



AGENDA OF THE JOINT WORKSHOP OF
CITY COUNCIL & PLANNING
COMMISSION
CITY OF BIRCHWOOD VILLAGE
WASHINGTON COUNTY, MINNESOTA
September, 28 2016
7:00 P.M.

CALL TO ORDER

APPROVE AGENDA

Regular Agenda For Tonight's Joint Meeting

- a. City Code 300.020: Definition 23: Impervious Surface * (pages 2-9)
- b. City Code 302.070: Fence Height Language * (pages 10-27)

ADJOURN

* Denotes items that have supporting documentation provided



MEMORANDUM

TO: Birchwood City Council & Planning Commission
FROM: Mike Anderson, City Administrator
DATE: September 22, 2016
SUBJECT: Impervious Surface Definition

At the September Council Meeting it was requested that the Planning Commission hold a joint meeting with member of the City Council to discuss Impervious Surface language in Birchwood. The information below was provided at the August meetings. The information remains the same for examples as well as information from the DNR that is attached. There has been discussion on changing Birchwood's language to read similar to Dellwood or just adding language to Birchwood's existing language.

Impervious Surface Information

The City Council is looking at possibly changing requirements for the Cities impervious surface calculations. Currently the code allows lots to have a 25% hardcover. Anything more would require an approved variance from the City Council.

Surrounding community's impervious surface information is as follows:

White Bear Lake: Lots smaller than 10,000 square feet allow 35% or no more than 42% with variance approval. For lots more than 10,000 square feet, no more than 25% and 33% with variance approval.

Impervious Surface definition: An artificial or natural surface through which water, air, or roots cannot penetrate.

White Bear Township: Nothing shall exceed 25% of the lot area. **Impervious Surface Definition:** Surfaces like driveways, sidewalks, and streets prevent stormwater from naturally soaking into the ground.

Mahtomedi: Nothing shall exceed 25% at the time of the adopted ordinance. Such maximum coverage may be calculated on an average lot coverage basis within the shoreland of each protected water; but if averaged, impervious surface shall not exceed sixty-five percent (65%) of any one lot.

Impervious Surface Definition: An area that releases as runoff, all or large portion of, the precipitation that falls on it, except for frozen soil. Roofs, sidewalks, driveways, parking lots, patios, and streets are examples of areas that are typically impervious

Dellwood: Nothing shall exceed 25%.

Impervious Surface Definition: Hard cover by roof tops, roads, parking areas, driveways, and/or other land alteration of a similar nature, rendering the land in such a condition that precipitation runs off rapidly with no or little infiltration.

RCWD: Does not contain an allowed impervious surface percentage. In addition to the permit triggers for Rule C: Storm water Management Plan, subdivision of an area exceeding one acre also triggers the need for a permit/storm water management plan

DNR: Please see attachment for DNR Impervious Surface information*

Birchwood: 302.050: Impervious Surface coverage of lots must not exceed twenty-five (25%) percent of the lot area.

Birchwood definition: A ground surface covered or compacted with material so as to substantially retard the entry of water into the soil, and to cause water to remain on the surface or to run off the surface in greater quantities or at an increased rate of flow than would occur if there was a natural soil surface.

Impervious surfaces shall include improvements utilizing concrete, asphalt, gravel, or other non-porous materials. Examples of impervious surfaces include, but are not limited to, roads, driveways, parking areas, sidewalks, patios, rooftops, and covered decks. Examples of impervious surfaces resulting from compacting are unpaved or ungraveled driveways and parking areas.

EXCEPTIONS: Open decks and walkways with open joints at least ¼ inch wide per 8 inch wide board, and areas beneath overhangs less than 2 feet wide, if bare or vegetated soil is beneath the decks or walkways or overhangs, shall not be considered impervious surfaces.



Shoreland & Floodplain Variance Guidance Series

This is one of a series of examples developed as guidance for considering variance requests along lakes and rivers. Consult your local shoreland and floodplain ordinances.

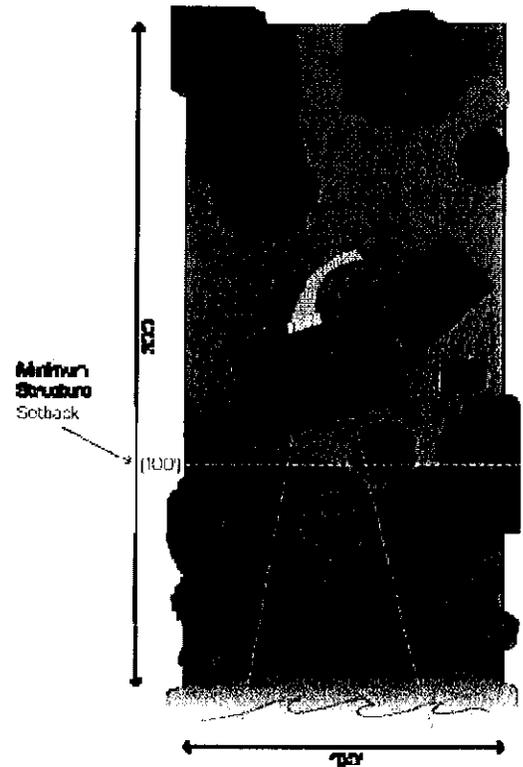
Impervious Surfaces

Why are impervious surface coverage limits important?

In the protection of water quality, the management of rainwater on individual lots is one of our most important tasks. Rainwater that does not infiltrate into the ground or evaporate runs downhill to lakes, wetlands, or rivers. As impervious surface coverage increases, the rate and amount of runoff and pollutants entering public waters increases. When runoff from impervious surface coverage is not addressed, pollution increases and the diversity of aquatic life is reduced. Local governments have limited discretion to deviate from - or grant a variance to - impervious surface limits. They may do so only if *all* of the variance criteria established in state statutes and their local ordinances are met. In evaluating such requests, local governments must examine the facts, determine whether all statutory and local criteria are satisfied, and develop findings to support the decision. If granted, local governments may impose conditions to protect resources. An example impervious surface variance request, with considerations, is provided below.

Example Impervious Surface Variance Request

A property owner wishes to build a large lakehome on a conforming lot. The lake lot includes a private driveway with a spur to the neighbor's lot, which was placed to avoid an adjacent wetland. The building plans for the new construction plus the existing private road spur to the neighbor's property would exceed the impervious surface limit provision in the local ordinance.



Considerations for Findings

A good record and findings help keep communities out of lawsuits and help them prevail if they find themselves in one. In evaluating the facts and developing findings for this variance request, *all* of the following statutory criteria must be satisfied, in addition to any local criteria:

- **Is the variance in harmony with the purposes and intent of the ordinance?**
Considering a variance request is a balancing test that requires weighing the need of an individual property owner against the purposes of the shoreland regulations for protecting the public interest. These purposes are derived from Minnesota Shoreland Rules, which established impervious surface caps to prevent excessive runoff from constructed surfaces. Such excessive runoff causes erosion, transport of pollutants to public waters thereby degrading water quality. **Considerations:** *Will deviating from the required limit on this property undermine the purposes and intent of the ordinance? Why or why not? Is it possible to mitigate the consequences of additional impervious surface on-site such that additional runoff will not be produced? Would this mitigation be in harmony with the purposes and intent of the ordinance? Why or why not?*
- **Is the variance consistent with the comprehensive plan?**
The local comprehensive plan establishes a framework for achieving a community's vision for the future. Most plans contain goals and policies for protecting natural resources and shorelands, as well as maps that identify areas of high risk or with high ecological value where development should be avoided. The variance request must be considered with these goals and policies in mind. Maps should be consulted to determine if the property is within any areas identified for protection. **Considerations:** *Which goals and policies apply? Is allowing additional impervious surface and runoff consistent with these goals and policies? Why or why not?*

- **Are there *unique circumstances* to the property not created by the landowner?**

