The Benton Clean Air Agency requires all projects within unincorporated Benton County that disturb the topsoil to submit contact information to their agency, as well as an acknowledgement that they understand their responsibility to control dust and that they have a dust control plan onsite. For more information contact (509) 783-1304 or visit www.bentoncleanair.org.

WASHINGTON STATE DEPT. OF COMMERCE
Contact the Washington State Dept. of Commerce Lead Paint Program at (360) 586-5323 (LEAD), or visit www.commerce.wa.gov/lead, or email the lead program lbpinfo@commerce.wa.gov before renovating or remodeling activities in pre-1978 residential buildings or child occupied facilities to ensure your compliance with applicable Washington lead regulations.

Hiring A Contractor Or Remodeler

What you should know

While the law provides some protection from fraudulent or Incompetent contractors, it doesn't guarantee honest transactions or perfect performance. If you're planning to hire a contractor or remodeler, shop smart.

What does the law require?

In Washington, contractors must register with the Department of Labor and Industries, post a bond and carry general liability insurance coverage.

A general contractor must maintain a $6,000 bond. A specialty contractor, such as a painter, must maintain a $4,000 bond. Dissatisfied consumers may pursue restitution by taking civil action against a contractor's bond in Superior Court.

All registered contractors must carry general liability insurance coverage ($20,000 property damage and $100,000 public liability or $120,000 combined single limit).

Contractors must also possess a current unified business identifier (UBI) number and an employer identification number (EIN). (An EIN is optional for a sole proprietorship with no employees.)

Informed, cautious consumers can better protect their financial investment. This brochure tells you what to look for and avoid, if you're planning to hire a contractor or remodeler.

Get answers

Call Labor and Industries' local service centers, call the toll-free contractor registration hotline or check our website to learn:

If a contractor is currently registered.

How long the contractor has been registered.

If action against the contractor's bond is pending or has been taken in the past.

The name of the contractor's insurance company, if you want to verify coverage.

If you're not sure whether the work you're contemplating requires a registered contractor, call the hotline. In general, work that "adds to or subtracts from real estate" requires a registered contractor.

Businesses that provide services such as gutter cleaning, pruning, lawn care, or window washing do not need to be registered.

RENOVATION AND DEMOLITION REQUIREMENTS

Survey Requirements

Prior to commencing a renovation or demolition, the building owner or contractor must obtain a good faith survey for the presence of asbestos performed by an AHERA Building Inspector.

Certain materials may be presumed to be positive and are not required to be sampled by an AHERA Building Inspector.

If the building is an owner-occupied single-family residence and the renovation is being performed by the owner, the owner's assessment of the building meets this requirement, in lieu of the AHERA Building Inspector.

Notification Requirements

Regardless of the presence of asbestos, the building owner or contractor is required to submit a notification of the renovation or demolition at www.bentoncleanair.org.

When asbestos is not identified in the survey, there is no fee for the notification. If asbestos containing material is identified, the notification must be submitted with the appropriate fees and the appropriate wait period must be observed prior to work commencing.

AHERA Building Inspector

An AHERA Building Inspector is trained to identify materials suspected of containing asbestos, pull a sample of the materials, and submit them to an approved lab for testing.

A list of AHERA Building Inspectors who perform work in Benton County can be located at www.bentoncleanair.org in the 'Asbestos' section. The list is not comprehensive and other inspectors may be available.

If you are a contractor who regularly performs renovation or demolition work, it may be beneficial to obtain your AHERA Building Inspector certification. A link to a list of training providers is available under the 'Asbestos' section of our website. The training program is managed by the EPA's Model Accreditation Program.

Asbestos Abatement

Typically, asbestos abatement must be completed by a contractor licensed to performed such work by the WA Department of Labor & Industries. However, the owner of an owner-occupied single family residence may do his/her own abatement.

Common Asbestos Materials

There are over 4,000 known asbestos containing building materials. However, the following materials are commonly present:

- Insulation on piping, boilers, or furnace ducts
- Resilient floor coverings (vinyl asbestos, asphalt, and rubber), the backing on sheet vinyl flooring, and adhesives used for flooring
- Cement sheet, millboard, and paper used as insulation around furnaces and woodstoves
- Soundproofing or decorative textures troweled on walls and ceilings
- Patching and joint compound for walls and ceilings
- Cement asbestos board siding and roofing
- Window caulking or putty
- Roof felt or built up asphaltic roofing
- Stucco or other textured sidings
- Loose, blown-in insulation, such as vermiculite

Applicable Rules

Benton Clean Air Agency Regulation I, Article 8 Asbestos

40 CFR 61, Subpart M Asbestos National Emission Standards for Hazardous Air Pollutants (Asbestos NESHAP)

Washington Department of Labor & Industries also regulates renovation and demolition work as it pertains to asbestos, separate of the Benton Clean Air Agency. Please consult WA Department of L&I for more information.

Asbestos Hazards

Asbestos was widely used in many building products because of its tensile strength and chemical and thermal resistance. However, asbestos is extremely hazardous to those exposed to it. Asbestos is a carcinogen that causes asbestosis, lung cancer and mesothelioma.

Due to this hazard, laws have been enacted to prevent asbestos exposure. These laws require surveying and the safe handling and disposal of asbestos containing materials.

Benton Clean Air Agency

www.bentoncleanair.org

(509)783-1304

526 S. Steptoe St., Kennewick, WA 99336

Look for the contractor registration number in advertisements for contractors. The law requires this number to be included in all advertisements, including the Yellow Pages.

Avoid lien problems

Before starting work, a contractor must provide you with a disclosure statement that advises consumers about lien releases. This requirement applies to projects that have a combined cost of labor and materials in excess of $1,000.

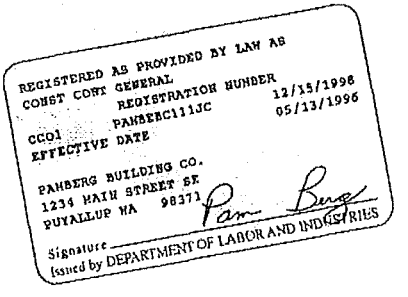
Understanding lien releases is very important because a contractor's $4,000 or $6,000 bond may not be enough to cover a claim if one arises on your job. If any supplier of materials, worker or subcontractor is not paid, a lien may be filed against your property to force you to pay. You could pay twice for the same work. Or worse, an unpaid lien could lead to foreclosure. (For remodeling projects, liens can only be filed for the amount left unpaid to the general contractor).

Liens can be avoided. If during your project you receive a "notice of intent" to file a lien on your property, you may ask your general contractor to provide you with lien release documents from the supplier or subcontractor who has sent this notice. You can make the check payable to both the contractor and the material supply house.

The contractor is required to provide you with more information about lien release documents if you request it.

If you have requested lien release documents, avoid making final payment until you have received a lien release from suppliers & contractors.

Smart consumers ask questions, track progress


REGISTERED AS PROVIDED BY LAW AS
CONST CONT GENERAL
REGISTRATION NUMBER
PAMBERC111JC
12/15/1996
05/13/1996
CCO1
EFFECTIVE DATE
PAMBERG BUILDING CO.
1234 MAIN STREET SE
PUYALLUP WA 98371
Signature
Issued by DEPARTMENT OF LABOR AND INDUSTRIES

Before you hire a contractor or remodeler:

1. Plan your project carefully. If you know what you want done and can clearly explain it, you're less likely to misunderstand instructions or encounter cost overruns.

2. Try to interview several qualified contractors and solicit written bids. Bids that are significantly lower than all others should be questioned.

3. Make sure the contractor or remodeler is properly registered and bonded. Ask them to show you their L & I contractor registration card.

4. Ask for references. Then check them out.

5. Be wary of contractors who ask you to pick up the building permit. In most instances, the contractor is required to take out the permits. Permits are your protection. Make sure they are in place as work progresses and that your contractor or remodeler is named on the permit.

6. Try to anticipate problems and inconveniences, such as cost overruns or clean up, and come to agreement with your contractor on how they will be handled before he or she begins work.

Once you have hired a contractor or remodeler:

7. Obtain a written contract that includes price, sales tax and, if applicable, permit fees. Specify the work to be performed, materials used, start and completion dates and payment schedules.

8. Make sure you understand the terms before you sign anything.

9. When advancing money for materials, it may be possible to make checks payable to both the contractor and the supply house. Be very cautious about paying for work not yet completed.

10. Put all change orders in writing. Ask questions as work progresses. If you do not like an answer or don't understand it, stop the work until you do.

11. Make frequent inspections and consult your local building department. Be sure that all permits are in place and that inspections are in order.

It is illegal for contractors to advertise, submit bids or perform work without a valid contractor registration.

For more information, call an L & I service center listed in this brochure or the statewide toll-free hotline: 1-800-647 -0982.

Call one of these L& I service centers for contractor information
Region 1
Bellingham 360-647-7300, Everett 425-290-1300, Mt. Vernon 360-416-3000

Region 2
Bellevue 425-990-1400, Seattle 206-281-5400, Tukwila 206-248-8240

Region 3
Bremerton 360-415-4000, Port Angeles 360-417 -2700, Tacoma 253-596-3800

Region 4
Aberdeen 360-533-8200, Longview 360-577-2200, Tumwater 360-902-5799, Vancouver 360-896-2300

Region 5
East Wenatchee 509-886-6500, Kennewick 509-735-0100. Moses Lake 509-764-6900, Okanogan 509-826-7345, Walla Walla 509-527-4437, Yakima 509-454-3700

Region 6
Colville 509-684- 7417, Pullman 509-334-5296, Spokane 509-324-2600

BENTON COUNTY BUILDING PERMIT APPLICATION

102206 E. WISER PARKWAY, KENNEWICK, WA 99338 / PHONE (509)735-3500 APPLICATION #

Please complete in full and legibly. Incomplete information may slow down the review process.

BUILDING OWNER_____ **PHONE (HM)**_____

MAILING ADDRESS_____ **PHONE (WK)**_____

LEGAL PROPERTY OWNER_____ **PHONE**_____

MAILING ADDRESS_____ **CITY**_____

TAX PARCEL NUMBER 1-___ ___ ___ ___ **-** ___ ___ ___ **-** ___ ___ ___ ___ **-** ___ ___ ___

CONTACT PERSON_____ **PHONE** _____

EMAIL (Legible)_____

PROJECT LOCATION:_____ **CITY**_____ **ZIP CODE:**_____

CONTRACTOR_____**MAILING ADDRESS**_____

PHONE_____ **L&I LICENSE #**__ __ __ __ __ __ __ __ __ __ __ __ **EXP. DATE** __ __ **/** __ __ **/**__ __

LENDING FIRM_____ **PHONE**_____

MAILING ADDRESS_____

BUILDING USE: RESIDENTIAL _____ **AGRICULTURAL (USE)** _____ **COMMERCIAL** _____

CLASS OF WORK: [ ] NEW [ ] ADDITION [ ] REPAIR [ ] MOVE [ ] DEMO [ ] OTHER

SPECIFIC USE OF BUILDING:_____

DESCRIPTION OF PROJECT:_____

VALUATION OF WORK:_____ **LOT SIZE:**_____

SQUARE FOOTAGE: MAIN FLOOR:_____ UPPER FLOOR:_____ GARAGE:_____

BASEMENT:_____ HEATED: [ ] YES [ ] NO OTHER:_____

NUMBER OF: STORIES_____ BEDROOMS_____ BATHROOMS_____

IS AN ADDRESS POST ON SITE? [ ] YES [ ]NO **CONTACTED BENTON CLEAN AIR AGENCY? [ ] YES [ ] N/A**

WITHIN 50' OF POWER LINE? [ ] YES [ ] NO

PLUMBING (NEW ONLY)

QTY.	TYPE OF FIXTURE OR ITEM	QTY.	TYPE OF FIXTURE OR ITEM
	WATER CLOSET (TOILET)		HOSE BIBBS (2 MIN)
	SHOWER		WATER HEATER
	BATHTUB		FLOOR DRAIN OR FLOOR SINK
	SINK OR WASH BASIN		CLOTHES WASHER
	KITCHEN SINK & DISPOSAL		LAUNDRY TRAY/SINK
	DISHWASHER		OTHER

MECHANICAL (NEW ONLY)

QTY.	TYPE OF FIXTURE OR ITEM	QTY.	TYPE OF FIXTURE OR ITEM
	HEATER-FURNACE		GAS FIXTURES
	EXHAUST FAN		PROPANE TANK
	DRYER		FIREPLACE(S)

I hereby certify that I have read and examined this application to know the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not. All structures located within a floodplain are subject to the requirements of Chapter BCC 3.26 of Benton County Code, including certification by a Washington State Registered surveyor and/or Engineer as it may be required.