Unique circumstances relate to physical characteristics of the land – such as lot dimensions, steep slopes, poor soils, wetlands, and trees. These *do not* include physical limitations or personal circumstances created by the property owner that prevent compliance with the impervious surface provision, such as size of home or design preferences. Consider what distinguishes this property from other shoreland properties to justify why the applicant should be able to deviate from the provision when others must comply. **Considerations:** *What physical characteristics are unique to this property that prevent compliance with the requirement? Were any difficulties in meeting the impervious surface limit created by some action of the applicant? Has the applicant demonstrated no other feasible alternatives exist that would not require a variance, such as increasing the setback to reduce driveway length or reducing the lakehome's footprint?*

- **Will the variance, if granted, alter the essential character of the locality?**

Consider the size of the proposed structure, the extent of encroachment, and how it relates to the shoreline and hydrology of the riparian area. A large addition located close to the shoreline can detract from the natural appearance and character of the lake and its riparian areas and degrade water quality by altering topography, drainage, and vegetation in the riparian area, negatively affecting recreational, natural, and economic values. **Considerations:** *Does the variance provide minimal relief or a substantial deviation from the required setback? Does it affect the natural appearance of the shore from the lake? Does it affect the hydrology of the riparian area?*

- **Does the proposal put property to use in a *reasonable manner*?**

Examine the reasons that the variance is requested and evaluate them in light of the purposes of the local shoreland ordinance and the public water resource at stake. Since the impervious surface cap is generally intended to reduce runoff to public waters, it may not be appropriate to allow large areas of constructed surfaces so close to the water. **Considerations:** *Has the applicant demonstrated that the proposed construction is reasonable in this location given the sensitive nature of the area and the purposes of the regulations? Why or why not?*

Note: *The last three criteria address practical difficulties. Economic considerations alone cannot create practical difficulties*

Range of Outcomes

Based on the findings, several outcomes can occur:

- If the applicant fails to prove that *all* criteria above are met, then the variance must be denied. For example, the local government could find that the building plans itself created the circumstances necessary for a variance rather than the any unique physical characteristics of the property.
- If the applicant demonstrates that *all* criteria are met, then the variance may be granted. For example, the local government could find that the construction footprint is reasonable, the circumstances are unique given the adjacent wetland, and the minor deviation in the impervious surface coverage does not alter the hydrology of the area (as determined through runoff calculations).
- If the variance is granted and the impervious surface in any way alters the hydrology of the area, then conditions may be imposed, such as to increase the structure setback from the lake by 15 feet to reduce the extent of the driveway and minimize the amount of impervious surface coverage over the limit.

Conditions on Variances

If findings support granting the variance, consideration must be given to the impacts on the public water and the riparian area and appropriate conditions to mitigate them. Conditions must be directly related and roughly proportional to the impacts created by the variance. Several examples are provided below:

- Modify construction designs (to minimize impact);
- Use permeable pavement systems for walkways, driveways, or parking areas (to reduce effective impervious surface area and infiltrate runoff);
- Direct rain gutter discharges away from the public waters and into infiltration basins (to reduce connected impervious coverage to allow additional areas for infiltration);
- Preserve and restore shoreline vegetation in a natural state (to intercept and filter runoff coming from structures and driveways); and/or
- Increase setbacks from the ordinary high water level (to provide infiltration near public waters).

More information at: www.dnr.state.mn.us/waters/watermgmt_section/shoreland/variances.html

**Permeable Pavement Systems in Shoreland Areas,
A Guidance to Local Governmental Units**
DNR Waters, St. Paul, Minnesota
September 10, 2003

Background

The impact of impervious surfaces upon public waters has always been a concern of the statewide Shoreland Management Program. When the statewide standards were revised in 1989, the established limit of 30% impervious for shoreland lots was reduced to 25%. The reason behind this reduction was explained in the Statement and Need of Reasonableness (SONAR) for the rules. The SONAR noted that most development rarely exceeds 30% and that 25% was still a "large percentage." "This is needed to prevent the excessive amount of runoff that will be generated during a rainstorm by an enlarged impervious area. Such excessive runoff will cause erosion and transport of pollutants to public waters thereby degrading water quality."

Since then, much more has been learned about the impacts of impervious cover on aquatic systems. In March, 2003, the Center for Watershed Protection issued a report that summarized the results of 225 studies involving the use of 26 different stream indicators. These verified earlier studies that showed that the effects of increasing impervious cover on a healthy stream begin to be seen when the impervious cover exceeds 10%. Indicators show stressed conditions for streams having impervious watershed cover between 10 and 25%. Beyond 25%, severe degradation takes place.

The report cautioned that these data have not yet been validated for non-stream conditions. However, some of the referenced studies involved lakes and drinking water reservoirs. These noted that phosphorus export to a water body increases steadily as the percent of impervious cover increases. Aggressive watershed protection strategies were recommended for reservoirs having 10 – 25 % impervious cover. Data indicate that reservoirs having over 25% impervious cover cannot sustain safe drinking water supplies.

While the indicators are useful in estimating trends and cumulative impacts, the report cautioned that they should not be used empirically. In general, the rule of thumb applies: the greater the percent of impervious surface, the greater the impact to water quality and natural systems. Other parameters like percent of forest cover or natural vegetation appear to become more important when the percentage of impervious cover is low. When it is high, the impacts from stormwater over-ride other factors. The report suggests that non-native vegetation like turf can be included with impervious surfaces when analyzing impacts to urban streams. Stormwater ponds, while effective at removing pollutants, were observed to have little effect in improving stream biodiversity. In fact, the study cautioned that no community has yet demonstrated that it can achieve water quality standards in an urban watershed that exceeds 25% impervious cover. "Managers should be extremely cautious in setting high expectations for how much watershed treatment can mitigate impervious cover... Both watershed research techniques and practice implementations need to be greatly improved (Tom Schueler. 2003. *Impacts of Impervious Cover on Aquatic Systems*. Center for Watershed Protection. p. 21)."

Workshop on Porous Pavement Surfacing Systems, November, 2002

DNR Waters field staff involved with shoreland management met on May 16, 2002, with Peder Otterson, Shoreland Hydrologist, and Jay Michels, Minnesota Erosion Control Association (MECA), to discuss the use of permeable pavement systems in shoreland management. Various concerns were discussed and recommendations made. One recommendation was that MECA sponsor a workshop of skilled researchers who could address the questions being raised by field staff and local governmental units. The workshop took place November 22, 2002, as described below.

Bruce Ferguson, an authority on stormwater management from the University of Georgia, noted that roads and parking surfaces cover approximately twice the area of their associated buildings and represent a good 50% of a built up urban area. For this reason alone, it is important that everyone involved in land development take seriously the emerging technologies of porous pavement systems. However, it must always begin with proper site analysis and matching the right system in the right place. He noted that porous pavement should not be used over drainfields, on steep slopes or near basements or water-supply wells. The thickness of the subbase largely determines the surface's load-bearing capability. The thickness can also be used to increase storage of infiltrating stormwater where underlying soils have limited percolation. For safety, some construct the subbase to the frost depth. However, Ferguson noted that for practical protection 0.5 frost depth should suffice since the open voids allow for some expansion during freeze/thaw and the system is, to a degree, self-insulating.

William James provided details of the studies he has made using cement pavers in the laboratory and field at the University of Guelph, Ontario, Canada. His studies show the positive effects such pavers can have over impervious pavement in reducing the impacts of temperature, pH and turbidity of the stormwater runoff. He found little problem with frost heave or ground water contamination. The subbase acts to retard and break down pollutants in much the same way as natural soils. Clogging with fine material seemed limited to just the upper surface of the spaces between the pavers. Use of a power washer to clean clogged surfaces proved superior to brush/vacuum which just skimmed the surface and did not remove the clogged layer.

Both presenters stressed that surface drainage should be sloped away from the porous pavement areas to reduce the amount of clogging. This led to a number of questions concerning street sanding, routine maintenance, stormwater retention during early spring, etc. Both presenters stressed that with a properly designed and installed permeable pavement system, it should not be necessary to sand or salt the roadway since meltwater is absorbed into the pavement. A member of the audience noted that he had seen proof of this in local installations where there was observable retention of stormwater and resultant dry surface conditions during winter months. Ferguson indicated that the time is coming when porous concrete itself may provide a relatively low cost alternative to standard paved surfaces once the issue of freeze/thaw has been resolved.