SIGNATURE:_____

PRINT NAME: **DATE:**

** An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing**

STATE OF WASHINGTON)
County of Benton)

To be completed by property/building owner. Please initial applicable items where marked "INT" and complete bottom signature area in full.

1. **DECLARATION OF OCCUPANCY USE (Accessory buildings only, i.e., garages, shops, barns, etc.)**

INT_____ I **agree** that the structure for which a building permit is requested does not permit the occupancy of the structure for any use other than what was approved/permitted, or that does not comply with the requirements for the zone which it is placed per Title 11 BCC, unless approved by the Benton County Planning Division or by Conditional Use Permit. This structure will not be used or occupied for any use not permitted in accordance with the adopted International Residential and/or Building Codes. Violations will result in **five hundred dollar ($500.00) infraction(s) for the first violation; a second or subsequent violation of the same provision, any person or contractor shall be found guilty of a misdemeanor.** ***[BCC 3.04.065 and/or BCC 11.43.170]***

A misdemeanor is a crime punishable by a fine of not more than one thousand dollars, or by imprisonment in a county jail for not more than ninety days, or by both such fine and imprisonment. ***[RCW 9A.20.010 (2)]***

2. **DECLARATION OF ACCESS CONSTRUCTION AND MAINTENANCE (NOT REQUIRED for accessory buildings)**

INT_____ Said structure is served by perpetual non-exclusive access easement, auditor's file number _____ , a private driveway in excess of 200' or an unimproved county right of way (contact B.C. Public Works for construction details) and the responsibility for construction and maintenance of this access to the location that the building will be constructed on shall be vested with the property owner and not Benton County.

INT_____ Said structure is served by an access easement, private driveway or unimproved county right of way not reflected by an auditor's file number, but one of the following applies.
(Initial one statement only)

INT_____ The following access easement, unimproved country right of way or private driveway has been granted a trail access permit to utilize the unimproved county right of way (access permit attached):_____

INT_____ The following access easement or private driveway is or will be graded and compacted with two (2) inches of base course crushed surfacing; the base course (11/2" minus) is to be in accordance with the specifications set forth in Standard Specifications for Road, Bridges and Municipal Construction published by the Washington State Department of Transportation. A minimum improved Fire apparatus turn around shall be provided for private driveways in excess of 150'. BCC 3.18.045: _____

INT_____ The following access easement or private driveway is or will be graded and compacted with two (2) inches of base course crushed surfacing; the base course (11/2" minus) is to be in accordance with the specifications set forth in Standard Specifications for Road, Bridges and Municipal Construction published by the Washington State Department of Transportation: _____

3.

INT_____ Is your property accessed across a private bridge: YES_____ NO_____

4. **DECLARATION OF OWNER BUILDER**

INT_____ There will not be a general contractor (required to be registered) performing any work on the structure. The owner will verify Sub-contractor(s) license registration.

I, _____ , certify under penalty of perjury under the laws of
(PRINT NAME)
the State of Washington that the foregoing initialed statement(s) for the structure is (are) true and correct.
Property parcel number _____ for proposed structure location.

_____ _____ _____
Signature of property/building owner Date City, State (where signed)

By affixing their signature to this document, the parties agree to conduct this transaction by electronic means

(Updated 2/26/2025)

Community Development Department
Prosser Office:
620 Market Street, 1st Floor
Prosser, WA 99350
www.co.benton.wa.us

Building Division
102206 E. Wiser Parkway
Kennewick, WA 99338
Phone: (509) 735-3500
www.co.benton.wa.us

INFORMATION REQUIRED ON PLOT PLAN

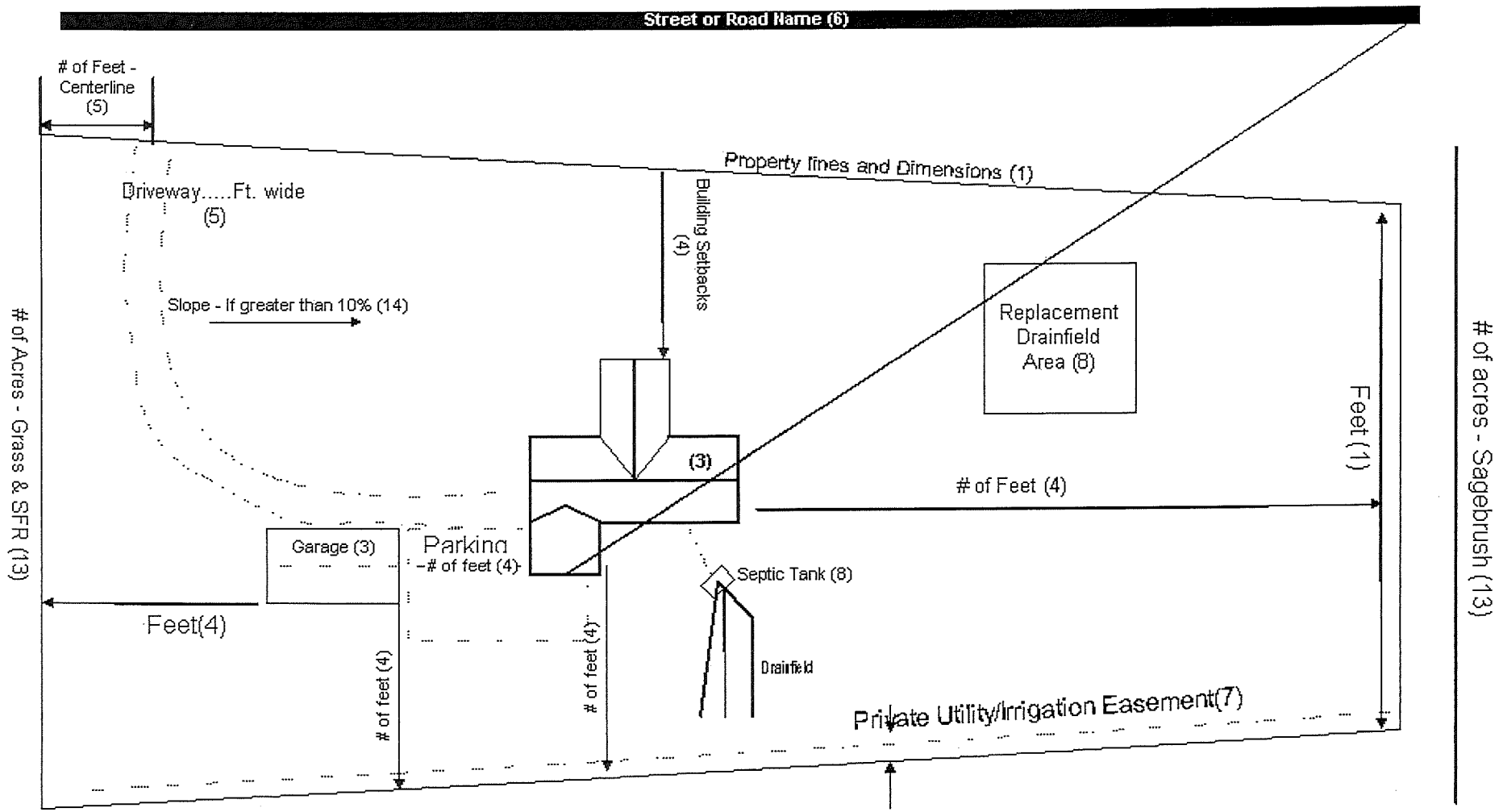
One complete scaled drawing on 8 l/2" x ll" sheet of paper showing the following:

1. Property lines and dimensions
2. Direction of North
3. The proposed structure and all existing buildings
4. Setback of proposed structure from all property lines
5. Indicate main driveway location and distance from centerline of the driveway at the property line to nearest property corner. For parcels that are accessed through an adjacent property or a private road easement, indicate the route from the property line to the public road that will be used for access
6. All road names
7. Existing easements and any adjacent utility/access easements
8. Location of septic tank, drain field or sewer lines
9. Well location
10. Property address
11. Tax parcel number
12. Specify scale
13. Describe adjacent properties ground cover (sagebrush, pasture grass, weeds, etc.)
14. Identify all slopes greater than 10%
15. Date and signature of person drawing plot plan
16. Canals, streams, or drainage easements that your driveway must cross
17. Any proposed permanent or temporary structure including, but not limited to: buildings, signs, fences, etc. within 20 ft. of any PUD facility, such as power lines, power poles, and transformers, require prior approval from the PUD

SAMPLE PLOT PLAN

North Arrow (2)

Parcel # (11)
Name and
Street Address (10)



NOTE!! All Easements must be shown and identiifed.

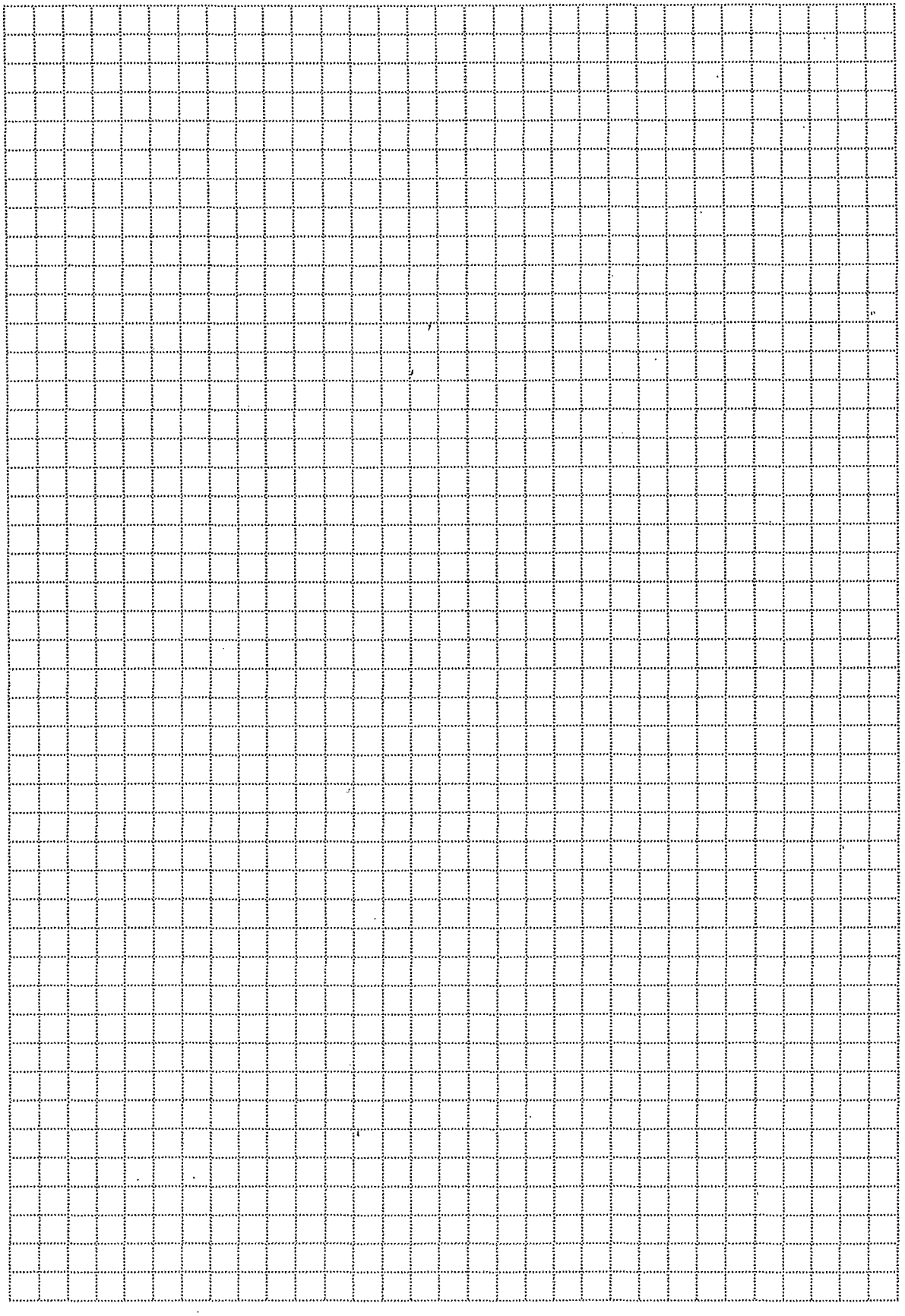
Drawn to Scale - Note Scale on plot plan ___" =____' (12)