Recommendations on the Use of Permeable Pavement Systems in Shoreland Areas

Often, the term “porous” and “permeable” are used interchangeably. Technically, porosity refers to the amount of connected open spaces a material has while permeability is a measurement of the rate at which water is able to pass through it. The surface of a paving stone is often impermeable while the large pore spaces between stones allow for water to flow through. The pavement surface may have high porosity (lots of pores or holes), but the system may still be relatively impermeable if the subbase is not properly designed and constructed. Rather than focusing on either the surface of the material or the subbase, it is better to consider the full design and function of the entire system. Finally, although a permeable pavement system can indeed be designed and installed to meet any given stormwater requirement, the system itself can never replace the many benefits that native soils and vegetation provide in shoreland areas: such things like habitat, nutrient uptake, soil and pollutant retention, vegetative screening, and aesthetics.

DNR Waters recommends that local governments include in their zoning ordinances a definition for impervious surfaces. The Minnesota Pollution Control Agency’s new stormwater management rules define “impervious surface” to be:

“Impervious surface” means a constructed hard surface that either prevents or retards the entry of water into the soil and causes water to run off the surface in greater quantities and at an increased rate of flow than prior to development. Examples include rooftops, sidewalks, patios, driveways, parking lots, storage areas, and concrete, asphalt or gravel roads.”

A similar definition can be found in the Blue Earth County, MN, Shoreland Ordinance:

Impervious Surface. The surface area of a lot which has been physically altered in a manner which impacts the ability of the lot to percolate water into the ground, causing runoff. Impervious surfaces include rooftops of buildings, blacktopped or concrete driveways and patios, and areas of landscaping underlain with plastic or other impermeable liners.

If taken as part of the overall site design and used as part of a larger stormwater management plan, permeable pavement systems can compensate for some of the impacts that other impervious surfaces have on a lot. However, they do not take the place of native vegetation and undisturbed soils, especially, in the Shore Impact Zone, that area which is closest to the shore and extends to half the setback of the structures.

DNR Waters recommends the following as a reasonable approach for local governments to follow on the use of emergent technologies like permeable pavement systems in shoreland areas until such time as greater research, experience and testing can answer the questions raised. Based on the information provided by the Center for Water Protection referenced earlier, it appears that such use may be more beneficial when applied to areas of new development and as part of an integrated stormwater management plan, related stormwater management ordinance or NPDES, Phase II permit. On degraded sites where 25% impervious is already exceeded, the retrofitting of permeable pavement systems may be of lesser value. Exercise caution in using infiltration techniques in areas of ground water sensitivity like wellhead protection zones or sites of known surface contaminants.

1. **Areas of New Development.** Strict adherence to shoreland standards. Where possible, encourage limiting percent of impervious cover to below 10%. No credit for permeable pavement systems unless included in a comprehensive stormwater management plan that emphasizes infiltration and onsite retention of stormwater through a combination of methods including buffer strips, swales, rainwater gardens and other low impact development methods. This assumes LGU oversight of design, construction and future maintenance.
2. **Areas of Redevelopment.** Where existing percent impervious varies between 10 and 25%, LGUs are encouraged to adopt comprehensive stormwater management controls as described above, giving credit for those that help to reduce percent impervious. LGUs should strive to limit overall percent impervious to under 25%, as required in shoreland management rules. For lots exceeding 25%, redevelopment must reduce impervious surfaces to 25% or less. Otherwise, a variance is required.
3. **Redevelopment or enlargement of nonconforming structures on lots exceeding 25% impervious.** Under Minnesota Statutes, the required variance is to be acted upon by the local Board of Adjustment according to standards established in statute, rule and local ordinance. Should the Board decide to grant a variance involving the use of permeable pavement systems, DNR recommends consideration of the following conditions to the variance:
 - a. No permeable pavement system in Bluff Impact Zone or Shore Impact Zone (area to be maintained or restored to natural vegetative buffer);
 - b. Where native vegetation is lacking in the above zones, additional vegetation may be required in order to enhance buffer and screening.
 - c. The base of the installed system (subbase) must be above the established ground water table (DNR recommends three feet of separation similar to onsite sewage treatment systems to ensure soil absorption and enhanced retention of stormwater);
 - d. System to be designed and certified by a registered engineer or landscape architect and installed by someone qualified in the particular system used;
 - e. System should be set back from structures having basements, septic system leach fields, steep slopes and wells;
 - f. The design should allow for the infiltration of the first inch of any storm. If stormwater retention is a goal, DNR recommends that the design meet the two year 24 hour storm (approximately 2.5 inches);
 - g. The site should be inspected during construction for compliance.
 - h. The designer must include maintenance instructions to the property owner along with a maintenance schedule with copy to the Zoning Administrator or Building Inspector to be filed along with the permit.
 - i. When possible, the system should be designed so that it can be periodically monitored to ensure it continues to work as planned.
 - j. System must be compatible with local stormwater management plans, ordinances, and NPDES Phase II stormwater permits, where required.



MEMORANDUM

TO: Birchwood City Council and Planning Commission
FROM: Mike Anderson, City Administrator
DATE: September 22, 2016
SUBJECT: Ordinance 302.045 & 302.070 Fence Language

The City of Birchwood is currently looking at amending the code language regarding fences. Attached is the current language striking and adding additional language to better help interpretation of this code. At the September Council meeting it was recommended that the limit on fence height would be 78 inches including posts.

The discussion will be whether or not we consider a "fence" a structure with the limitation on height in code 302.045 or strike that from the existing language and rely on code 302.070 for height interpretation. Also considering the "materials" portion under 307.020 (see attachments for ideas) while adding "posts" to the definition of "Fence" in 300.020, #18.

I have also received some fence language from City Attorney Kantrud. Through his research from cities across the country he provided us with three examples he thought would help assist with this process.

Please view all of the attachments and prepare for a good discussion.

If you have questions please contact Mike Anderson at 651-426-3403 or

Mike.Anderson@cityofbirchwood.com

13. Dwelling Unit. A room or group of rooms located within a dwelling and forming a single habitable unit with facilities which are used or intended to be used for living, sleeping and cooking.

14. Driveway. See Parking Space.

15. Easement. An interest in land owned by another that permits the owner of such interest the right of limited use or enjoyment of the land in which the interest exists.

16. Easement, Lake. Any tract of land running to and abutting the shoreline of White Bear Lake which is owned by the City, subject to the right of City residents to use for access to White Bear Lake.

17. Family. A family is

a. An individual or 2 or more persons related by blood, marriage or adoption, living together or

b. A group of not more than 5 persons who need not be related by blood, marriage or adoption, living together as a single housekeeping unit in a dwelling unit.

18. Fence. A permanent partition, structure, wall or gate erected as a dividing marker or enclosure including posts.

“AMENDED BY ORDINANCE 1997-3; August 12, 1997.”

19. Final Plat. The final map, drawing or chart on which the subdivider's plan or subdivision is presented to the City Council for approval, and which, if approved, will be submitted to the County Recorder or Registrar of Deeds for recording.

20. Garage. A building or portion of a building used by the tenants of the building on the premises which is designed primarily for the storage of motor vehicles. A detached garage is an accessory structure.

“AMENDED BY ORDINANCE 2000-1; February 8, 2000”

21. Ground floor area. The ground floor area of any dwelling shall be the sum of the gross horizontal areas of the first floor of living area for each dwelling unit. However, the ground floor area shall not include the basement.

22. Home Occupation. A lawful occupation carried on solely or primarily within a dwelling unit. The occupation is clearly incidental and secondary to the use of the building for dwelling purposes, and does not change the character of the dwelling or accessory structure.

b. Dock and Pier Setbacks: Setback requirements from the ordinary high water levels shall not apply to piers and docks. Locations of piers and docks shall be controlled by applicable state and local regulations.

b. Retaining Wall Setbacks: Front, back, side street and other lot line setback requirements shall not apply to retaining walls except that the ordinary high water level setback requirements shall apply to retaining walls.