# of acres - Sagebrush (13)

SITE PLAN FOR _____

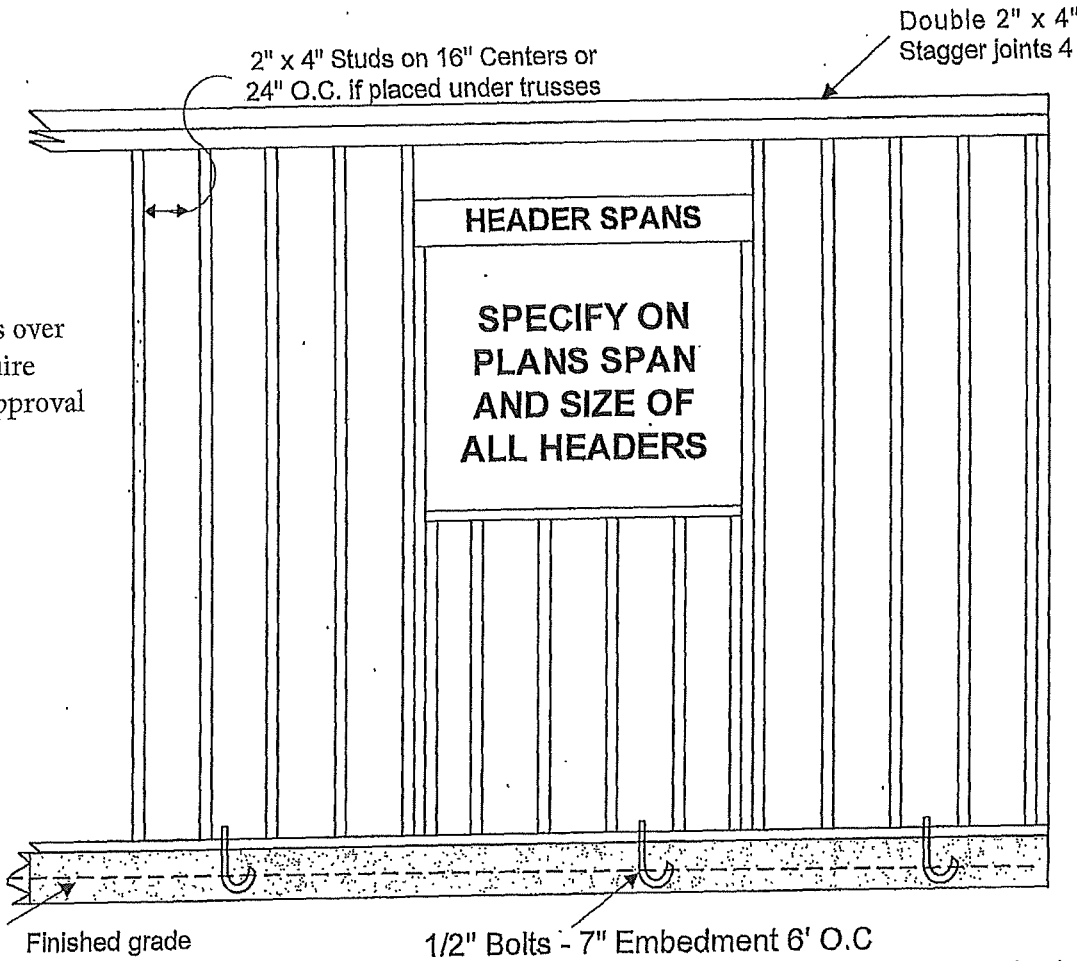
Scale 1" = 50' or 1" = 100'

Please specify PLEASE INDICATE NORTH



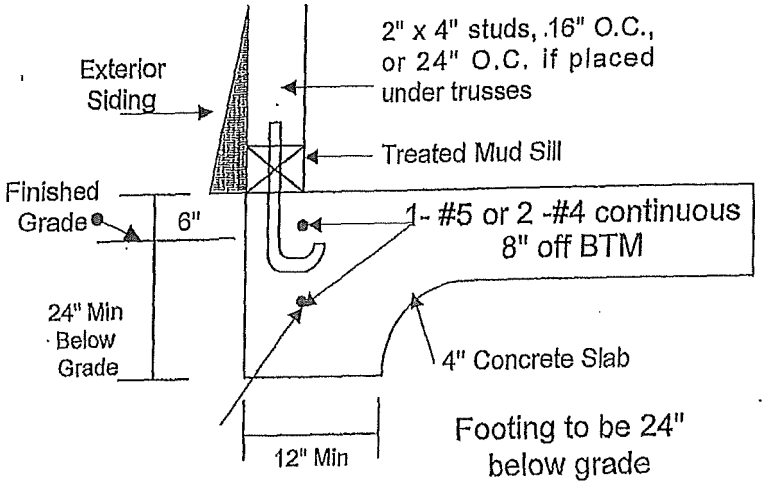
DETACHED STORAGE BUILDING OR GARAGE OVER 4,000 SQUARE FEET REQUIRES SPECIAL DESIGN

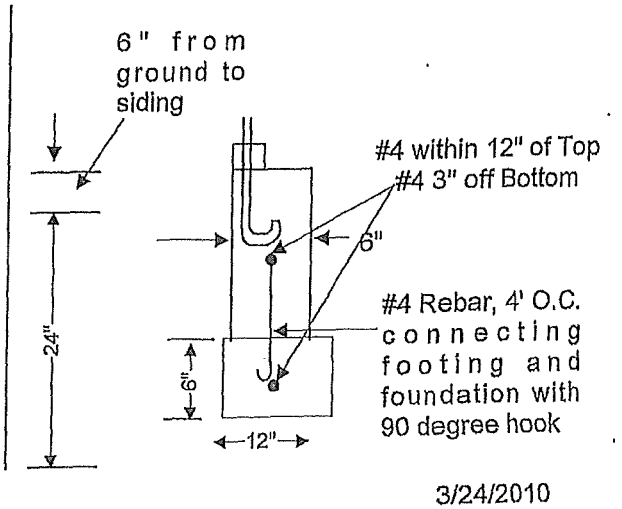
EXAMPLE ONLY



Stud heights over 10' will require engineers approval

FOUNDATION PLAN - MONO POUR OR SPREAD FOOTINGS

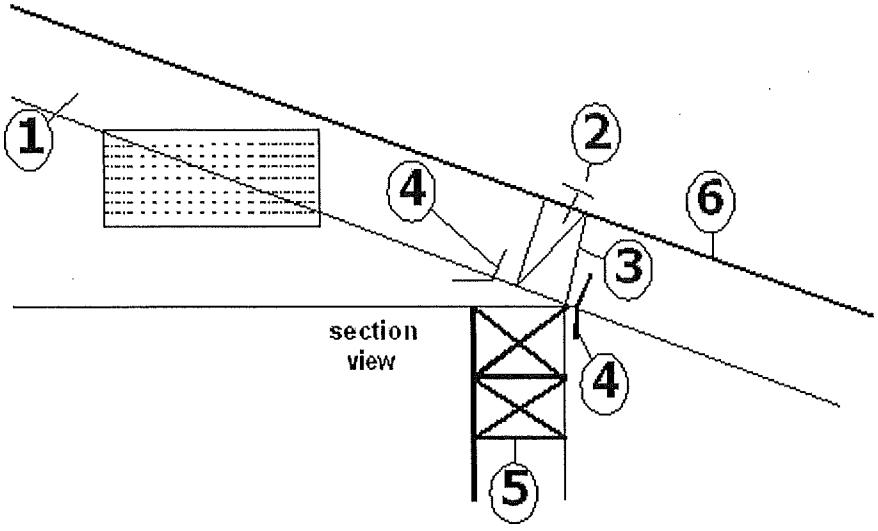




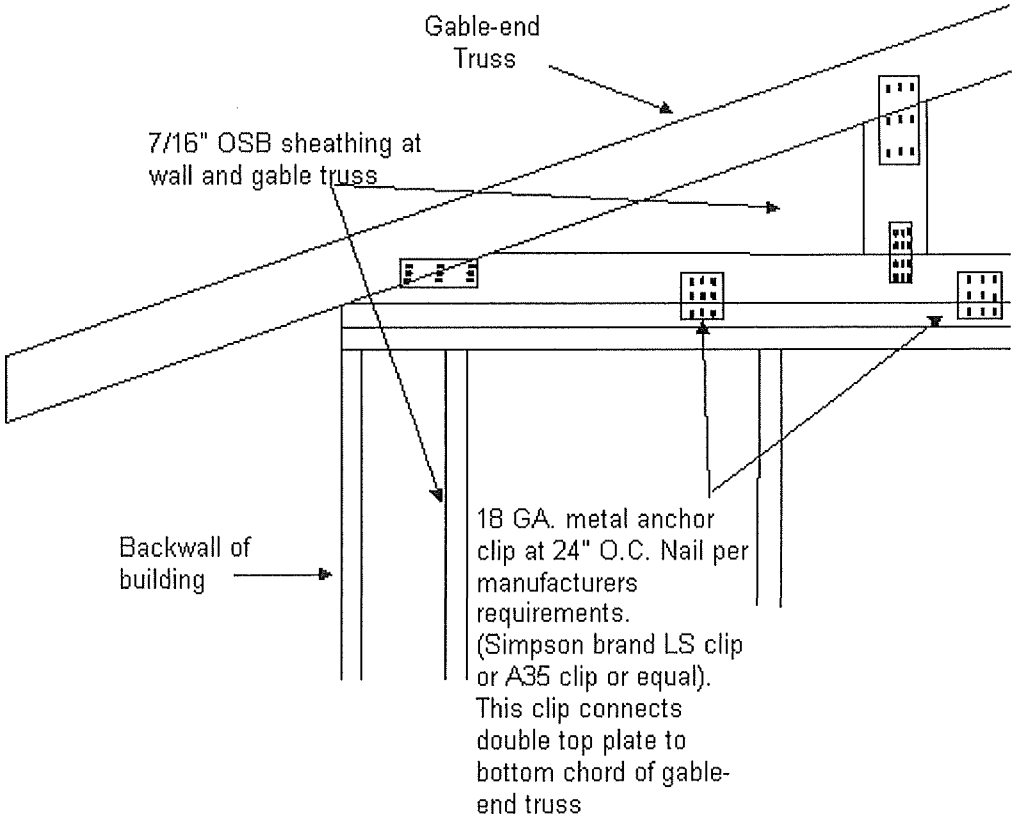
3/24/2010

TRUSS BLOCKING

1. Pre manufactured trusses @ 24" o.c.
2. Roof sheathing must nail directly to blocking w/8d nails @6" o.c.
3. Solid blocking, full depth of space; or use top-beveled 2X block & toe nail to plates. No vents in any of these blocks.
4. Use "Simpson" LS50 clips, 1 per block front OR back side of block as shown. (top beveled blocks can be toe-nailed to double tope plate.)
5. Double top plates.
6. Roof sheathing (typical 7/16: OSB, minimum)



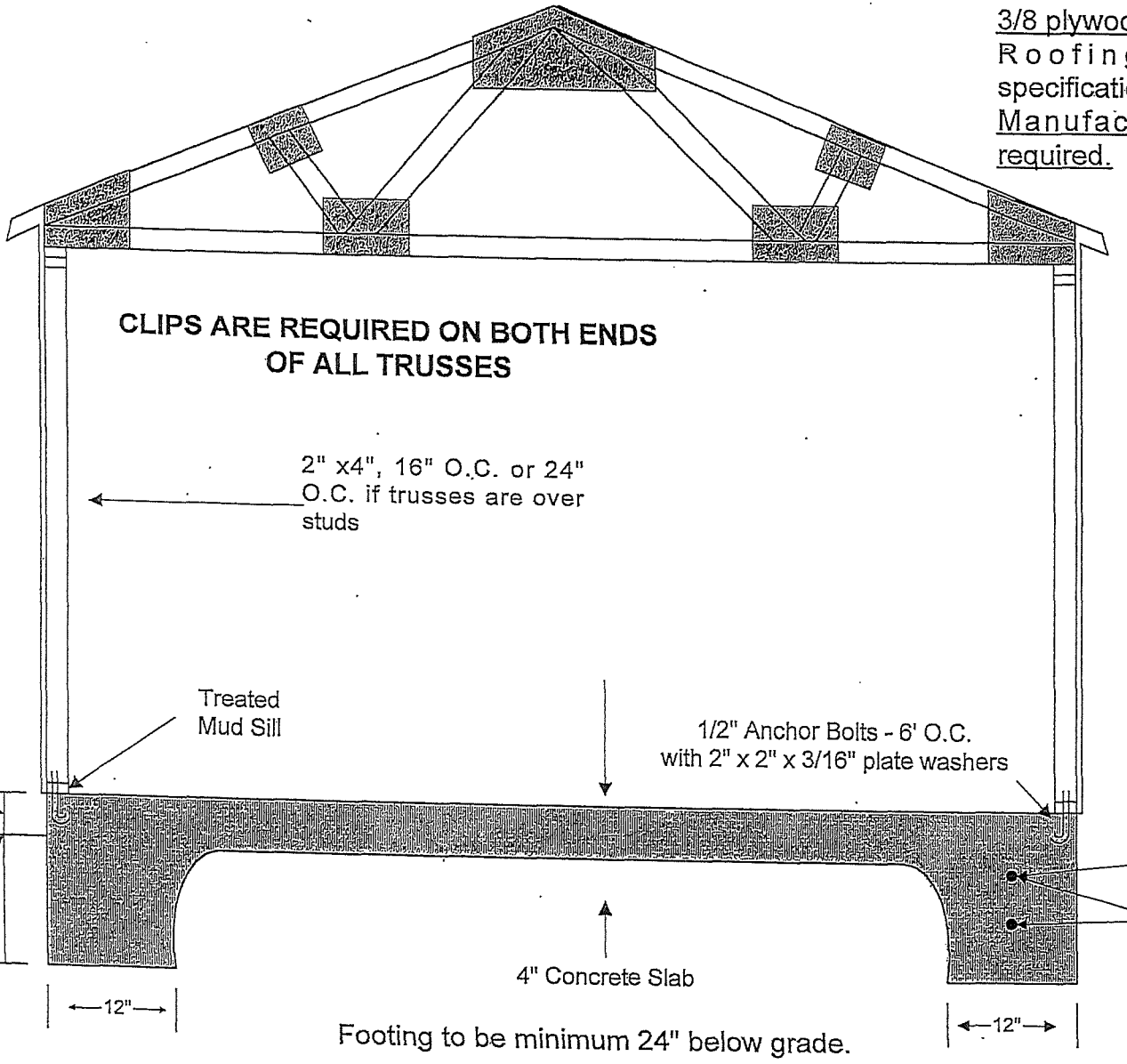
FRAMING ELEVATION - TRUSSES PARALLEL TO BACKWALL



BENTON COUNTY - DETACHED STORAGE BUILDING OR GARAGE

Over 4,000 Square feet requires special design.

Submit design for stick frame.
No wood shakes or shingles allowed.
3/8 plywood sheathing or equal
Roofing per manufactures specifications.
Manufactured truss engineering required.



Plywood Sheathing to be on all exterior walls. A minimum of 3/8"

Submit a floor plan showing all door and window locations and ridgeline

Footing to be minimum 24" below grade.

3/24/2010

TABLE R602.10.5
MINIMUM LENGTH OF BRACED WALL PANELS

METHOD (See Table R602.10.4)		MINIMUM LENGTH[a] (Inches) Wall Height					CONTRIBUTING LENGTH (inches)
		8 feet	9 feet	10 feet	11 feet	12 feet	
DWB, WSP, SFB, PBS, PCP, HPS, BV-WSP		48	48	48	53	58	Actual[b]
GB		48	48	48	53	58	Double sided = Actual Single sided = 0.5 × Actual
LIB		55	62	69	NP	NP	Actual[b]
ABW	SDC A, B and C, ultimate design wind speed < 140 mph	28	32	34	38	42	48
	SDC D_0, D_1 and D_2, ultimate design wind speed < 140 mph	32	32	34	NP	NP	
CS-G		24	27	30	33	36	Actual[b]
CS-WSP, CS-SFB	Adjacent clear opening height (inches)						
	≤ 64	24	27	30	33	36	Actual[b]
	68	26	27	30	33	36	
	72	27	27	30	33	36	
	76	30	29	30	33	36	
	80	32	30	30	33	36	
	84	35	32	32	33	36	
	88	38	35	33	33	36	
	92	43	37	35	35	36	
	96	48	41	38	36	36	
	100	—	44	40	38	38	
	104	—	49	43	40	39	
	108	—	54	46	43	41	
	112	—	—	50	45	43	
	116	—	—	55	48	45	
	120	—	—	60	52	48	
	124	—	—	—	56	51	
	128	—	—	—	61	54	
	132	—	—	—	66	58	
	136	—	—	—	—	62	
	140	—	—	—	—	66	
	144	—	—	—	—	72	
METHOD (See Table R602.10.4)		Portal header height					
		8 feet	9 feet	10 feet	11 feet	12 feet	
PFH	Supporting roof only	16	16	16	Note c	Note c	48
	Supporting one story and roof	24	24	24	Note c	Note c	
PFG		24	27	30	Note d	Note d	1.5 × Actual[b]
CS-PF	SDC A, B and C	16	18	20	Note e	Note e	1.5 × Actual[b]
	SDC D_0, D_1 and D_2	16	18	20	Note e	Note e	Actual[b]

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 mile per hour = 0.447 m/s.

NP = Not Permitted.

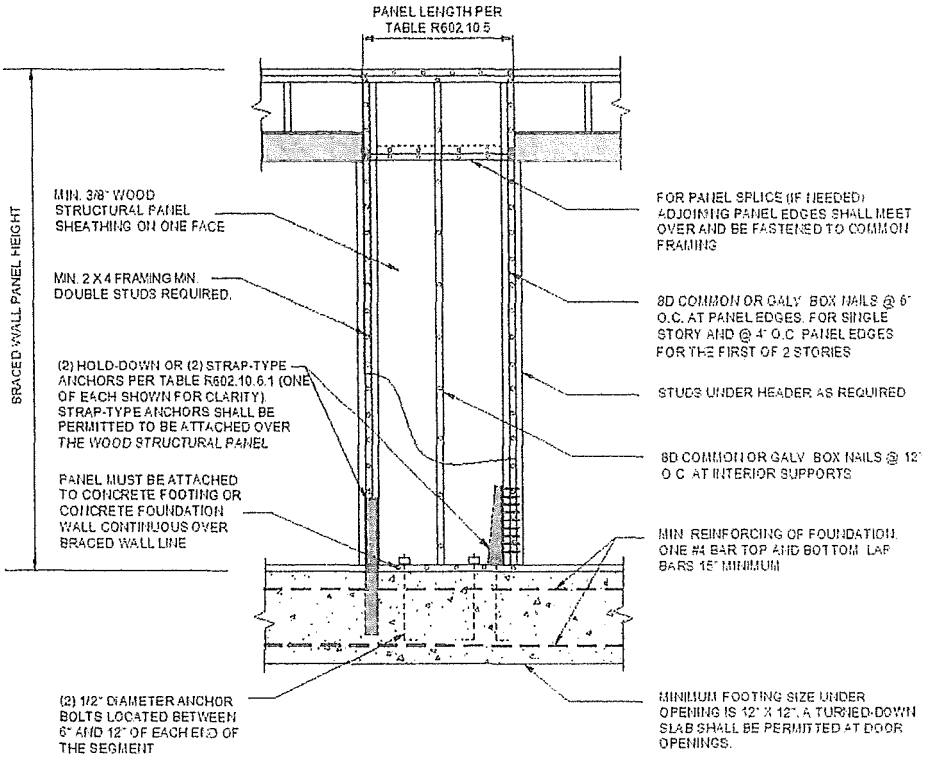
a. Linear interpolation shall be permitted.

b. Use the actual length where it is greater than or equal to the minimum length.

c. Maximum header height for PFH is 10 feet in accordance with Figure R602.10.6.2, but wall height shall be permitted to be increased to 12 feet with pony wall.

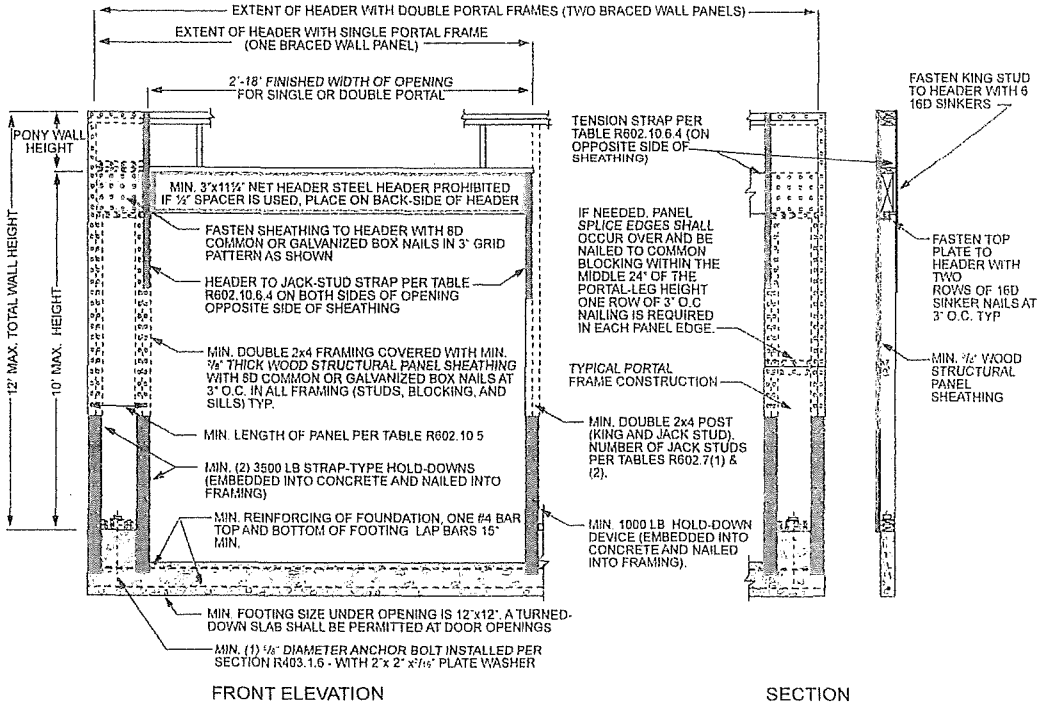
d. Maximum header height for PFG is 10 feet in accordance with Figure R602.10.6.3, but wall height shall be permitted to be increased to 12 feet with pony wall.

e. Maximum header height for CS-PF is 10 feet in accordance with Figure R602.10.6.4, but wall height shall be permitted to be increased to 12 feet with pony wall.