5. STRUCTURES IN WETLANDS. No structures are allowed within any wetlands.

“AMENDED BY ORDINANCE 1997-2; August 12, 1997.”

“AMENDED BY ORDINANCE 2003-1; February 12, 2003.”

302.030. HIGH WATER ELEVATIONS. All buildings shall be located such that the lowest floor surface is at a level at least three (3) feet in elevation above the highest known water level of any lake, pond, or wetland adjoining the lot. For three water bodies the high known water levels are:

HIGHEST KNOWN WATER LEVELS (Feet Above Mean Sea Level)

DNR ID #82-167	White Bear Lake	926.7 (NGVD, 1929)
DNR ID #82-134	Lost Lake	927.0 (NGVD, 1929)
DNR ID #82-480W	Hall's Marsh	926.7 (NGVD, 1929)

302.040. STRUCTURE REQUIREMENTS.

1. Each dwelling unit must have a floor area of at least 900 square feet.
2. The maximum square footage of a storage shed is 144 square feet. No person shall place automobiles, vans, or trucks in a storage shed.

302.045 STRUCTURAL HEIGHT RESTRICTIONS

1. STRUCTURAL HEIGHT LIMITATION: The maximum height of a structure as calculated by Method A or Method B (see below) is as follows:

<u>Structure type</u>	<u>Structure Height Limitation</u>
Principal Structure/attached garage	30 feet
Detached garage	18 feet
Detached storage shed	12 feet
Fences	6 feet
Fences	6 feet 6" (78")



METHOD A: (Most applicable to 3-dimensional structures, e.g. houses and garages.) The maximum height of a structure is the difference between the elevation of the highest point of the structure and the average elevation of the grade plane. The grade plane shall be calculated based on the method shown in Exhibit A below. Elevation points at the ground level shall be evenly distributed along each façade.

METHOD B: (Most applicable to structures which are mainly 1- or 2-dimensional, e.g. towers, fences, and walls.) The maximum height of a structure is the difference in elevation between any point on the structure and the ground directly below that point.

2. Grading/Fill Limitation

The existing grade of the property shall not be raised around a new building or foundation in order to comply with the height requirements of this code.

3. Tallest Point Limitation

Regardless of the structure height limitations for principal structures specified in section 302.045 subsection 1 above, the lowest point on the façade to the tallest point of a structure shall not exceed 35 feet. Also, the tallest point of an attached garage shall not exceed the height of the tallest point of the principal structure.

4. Exceptions.

The structure height and tallest point limitations established herein shall not apply to chimneys and flues provided the footprint or horizontal area of the chimney or flue does not exceed 16 square feet and the top of the chimney or flues and does not extend more than three feet above the tallest point of the structure.

Exhibit A:

control on any property within the City, is a nonconformity. When a development permit is sought for property with non conforming vegetative or erosion conditions, a recovery plan must be submitted by the permit applicant and approved prior to permit issuance. The recovery plan must provide for reasonable screening of shoreland development, protection of soil from erosion, surface water shading and a schedule for implementation.

302.070 CITY FENCE ORDINANCE.

1. Zoning Permit. A Zoning Permit (see Sections 301.080.1.b and 307) shall be obtained from the City before installing or constructing any fence for any purpose. A site drawing showing the location of the fence shall be submitted with the permit application.

2. Notice to Neighbors. Any applicant for a Zoning Permit to construct a fence shall notify all abutting property owners at least five (5) days prior to submitting the application for a Zoning Permit.

3. Location. All fences shall be located entirely upon the property of the fence owner.

4. Height. ~~No fence may exceed six (6) feet in height.~~
No fence shall exceed six feet six inches (78") in height

5. Retaining Walls. Solid walls in excess of four (4) feet high shall be prohibited unless they are part of a building.

6. Materials. Fences in excess of four (4) feet in height shall be at least thirty percent (30%) open through the entire surface area of the fence. All fences shall be constructed and maintained in a substantial manner and of material reasonably suited for the purpose for which the fence is proposed to be used. That side of the fence considered to be the face (or most attractive side of the fence) shall face toward abutting properties.

“AMENDED BY ORDINANCE 1997-2; August 12, 1997.”

302.080. STAIRS AND LIFTS TO LAKE OR WATER BODY - STANDARDS. A stairway or lift to enable access from land properties to White Bear Lake or pond or recreational body of water shall be constructed and maintained in compliance with the standards and requirements of Section 302.080 parts 2 and 3.

1. The applicant shall obtain a Zoning Permit before any construction takes place.

2. Standards and requirements for stairways are as follows:

a. Stairways may not exceed 44 inches in width.

b. Landings may be permitted at a minimum vertical interval of 20 feet.

c. Landings may not exceed 32 square feet in area.



Fences, Decks and Outdoor Projects

3

One and Two Family Residential Dwellings

- Information related to permit and inspection requirements

When permits are required

If your property is in an overlay zone or a plan district, there may be alternative standards and a zoning permit may be required.

CITY OF PORTLAND, OREGON - BUREAU OF DEVELOPMENT SERVICES
1900 SW 4th Avenue, Portland, Oregon 97201 • 503-823-7300 • www.portlandoregon.gov/bds

Project	Requirement
Fences seven feet or less in height	No permit, except barriers around swimming pools
Fences taller than seven feet in height	Building permit and inspection
Decks and porches with walking surface more than 30 inches above adjacent grade	Building permit and inspection
Decks or patios with walking surface 30 inches or less above adjacent grade	No permit
Covered decks, not discussed in this publication	Additional requirements, consult staff in the DSC
Sheds or detached nonhabitable accessory structures with a floor area less than or equal to 200 square feet and less than 10 feet in height measured from finished floor to average height of the roof	No permit, although a zoning permit may be required if your property is in an overlay zone or plan district
Detached garage with a floor area not more than 200 square feet and not more than 10 feet in height measured from finished floor to average height of the roof	Zoning permit
Patio/porch covers not over 200 square feet in area and supported by an exterior building wall, and not closer than three feet to a property line	No permit
Patio/porch covers over 200 square feet in area	Building permit and inspection
Detached patio/porch covers of any size	Building permit and inspection
Retaining walls over four feet high (measured bottom of footing to top of wall) or affected by adjacent slope or structure	Building permit and inspection. Check with zoning if your property is in an overlay zone or plan district
Ponds/water features, self contained	Electrical permit and inspection for pump
Ponds/water features connected to drainage or water supply	Plumbing permit and inspection, and electrical permit and inspection for pump
Swimming pool, in-ground	Building, electrical and mechanical permits and inspections
Barriers around swimming pools	See page 7 for requirements
Hot tub with direct connection to plumbing system	Plumbing permit and inspection
Hot tub, gas heated	Mechanical permit and inspection
Hot tub, electrically heated	Electrical permit and inspection
Barriers around hot tubs/spas	No permit required if hot tub/spa has approved cover

General zoning information

If there is an overlay zone or plan district on your property, there may be alternative standards that apply to your project and a zoning permit may be required. Call Planning and Zoning at 503-823-7526 to find out what zoning requirements apply to your specific property.

Setback requirements

- A setback is the distance measured from your property line to a point inside the property creating a buffer inside your property lines. Setbacks are intended to maintain light, air and separation for fire protection.
- The front building setback is the side that borders a street and is usually deeper than the side and rear setbacks. On a corner lot, the front lot line is the shortest side of the lot bordering a street. If street frontages are equal in length, you can choose which to call the front. On a through lot, both parts of the lot that border a street are the front.
- Setbacks are different in each residential zone. The zoning staff can tell you what zone your property is in and help you figure out the setback requirements for your project or use the setback chart to determine the required setbacks if you know your zone.

Setback guide

Land Use Zone	RF	R20	R10	R7	R5	R2.5
Front setback	20 feet	20 feet	20 feet	15 feet	10 feet	10 feet
Side/rear setback*	10 feet	10 feet	10 feet	5 feet	5 feet	5 feet

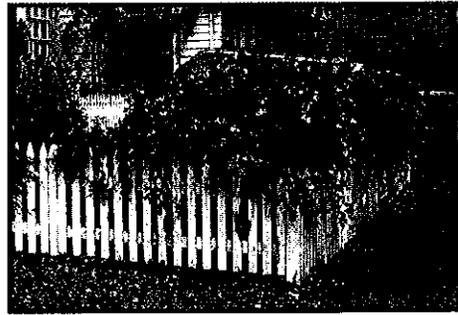
* There is no setback from an alley.