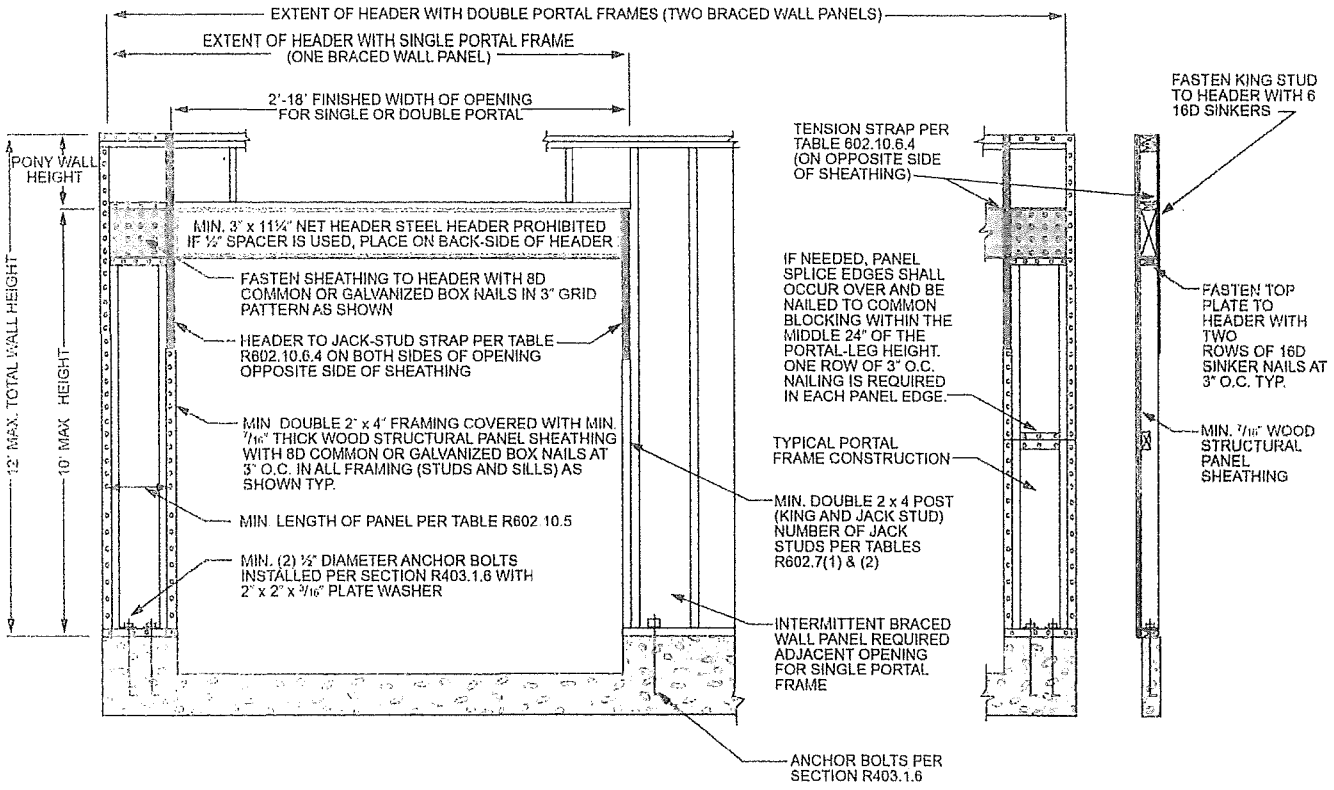
For SI: 1 inch = 25.4 mm.

FIGURE R602.10.6.1
METHOD ABW—ALTERNATE BRACED WALL PANEL



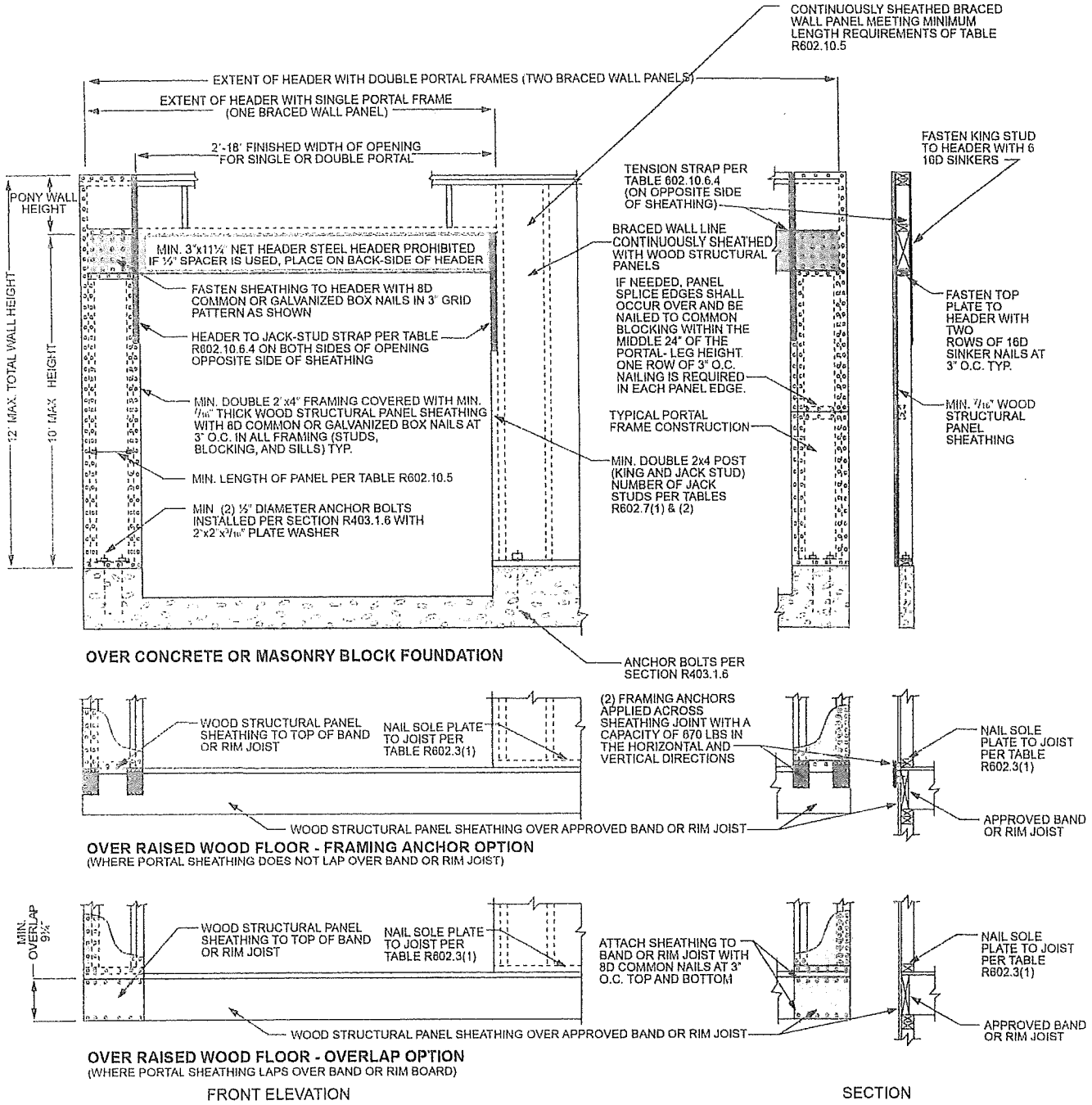
For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE R602.10.6.2
METHOD PFH—PORTAL FRAME WITH HOLD-DOWNS



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE R602.10.6.3
METHOD PFG—PORTAL FRAME AT GARAGE DOOR OPENINGS IN SEISMIC DESIGN CATEGORIES A, B AND C



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

FIGURE R602.10.6.4
METHOD CS-PF—CONTINUOUSLY SHEATHED PORTAL FRAME PANEL CONSTRUCTION

FRONT GARAGE SHEAR PANELS ONLY

NO HOLD DOWN DEVICES REQUIRED

These panels apply only to garage-door side panels. If any of the following conditions cannot be met, 2'-8" panels with hold-downs or "Portal Frames" must be used.

Single-story garage walls at each side of a garage door opening.

Light-weight roofing (Asphalt composition shingles)

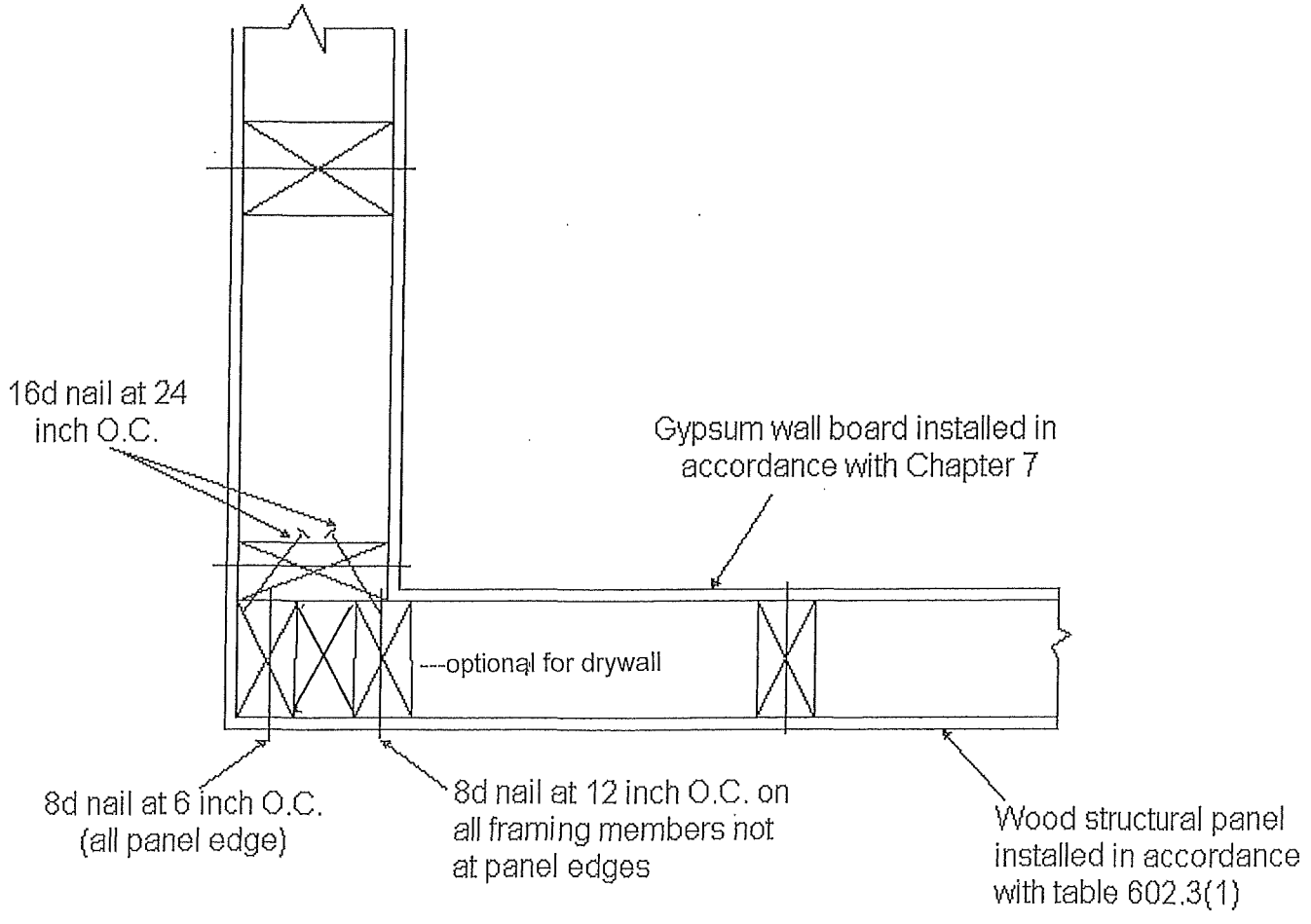
Entire house and garage must be sheathed with OSB or Plywood. No other materials allowed.

All of these braced wall panels must have 1/2 inch anchor bolts, 2 x 2 x 3/16 washer and nut placed at panel quarter points, with a minimum 7 inch anchor bolt embedment into foundation.

Truss blocking must be installed over both panels in accordance with "Truss Blocking" handout.

Special corner framing per the following drawing:

OUTSIDE CORNER DETAIL



CATCHING RAIN:
Low Impact Development — Protecting Our Waters

1

Low Impact Development (LID) is one way we can help keep our waterways, as well as the surrounding land, healthy and safe. This is a beautiful place to live, so it is no wonder that an additional 1.9 million people are expected to move here by 2040. As we grow, we replace forests and prairies with rooftops and pavement, thereby increasing stormwater runoff and the associated pathogens and chemicals it carries to our waterways. The health of humans and our ecosystems is threatened.

Look for the other helpful fact sheets in this series:

✔ 1. Low Impact Development
2. LID Stormwater Regulations
3. LID Development Process
4. Pavement Maintenance
5. Rain Garden Maintenance
6. Rain Garden Construction Checklist
7. Rain Garden Construction Sequencing

What's the problem with stormwater?

Stormwater is created by precipitation (rain or snowmelt) that doesn't soak into the earth but instead creates puddles and runs off. This stormwater can pick up pollution and carry it directly into storm drains, streams, rivers, lakes, inlets, and bays.

Some consequences of stormwater pollution and increased surface runoff include:

- Pollutants such as motor oil, yard chemicals, and pet wastes contaminate local waterways, threatening human health and wildlife health.
- Numerous beaches are too polluted to harvest shellfish.
- Several fish species face the threat of extinction.
- Groundwater is not replenished, decreasing drinking water supplies and drying out streambeds.
- Winter rain quickly runs off paved surfaces and into streams, leading to the scouring of stream channels.

What is Low Impact Development and how can it help?

LID seeks to manage stormwater onsite—either by encouraging it to soak into the ground or using plants to transpire it back to the atmosphere. LID helps keep pollution out of our waterways. It focuses on recreating or protecting existing natural landscape features to minimize the amount of impervious (hard) surfaces. Stormwater is then treated with soils that have been amended with compost, vegetation, and other techniques.

LID strategies can be used in virtually every situation—residential homes or commercial businesses, in rural or urban settings. Some benefits include:

- Creates more beautiful and easily managed landscapes.
- Encourages water to soak into the ground, replenishing drinking water supplies.
- Reduces contamination of local waterways, including recreational and shellfish growing areas.
- Preserves or restores trees and other vegetation, attracting birds, butterflies and other wildlife.
- Can reduce development costs (decreased infrastructure and land clearing costs) as well as stormwater management costs.

Vegetation Preservation and Restoration

During site development, clearing and grading should be minimized as much as possible. This will protect native soils and vegetation while also preventing compacted soils that do not allow water to soak in as readily. Mature trees are not easy to replace and their contribution to managing stormwater run off and preventing erosion is invaluable. When clearing land, small native plants can be removed and saved for replanting once development is complete.

Reducing lawn sizes and replacing that space with native or water-wise plants reduces maintenance and watering needs and may reduce the need for fertilizers and pesticides.

Green roof, Portland, OR. *Photo: Erica Guttman*

CATCHING RAIN:
Washington's New LID Stormwater Regulations

2

Washington State has new rules for how cities and counties manage stormwater runoff. Washington cities and counties under a Municipal Stormwater Permit have a legal obligation to prevent pollution from rainwater that washes over roofs, driveways and developed areas. The new rules will require many future developments to incorporate certain Low Impact Development (LID) techniques.

LID techniques imitate the natural processes that help rainfall absorb into the ground, instead of running into pipes and large holding ponds that drain to streams and water bodies. LID measures, such as rain gardens, bioretention facilities, and permeable pavements, treat and retain stormwater at the source. These practices help preserve fish and wildlife by keeping natural waters clean.

Washington State Municipal Stormwater Permits, administered by the Department of Ecology, govern how cities and counties manage stormwater runoff. Three separate permits covering different parts of the state were recently updated, and LID requirements were added. The Phase I permit applies to Tacoma, Seattle, and the four most populous counties in Western Washington. The Phase II permit for Western Washington covers 80 cities and the urban portion of four counties. The Phase II permit for Eastern Washington covers 18 cities and urban areas of six counties.

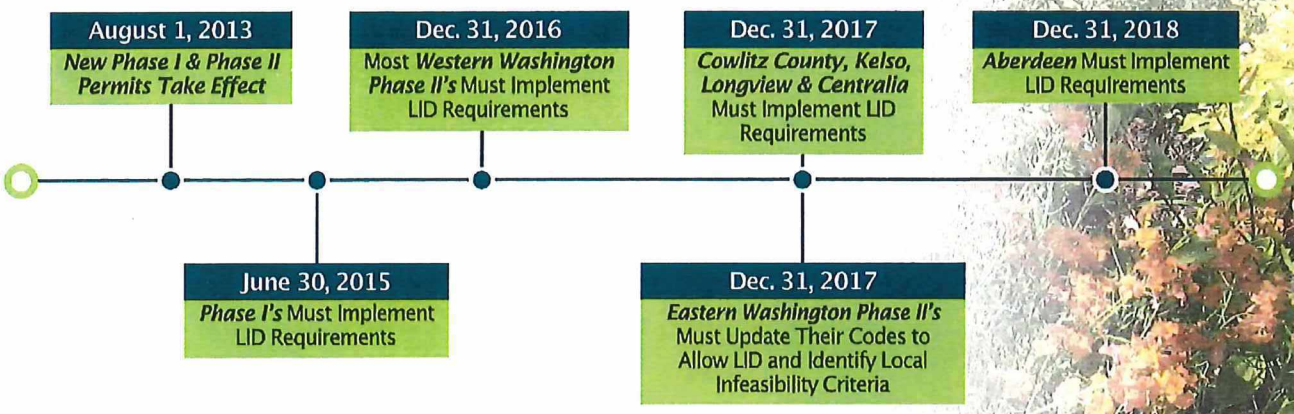
Look for the other helpful fact sheets in this series:

1. Low Impact Development
2. ✔ LID Stormwater Regulations
3. LID Development Process
4. Pavement Maintenance
5. Rain Garden Maintenance
6. Rain Garden Construction Checklist
7. Rain Garden Construction Sequencing

Local Development Codes will be Revised to Include LID Measures

The new permits require Phase I cities and counties to enact codes incorporating LID measures by June 30, 2015, and most Phase II jurisdictions in Western Washington must follow suit by the end of 2016. The Stormwater Manual for Western Washington, revised in 2012, contains the LID design details. The Eastern Washington permittees must update their codes, if needed, by December 31, 2017. The Department of Ecology, in collaboration with Eastern Washington permittees, is still developing a stormwater manual with LID practices for the east side of the state.

Timeline for New LID Requirements in Washington State



The permits for eastern and western portions of the state take substantially different approaches, because the soil, climate and geology vary substantially between the two regions, and these factors have a major influence on how stormwater runoff behaves. The LID measures for Eastern Washington are less developed, requiring only that initial steps be taken to implement LID techniques. For example, new developments in Eastern Washington will be required to retain runoff on-site or in regional stormwater facilities. Most Eastern Washington cities and counties covered by the permit already meet this requirement; the others can develop criteria for when LID measures are not feasible. LID measures must be allowed in Eastern Washington, but will not be required.

Continued >

Amending Soils

Healthy soil grows healthier plants, allows stormwater to soak in, stores water for plants in the summer, and reduces the need for chemicals such as pesticides and fertilizers.

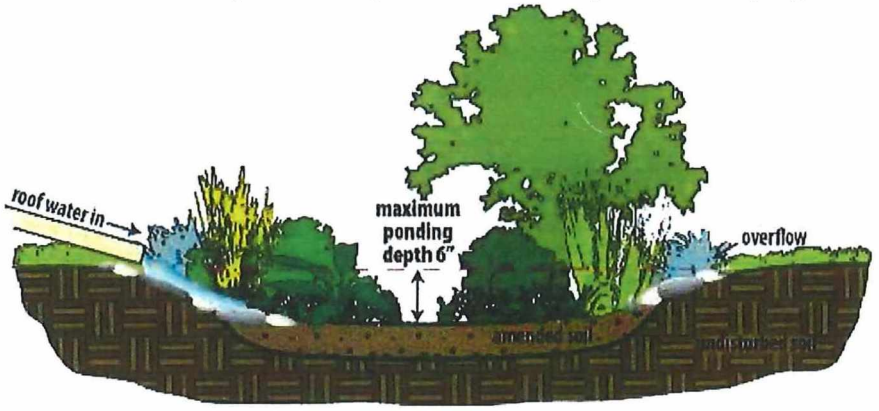
Where soil must be disturbed, breaking up compaction, replacing topsoil or tilling in compost is very beneficial.

Compost in landscapes filters and slows rainwater and results in healthier soils and plants. *Photo: Erica Guttman*

Rain Gardens

Rain gardens are a landscape amenity that also serves to treat polluted runoff and manage drainage by using natural processes: plants and soils work together to filter and absorb water from streets, rooftops, driveways and other hard surfaces.

This landscaping technique is beautiful and inviting to birds and butterflies. Using native plants and amended soils can reduce maintenance needs. Rain gardens can be constructed in many different shapes and can be landscaped with a variety of plants.



A rain garden is an attractive way to manage polluted runoff on site. *Photo: Erica Guttman*

Managing Water on Roofs

Green Roofs:

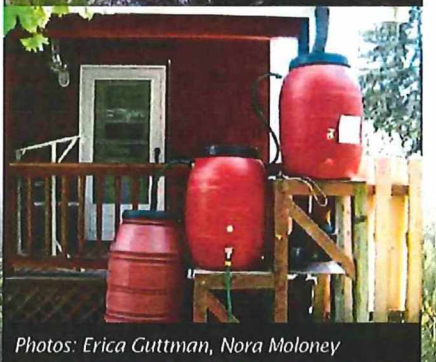
Green roofs are a great way to absorb and slow down roof runoff. They improve aesthetics to the residence or business as well as reduce noise and lower heating and cooling costs. Unlike conventional roofs, green roofs have less UV degradation, so they last much longer—it is recommended that after 50 years the waterproof membrane be replaced, but all other components can be reused on the same roof!

Directing Downspouts:

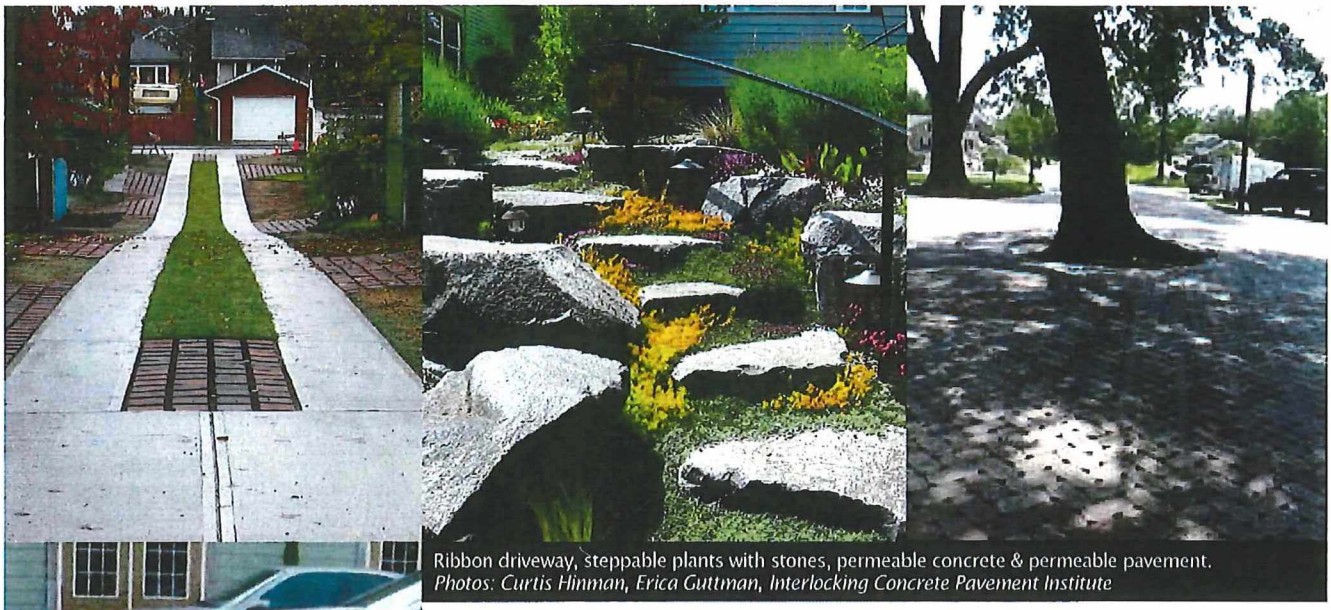
If green roofs are not an option, water can be directed from downspouts to areas such as a rain garden or planted area (versus pavement), where it can soak into the ground.