Locating property lines

- If you are planning to build in your front yard, or in other areas of your property adjacent to the public right-of-way, call the Portland Office of Transportation Engineering at 503-823-7002 for help in locating property lines along a street. They can tell you the width of the public right-of-way from the edge of the curb to your street lot line. There is often a reserve strip of right-of-way between the sidewalk and your actual property line. For streets without curbs and sidewalks, they may be able to tell you only the total width of the public right-of-way.
- Property lines that divide your lot from your neighbors can be difficult to locate. You may need to hire a professional surveyor to determine the exact property lines. The Bureau of Development Services does not maintain information about property lines.

Who can do the work

For work that requires a permit, the owner of a single family home or duplex may hire a licensed contractor to do the work, or in some cases, do the work themselves. This means that you, the owner, will be responsible for doing the work; not a friend, neighbor, tenant or relative, unless they hold an appropriate contractor's license. Electrical and plumbing work in homes for rent, sale, lease or exchange must be done by a licensed contractor. The permit requirements for an owner doing their own work are the same as those for a contractor doing the work.



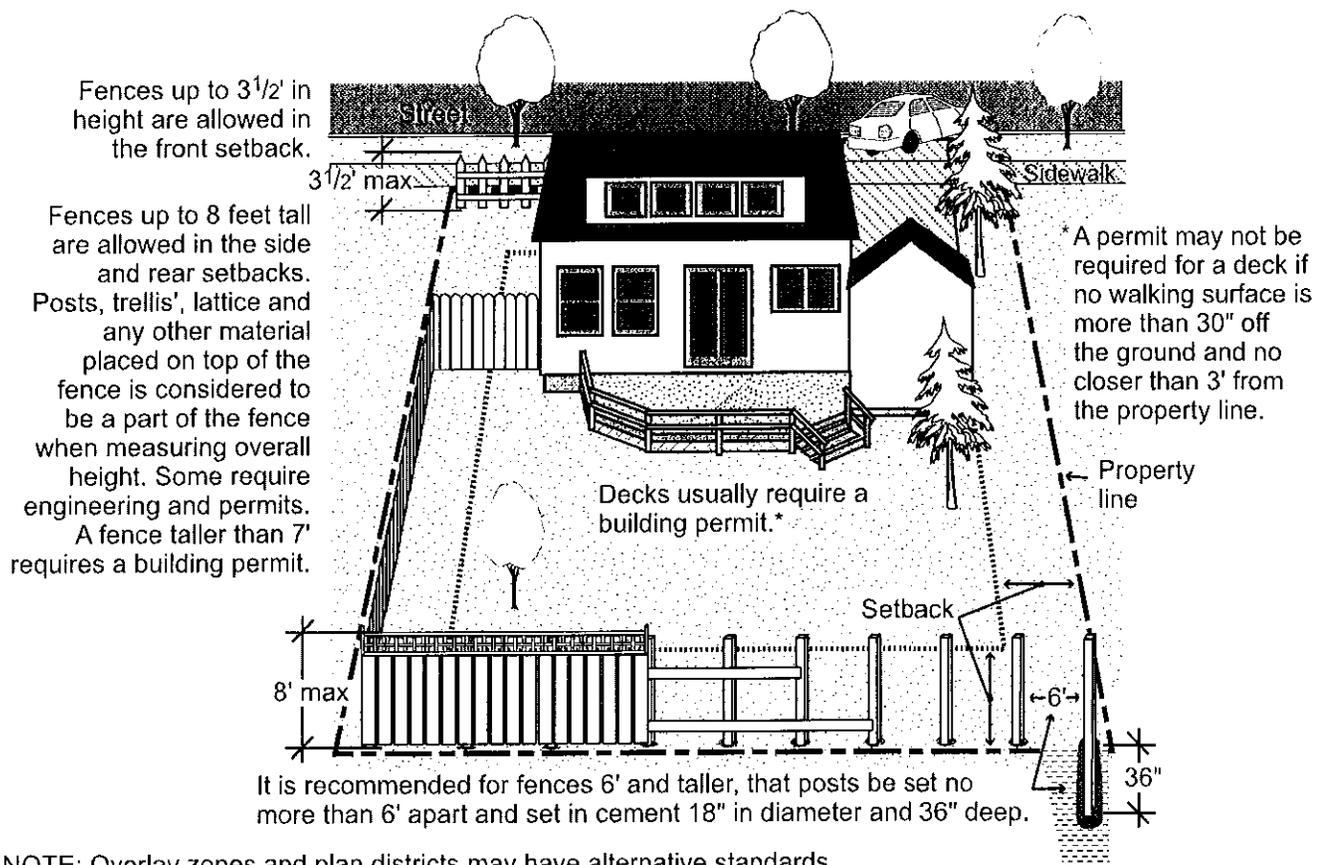
Fences

Fences may be built on private property, as long as they meet certain height and setback requirements. A building permit is not required when constructing a fence seven feet or less in height. A permit is required when building a fence taller than seven feet in height. Fence height is measured from the grade level immediately under the fence. Posts, trellis', lattice and any other material placed on top of the fence is considered to be part of the fence when measuring the overall height. Retaining walls and fences on top of retaining walls are measured from the ground level on the higher side of the retaining wall.

- Fence standards apply to fences and screens of all types whether open, solid, wood, metal, wire, masonry or other material.
- Fence height is limited to three and one-half feet (3 1/2') tall can be constructed in the front building setbacks. Fences up to eight feet tall may be constructed in side and rear building setbacks. Outside of front, side and rear building setbacks, fences taller than eight feet are allowed. (See maximum height of zone.) Corner lots with front entrances facing the side street have other options for fence height.
- Overlay zones and plan districts may have alternative requirements, so check your property's zoning.
- Please see the swimming pool section for information on fence requirements for swimming pools.

Construction requirements for fences

- Any part of a wood fence that touches concrete or that is within six inches of the ground must be pressure treated wood or wood that is naturally resistant to decay, such as cedar or redwood. Pressure treated wood installed below grade must be stamped as approved for ground contact.
- All parts of the fence, including the footings, must remain inside your property lines.
- Fences taller than seven feet that are constructed of a material other than wood, metal or wire must be designed and detailed to resist environmental forces by an engineer licensed to practice in Oregon.
- For wood, metal or wire fences taller than six feet but less than or equal to eight feet tall, we recommend that the posts be spaced no farther apart than six feet, and that the post's concrete footing be at least eighteen inches in diameter and be embedded into the ground at least three feet.
- Wood, metal or wire fences taller than eight feet above grade must be designed by an engineer licensed to practice in Oregon.