Rainwater Harvesting:

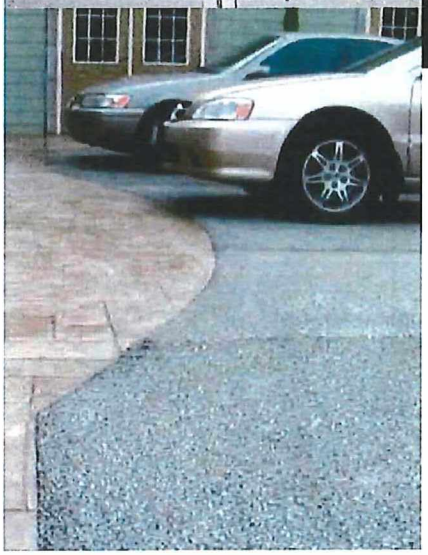
Rainwater harvesting combines two important LID goals: reduce flows from rooftops, and conserve water that comes from drinking-water supplies. Rainwater can be collected in rain barrels or cisterns where it can be stored. The collected water can then be used for a variety of things such as watering and cleaning jobs around the outside of homes.



Photos: Erica Guttman, Nora Moloney



Ribbon driveway, steppable plants with stones, permeable concrete & permeable pavement.
Photos: Curtis Hinman, Erica Guttman, Interlocking Concrete Pavement Institute



Options to Reduce Hard Surfaces

Driveways and walkways often account for a large amount of impervious area surrounding homes. Several LID solutions allow stormwater runoff to soak into the earth, preventing pollution from entering waterways and decreasing possible flooding risks.

Driveways and Parking Lots:

Many beautiful and functional materials and strategies allow rainwater to soak into driveways and parking lots. Reducing the length and width of driveway and parking areas is a perfect way to start reducing impermeable surfaces. Some style and material alternatives include the ribbon driveway, broken-concrete mosaic, permeable pavers, grid aggregate containment systems, pervious concrete and porous asphalt.

Walkways, Patios, and Decks:

Traditional concrete or mortared patios and walkways can be replaced with a variety of LID options. Raised decks made from recycled plastics are an excellent alternative. Walkways and patios can be constructed using stones or broken concrete with plantings in the gaps between stones to absorb water. Pervious systems, including stone pavers and interlocking plastic grids are great options as well.

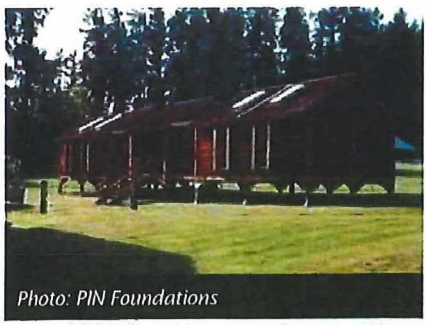


Photo: PIN Foundations

Foundations

When planning new construction or an addition to a home or business, a key strategy is to disturb soils as little as possible. Two LID techniques include:

Small Footprint:

A building's footprint can be reduced by decreasing the amount of space taken up all together or by creating two stories instead of a large one-story.

Minimal-excavation Foundation:

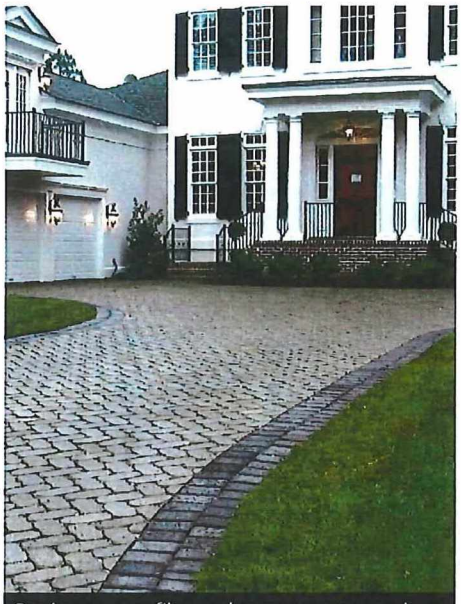
A minimal-excavation foundation dramatically limits soil disturbance over traditional grading and foundation installation.

CATCHING RAIN:
Low Impact Development — Protecting Our Waters

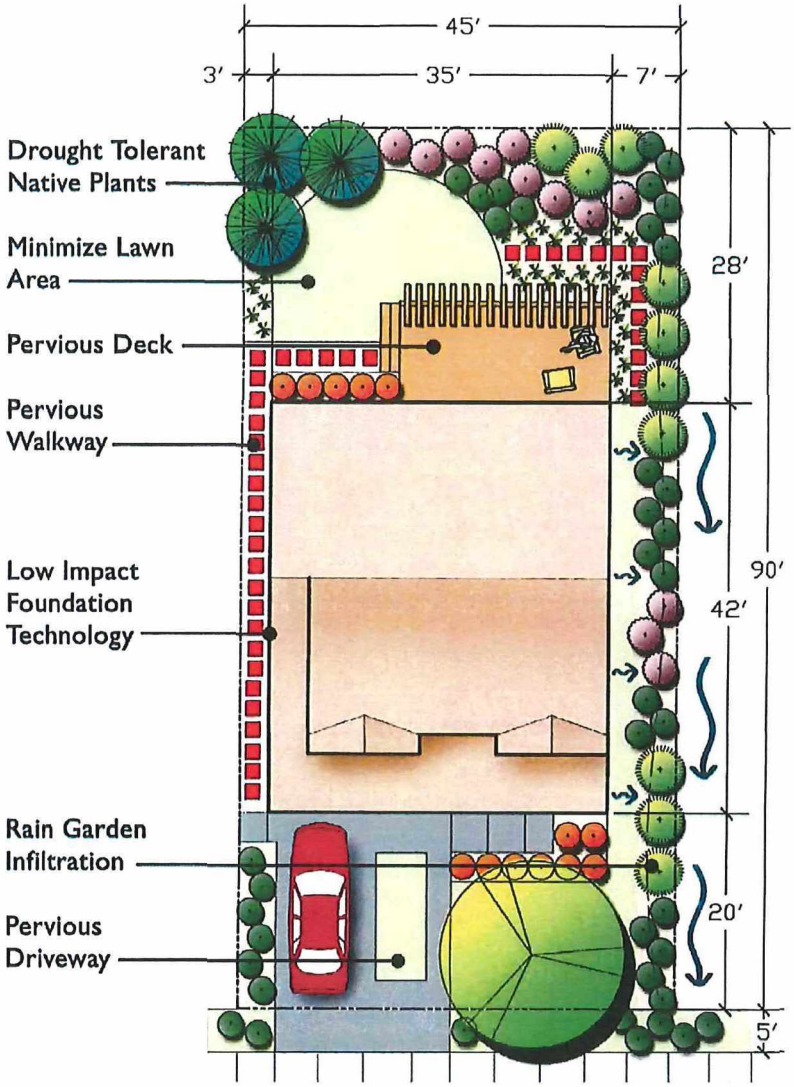
1

Residential Area with LID Features

LID practices may be incorporated around homes and businesses in countless ways. Just a few methods can be used or an entire lot can be designed and developed using LID techniques for everything from building design to landscape design. These techniques create beautiful homes and yards, keeping the sites safer from flooding risks. Utilizing LID methods helps to absorb polluted water into the earth, which protects water bodies, wildlife, and human health.



Pervious pavers filter and manage water on site.
Photo: Interlocking Concrete Pavement Institute.



Resources:

Washington Stormwater Center: http://www.wastormwatercenter.org/
Washington Department of Ecology: http://www.ecy.wa.gov/programs/wq/stormwater/
Puget Sound Partnership: http://www.psp.wa.gov/stormwater.php
Municipal Research and Services Center of Washington: Local Stormwater Programs and Regulations
http://www.mrsc.org/subjects/environment/water/sw-local.aspx
EPA Low Impact Development: http://water.epa.gov/polwaste/green/
WSU Rain Garden Website: http://raingarden.wsu.edu

Online Publications and Videos:

2012 Stormwater Management Manual for Western Washington
http://www.ecy.wa.gov/programs/wq/stormwater/manual.html
Low Impact Development Technical Guidance Manual for Puget Sound
http://www.psp.wa.gov/LID_manual.php
Building a Raingarden: Keeping our Pacific Northwest Waters Clean Video: http://vimeo.com/21474307
Raingarden Handbook for Western Washington Homeowners
http://county.wsu.edu/mason/nrs/water/Documents/Raingarden_handbook.pdf

DEPARTMENT OF ECOLOGY
State of Washington

WASHINGTON STATE UNIVERSITY EXTENSION

Developed by Washington State University Extension with funding from the Washington State Department of Ecology.
Authors: Erica Guttman, Nora Moloney and Bob Simmons. Source: *Low Impact Development Technical Guidance Manual for Puget Sound*, 2012.

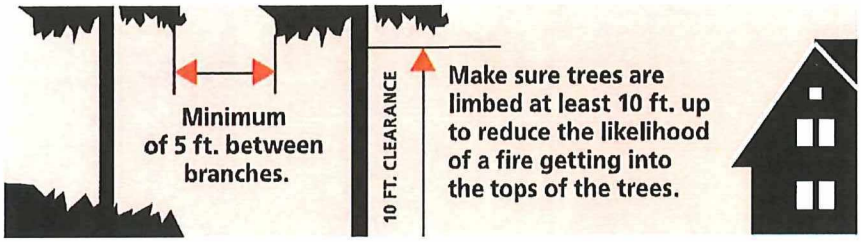
WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