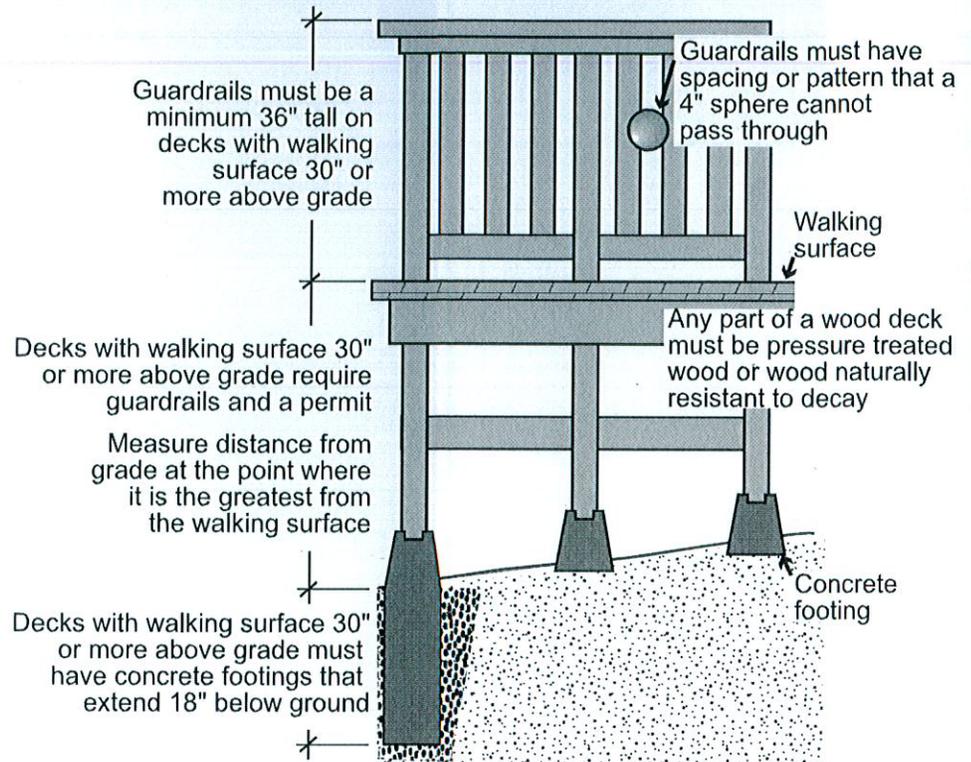
NOTE: Overlay zones and plan districts may have alternative standards for fences and decks, please check with Planning and Zoning.

Decks

Building permits are required for most decks. However, building permits are not required for decks where no part of the walking surface is more than 30 inches above adjacent grade and no portion of the deck is closer than three feet to an adjacent property line. A zoning permit may be required in some cases, such as in an overlay zone or a plan district.

Please note that the following information applies only to uncovered decks. If your deck will have a roof, we recommend meeting with staff in the Development Services Center (DSC) to discuss zoning and building issues early in the planning of your project.

- Deck height is determined by measuring from the adjacent grade to the top of the walking surface for building permit requirements. Where the guardrail walls are less than 50 percent open, height is measured to the top of the guardrail for zoning code requirements.
- Decks not more than 30 inches above the ground may be built anywhere on your property right up against property lines.
- Decks taller than 30 inches that are attached to a house may project 20 percent into a required building setback. Detached decks must meet the requirements listed in the setback guide.
- Guardrails, built in benches or planters attached to the deck and taller than three and one-half feet above the ground may not be located within a front building setback.



NOTE: Overlay zones and plan districts may have alternative standards that apply

Guardrail requirements for decks

- Decks that are taller than 30 inches must have guardrails at least 36 inches tall, measured from the walking surface of the deck.
- Openings in guardrails must have some kind of a pattern so that a four inch sphere cannot pass through any opening.
- Guardrails must be designed to withstand a 200 pound horizontal load applied to the top of the rail at any location.
- If you will be building stairs as part of your deck, please refer to our Stairs publication.

Construction requirements for decks

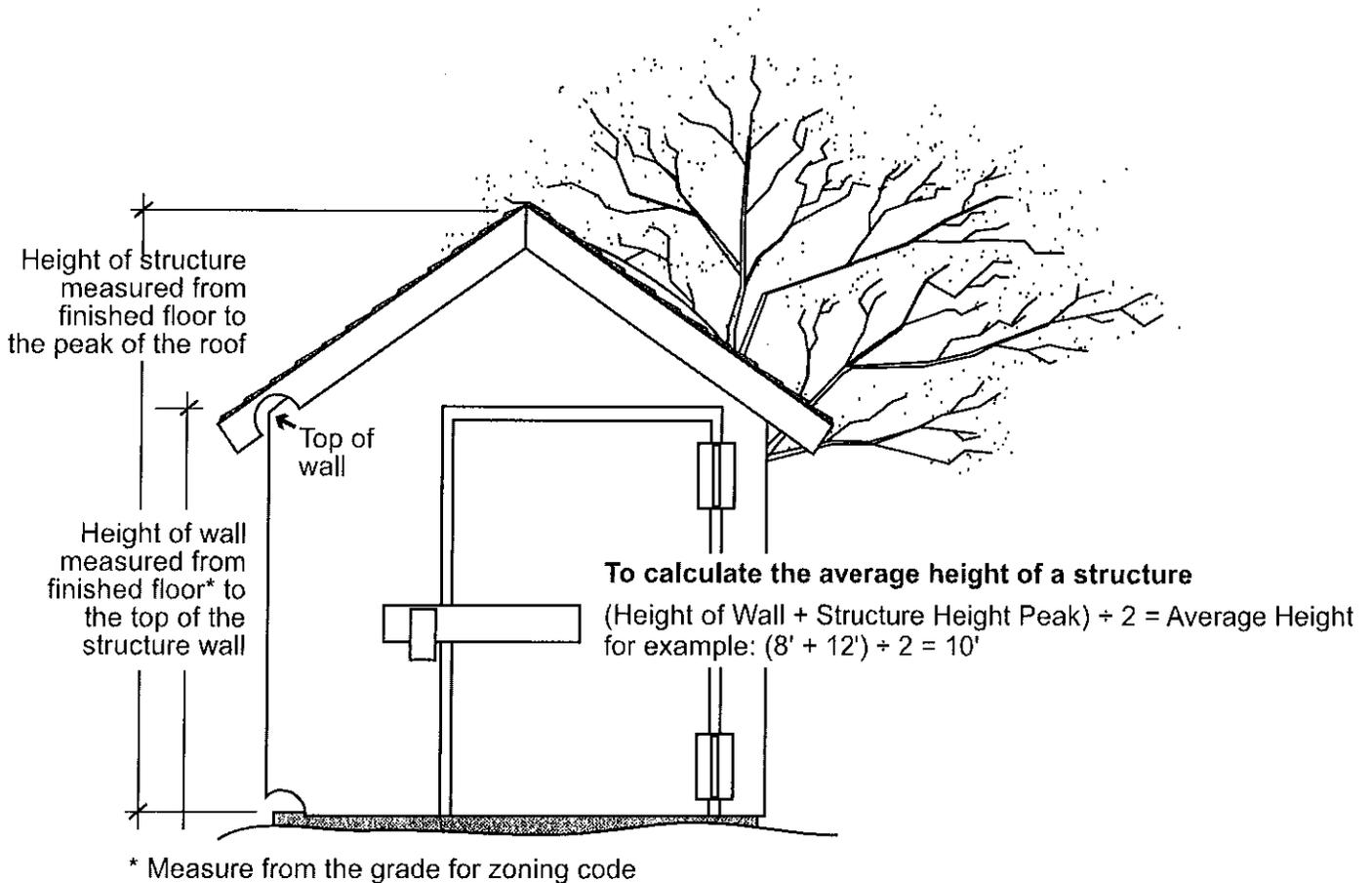
- Decks that are taller than 30 inches and are attached to a house are required to have concrete footings, which extend 18 inches below ground level. Footings for free-standing decks may be set at any depth on firm, native undisturbed soil.
- All parts of a wood deck must be pressure treated wood or wood that is naturally resistant to decay, such as cedar or redwood.
- All posts and supports that come in contact with the ground or concrete must be stamped and approved for ground contact.

Brochure 3a - Deck Design Guide

- See this online brochure for design standards and details to help you design your deck, obtain a building permit and pass inspections.

Sheds and detached nonhabitable accessory buildings

- A building permit is not required to build a shed or other detached nonhabitable accessory building, such as a greenhouse or potting shed, less than or equal to 200 square feet in area and less than 10 feet in height measured from the floor to average height of the roof. A zoning permit may be required if your property is in an overlay zone or a plan district. Building permits are required for habitable structures.
- A detached garage less than or equal to 200 square feet in area and less than 10 feet in height measured from the floor to average height of the roof does not require a building permit, however a **zoning permit** is required to confirm that the location and lot coverage on the site complies with zoning code requirements.
- Detached means the building is structurally independent and not physically attached in any manner to any adjacent structure.



NOTE: Overlay zones and plan districts may have alternative standards that apply

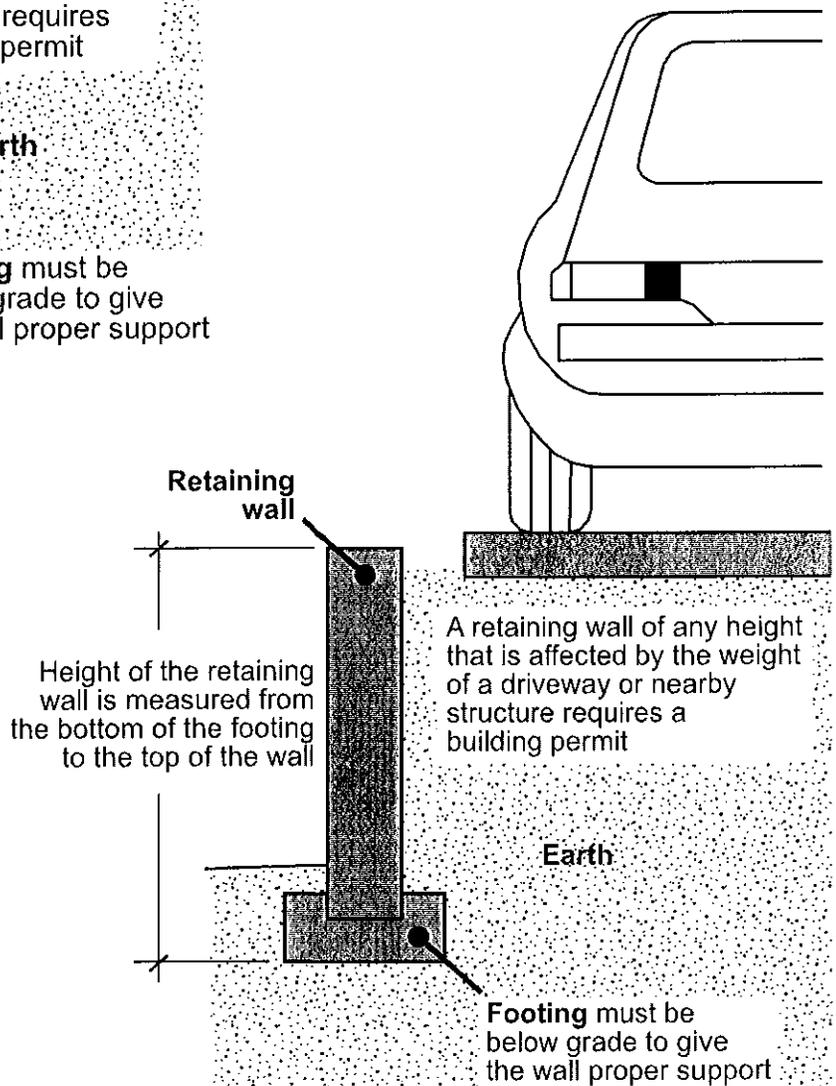
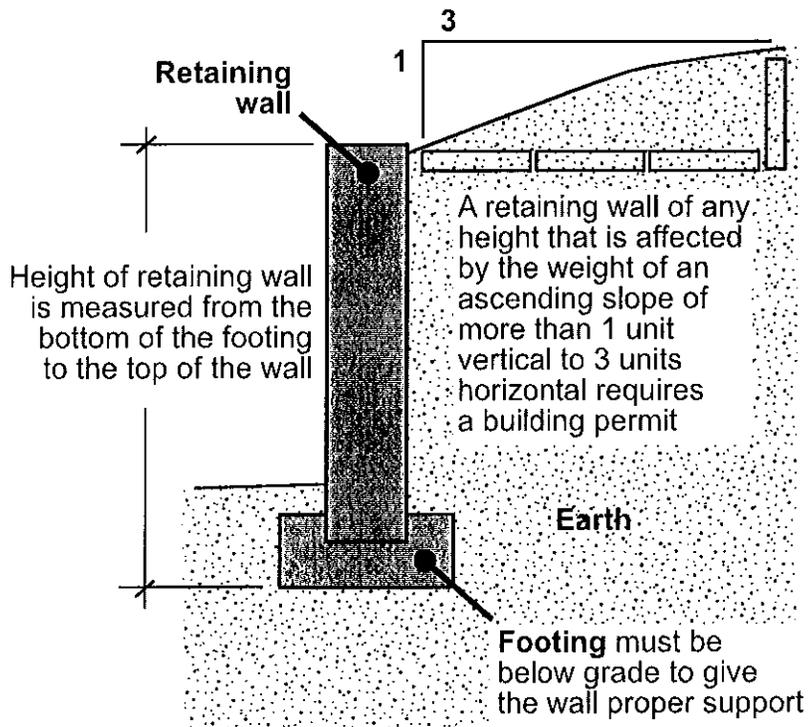
Patio and porch covers

- A building permit is not required to build a patio or porch cover less than or equal to 200 square feet in area, regardless of height, and supported by (attached to) an exterior building wall.
- The location of the patio cover or porch cover cannot extend into the established building setbacks for your lot or exceed building coverage limits. If you have questions about the proposed location for your patio cover or porch cover, please contact Planning and Zoning at 503-823-7526. Also if your property is in an overlay zone or plan district, alternative standards may apply.
- A building permit is required for a detached patio cover. A building permit is not required for the patio floor if it is less than 30 inches above the ground.

Retaining walls

A building permit is required to build a retaining wall that:

- Exceeds four feet high measured from the bottom of the footing to the top of the wall.
- Is affected by the weight of an adjacent slope or near a driveway or structure. A retaining wall is considered affected by the weight of a slope if there is an ascending slope away from the retaining wall more than three units horizontal to one unit vertical.
- Retaining walls within front building set backs are regulated by the Zoning Code. Overlay zones and plan districts may have alternative standards, please check with Planning and Zoning.



NOTE: Overlay zones and plan districts may have alternative standards that apply

Ponds and water features

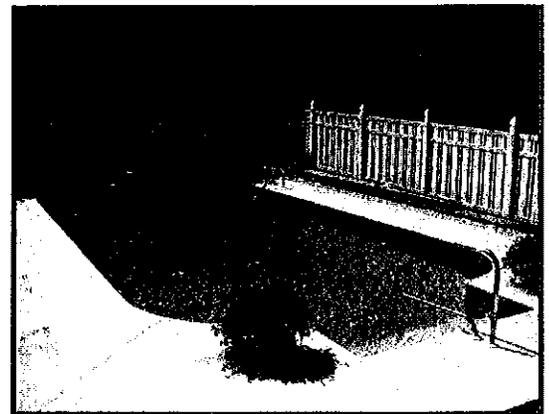
- Residential ponds, water features and fountains do not typically require a building or plumbing permit if they are self-contained. If there is a drainage connection or water connection to the plumbing system, then a plumbing permit is required. An electrical permit is also required if a pump is connected directly to the electrical system.
- Property located in an overlay zone or plan district may have alternative standards that apply, so check with Planning and Zoning.
- While the building code does not regulate self contained residential ponds, water features and fountains, it is important to know that as a homeowner, you may be liable for accidents or injuries occurring on your property as a result of the installation of these accessories. We recommend that you check with your homeowner's insurance company prior to installation for more information.



Swimming pools

A swimming pool is defined as any structure intended for swimming or recreational bathing that contains water over 24 inches deep. This includes both in ground and above ground swimming pools, hot tubs, and spas (Oregon Residential Speciality Code; ORSC Sec. AG102).