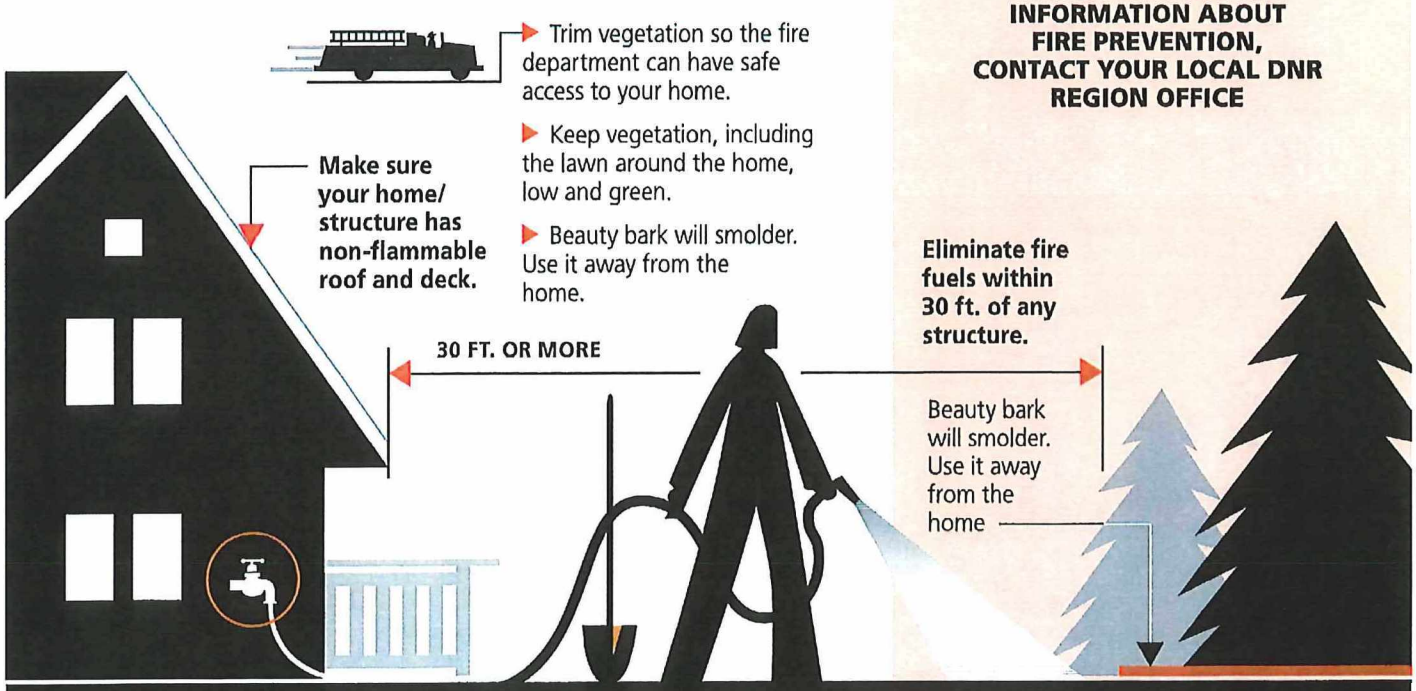
Fire Prevention

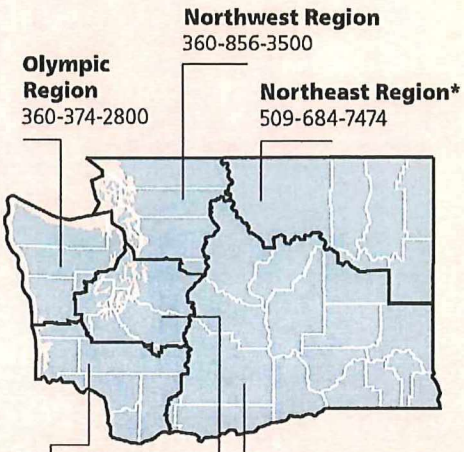
Defend Your Home from Wildfire

NO COST EVALUATION

* If you live in **DNR's Northeast Region, 509-684-7474** or **DNR's Southeast Region, 509-884-3472**, DNR foresters can come out and assess your home at no cost.







FOR MORE INFORMATION ABOUT FIRE PREVENTION, CONTACT YOUR LOCAL DNR REGION OFFICE

dnr.wa.gov

TO REPORT A FIRE, PLEASE CALL 1-800-562-6010

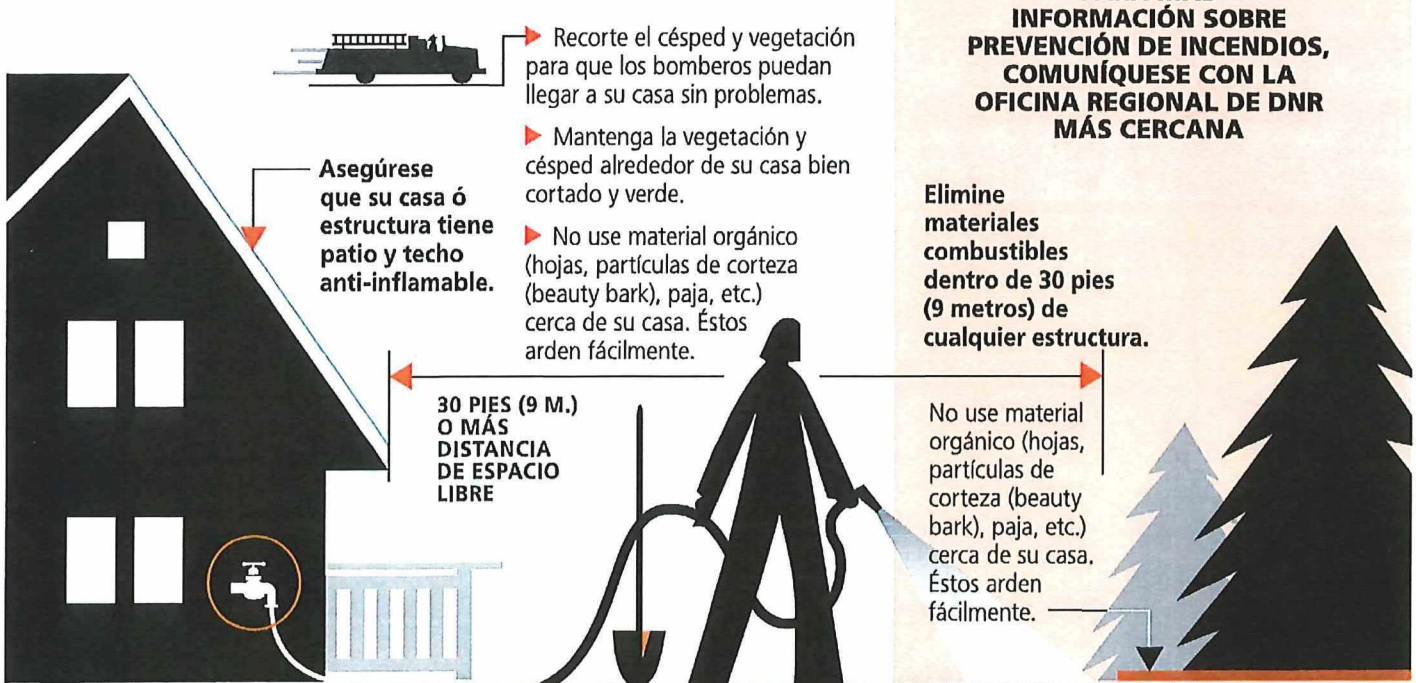
WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

Prevención de Incendios

Defienda Su Casa de Incendios Forestales

EVALUACIÓN GRATIS

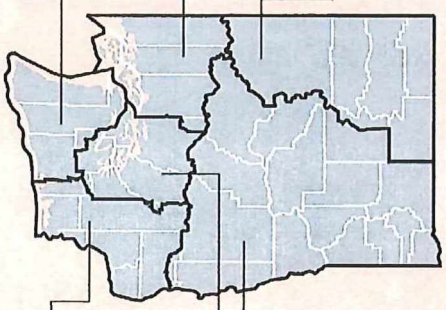
* Si vive en la **Región Noreste de DNR (Departamento de Recursos Naturales), 509-684-7474** (inglés) o en la **Región Sudeste de DNR, 509-925-8510** (inglés), y no está seguro de cuan segura es su casa contra incendios, personal de DNR puede venir a evaluar su casa sin costo alguno.



Región Olympic
360-374-2800 (inglés)

Región Noroeste
360-856-3500 (inglés)

Región Noreste*
509-684-7474 (inglés)



Región Pacific Cascade
360-577-2025 (inglés)

Región Sudeste*
509-925-8510 (inglés)

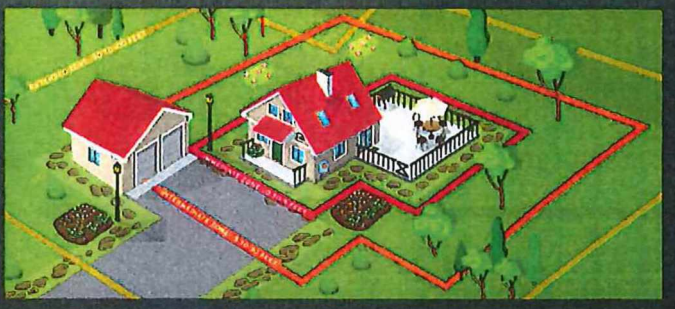
Región South Puget Sound
360-825-1631 (inglés)

PARA MÁS INFORMACIÓN SOBRE PREVENCIÓN DE INCENDIOS, COMUNÍQUESE CON LA OFICINA REGIONAL DE DNR MÁS CERCANA

dnr.wa.gov

PARA REPORTAR UN INCENDIO, POR FAVOR LLAME AL 1-800-562-6010 (INGLÉS)

HOW TO
PREPARE YOUR HOME
FOR WILDFIRES



WILDFIRE RISK REDUCTION STEPS THAT CAN MAKE YOUR HOME SAFER DURING A WILDFIRE

VEGETATION MANAGEMENT

1. HOME IGNITION ZONES

Limiting the amount of flammable vegetation, choosing fire-resistant building materials and construction techniques, along with periodic exterior maintenance in the three home ignition zones - increases the chances your home will survive a wildfire when exposed to embers and/or a surface fire. The zones include the **Immediate Zone**: 0 to 5 feet around the house; **Intermediate Zone**: 5 to 30 feet; and the **Extended Zone**: 30 to 100 feet.

2. LANDSCAPING AND MAINTENANCE

To reduce ember ignitions and fire spread, trim branches that overhang the home, porch and deck and prune branches of large trees up to (depending on their height) 6 to 10 feet from the ground. Remove plants containing resins, oils and waxes and ensure mulches in the **Immediate Zone** (0 to 5 feet around the house) are non-combustible options like crushed stone and gravel. Maintain vegetation annually.

FIRE RESISTIVE CONSTRUCTION

3. ROOFING AND VENTS

Class A fire-rated roofing products offer the best protection. Examples include: Composite shingles, metal, concrete and clay tiles. Inspect shingles or roof tiles and replace or repair those that are loose or missing to prevent ember penetration. Box-in eaves, but provide ventilation to prevent condensation and mildew. Roof and attic vents should be screened to prevent ember entry.

4. DECKS AND PORCHES

Never store flammable materials underneath decks or porches. Remove dead vegetation and debris from under decks/porches and between deck board joints.

5. SIDING AND WINDOWS

Embers can collect in small nooks and crannies and ignite combustible materials; radiant heat from flames can crack windows. Use fire-resistant siding such as brick, fiber-cement, plaster or stucco and dual-pane tempered glass windows.

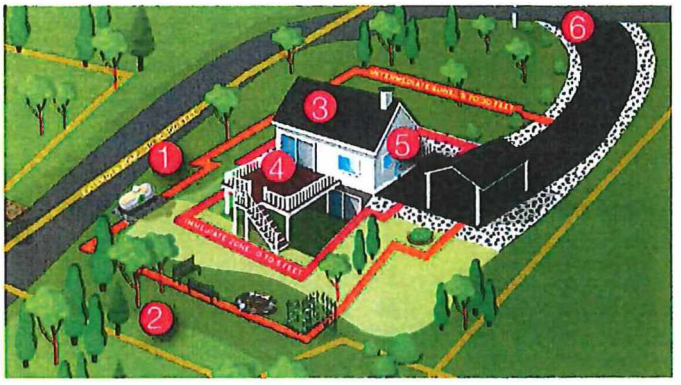
6. EMERGENCY RESPONDER ACCESS

Ensure your home and neighborhood has legible and clearly marked street names and numbers. Driveways should be at least 12 feet wide with a vertical clearance of 15 feet, for emergency vehicle access.

BE PREPARED

Develop, discuss and practice an emergency action plan with everyone in your home. Include details for pets, large animals and livestock. Know two ways out of your neighborhood and have a pre-designated meeting place. Always evacuate if you feel it's unsafe to stay – don't wait to receive an emergency notification if you feel threatened from the fire.

Conduct an annual insurance policy check-up to adjust for local building costs, codes and new renovations. Create/update a home inventory to help settle claims faster.



OTHER CONSIDERATIONS

- Store firewood away from the home
- Mow the lawn regularly
- Prune low-hanging tree branches
- Landscape with fire-resistant plants
- Create small fuel breaks with hardscaping features

TALK TO YOUR LOCAL FORESTRY AGENCY OR FIRE DEPARTMENT TO LEARN MORE ABOUT THE SPECIFIC WILDFIRE RISK WHERE YOU LIVE.

NFPA | FIREWISE USA™
RESIDENTS REDUCING WILDFIRE RISKS

VISIT FIREWISE.ORG FOR MORE DETAILS

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Order a Reducing Wildfire Risks in the Home Ignition Zone checklist/poster at Firewise.org