- A building permit is required to install a swimming pool unless it is prefabricated and the walls are entirely above adjacent grade. Whether a permit is required or not, the installation must meet the following code requirements that are intended to provide protection against drownings and near drownings by restricting access to swimming pools, spas and hot tubs.
- Any swimming pool not totally enclosed by a structure must be enclosed by a substantial barrier or fence at least four feet in height. The maximum vertical clearance between grade and the bottom of the barrier is two inches. Openings in the barrier shall not allow passage of a four inch diameter sphere.
- The barrier must be equipped with a self-closing and self-latching gate except where bordered by a wall of an adjacent structure at least four feet in height. Pedestrian access gates shall open outward, away from the pool, be self-closing, and have a self-latching device.
- Where the wall of a dwelling unit is used as a barrier, all doorways through the wall must be equipped with approved self-closing and self-latching devices or equipped with an approved power safety cover.
- The location of an in ground pool is not regulated by the zoning code, but property in an overlay zone or plan district may have alternative standards that apply. Setback and building coverage standards apply to above ground pools.
- Swimming pools must be set back from adjacent slopes steeper than 33 percent. The setback from descending slopes shall be at least $H/6$, but need not exceed 20 feet. The setback from ascending slopes shall be $H/4$, but need not exceed seven and a half feet. H is equal to the vertical height of the slope.
- Any pool is required to have either a sand filtration system or cartridge filter system. The backwash from a sand filtration system must discharge to either the public sewer or to an on-site system approved by BDS, separate from the drain field. If you have questions about filtration for your pool, please contact the BDS Environmental Soils Section at 503-823-6892.
- Prior to installing a swimming pool, we recommend that you check with your homeowner's insurance company to determine what liability you may assume as a result of the installation.
- An electrical permit is required for a swimming pool.



Hot tubs

- In most cases, a hot tub installation does not require a plumbing permit because there are no direct connections to the plumbing system. If you have a hot tub that has a direct plumbing connection, a plumbing permit is required.
- Check the zoning on your property since overlay zones and plan districts may have alternative standards that apply.
- The heating of the water in a hot tub is the primary code issue. A mechanical permit is required for a hot tub installation using gas heating and an electrical permit is required for a hot tub installation using electric heating.
- If your hot tub will be on an elevated deck that is more than 30 inches above grade, there are requirements related to the structural design of the deck. Please contact Development Services Center staff for more information.
- A hot tub is required to have either a sand filtration system or cartridge filter system. The backwash from a sand filtration system will need to discharge to either the public sewer or to an on-site system approved by BDS, separate from the drain field. If you have questions about filtration for your hot tub, please contact the BDS Environmental Soils Section at 503-823-6892.



Scheduling an inspection

- Call 503-823-7000, the BDS 24 hour inspection request line
- Enter your IVR or permit number
- Enter the three-digit inspection code for the type of inspection you are requesting
- Enter a phone number where you can be reached during weekdays and if you want the inspection in the morning or afternoon
- There must be an adult over age 18 to allow the inspector entry

All information is subject to change.

Helpful Information

Bureau of Development Services

City of Portland, Oregon
1900 SW 4th Avenue, Portland, OR 97201
www.portlandoregon.gov/bds

General Office Hours:

Monday through Friday, 8:00 am to 5:00 pm
BDS main number: 503-823-7300

Permit Information is available at the following location:

Development Services Center (First Floor)
For Hours Call 503-823-7310
or visit www.portlandoregon.gov/bds

Permitting Services (Second Floor)

For Hours Call 503-823-7310
or visit www.portlandoregon.gov/bds

Important Telephone Numbers

BDS main number.....	503-823-7300
DSC automated information line	503-823-7310
Building code information	503-823-1456
Zoning code information	503-823-7526
Permit information for electrical, mechanical, plumbing, sewer and sign	503-823-7363
Permitting process and fees	503-823-7357
Permit resources and records	503-823-7660
BDS 24 hour inspection request line requires IVR number and three digit type of inspection code	503-823-7000
Residential information for one and two family dwellings.....	503-823-7388
Environmental Soils.....	503-823-6892
Portland Bureau of Transportation (PBOT) ..	503-823-7002
City of Portland TTY	503-823-6868
Tree Hotline	503-823-8733
Call before you dig.....	503-246-6699

- ✓ To be safe, remember to call before you dig, and have your underground utility lines located.
- ✓ Check with PBOT regarding the width of the right-of-way if you are building in your front yard.
- ✓ Depending on your location and the specifications of your project, building and/or zoning permits may be required.
- ✓ Some zones have special requirements which could affect your outdoor project.
- ✓ If you have any questions or concerns about your project, check with staff in the DSC about zoning and building issues.

Visit our Web site
www.portlandoregon.gov/bds



Fence Requirements - Residential

809 N. Broadway / Milwaukee, WI 53202-3617 / 414-286-8210

Fences offer privacy and enclosure that may be desirable in a residential setting. Fences also have a visual impact on properties and neighborhoods. To ensure that impact is positive, the City of Milwaukee regulates fences. These regulations establish standards for fence materials, construction, heights and placement on the property.

Fences may be built up to your property line (which is a shared invisible line between two adjoining properties). Fences may be set back any distance from the lot line.

You will need to determine where your property lines are located. If a survey is not included with your mortgage papers, call or visit our microfilm desk (414-286-8207) to see if we have a property survey on file. If not, you may wish to hire a surveyor (listed online or in the Yellow Pages) to determine & mark your lot lines. Placing a fence that goes over a lot line onto your neighbor's property is not allowed; additional expense may be incurred to remedy the situation. The City DPW Estimating Section can tell you where your front or side street lot line is located in relation to the curb or edge of pavement. You can email them at lotline@milwaukee.gov for front yard or side street lot line information **only**.

A fence may not be built on neighboring property. If you believe your neighbor's fence encroaches onto your property, you may initiate private legal action. **City government does not arbitrate these disputes.** If you have a concern about a neighborhood fence and would like an inspector to investigate whether the fence was built to code or has the proper permit, call the DNS Construction Inspection division at (414) 286-2513.

Code Requirements

Materials

Fences must be built with approved fence wire, standard fence wood, vinyl, or metal such as wrought iron. You may not build a fence with scrap lumber, chicken wire, wood pallets, or other unapproved materials. Fence posts and supports must be installed on the side of the fence that faces your own house or yard (good side toward your neighbor).

Historic districts

If you live in a local historic district, call the Historic Preservation office, (414) 286-5712, before you start building or enter into a contract with a fence company. A Certificate of Appropriateness is required before a fence permit can be issued.

Height and location

The height allowed for a fence depends on its location on your lot and on the fence style or material. Corner lots present unique challenges. Generally, the narrower street frontage of a corner lot is the front of the lot, no matter which street the house faces. The city also defines a side yard somewhat differently than what you might expect. A side yard is defined as that portion of the lot that is located on each side of your house. It is distinct from the front yard, the back yard, the side street or the rear street. Please refer to the diagram on the back of this page for clarification.

- The maximum allowable height for a fence in a front yard is 4 feet. However, if the fence is constructed with an ornamental material, such as wrought iron with or without masonry or wood piers, a 6' high fence is allowed provided the fence is at least 50% open. This is

Fences Information Sheet

Building Permit Review Requirements

- 3 copies of the Plat of Survey with the proposed fence locations shown. Indicate height, material and type of fence proposed
- Properly completed Building Permit
- Copy of the contractor's proposal (if available)

Building Permit Fees

- Calculated Building Permit Fee is based on a published fee schedule available at the Community Development Department or online at the Village web site

Applicable Building Codes

- Municipal Code

*Additional information regarding Zoning and Building Codes can be found by following the following link:
www.villageofhinsdale.org*

This is a guide to the most common questions and problems. It is not intended nor shall it be considered a complete set of requirements.

Here is a guide to how the permit process works:

- Submit a completed permit application(s) with all the necessary information attached. (i.e. plans, plats, etc.) Refer to the specific application information packet for instructions. Any additional pertinent information should be addressed in a cover letter with your application submittal. If possible, copies of your contractors' bonds and licenses should also be submitted at this time. Payment for reviews would be included in this submittal: \$ 80.00 plan review fee.
- The plans are then put into the system and reviewed for Code compliance. There may be more than one review of your plans (building, engineering, zoning, etc.).
- If your plans were not approved, you will receive a letter itemizing the deficiencies in the submitted plans that will need to be corrected **prior** to Permit issuance. You should review the questions from the plan reviewer and address the points with revised plans. Any revision to the plans should be clearly marked or highlighted and be accompanied by a cover letter explaining any changes made or answering any questions. Once you resubmit your revised plan the process will continue as explained above until your plans are approved.
- When the plans are approved, you will get a call advising you that your permit is ready and you will be advised of the permit fees. If any contractors have not yet been licensed or bonded as required, you will be notified at this time. All **required** bonds and licenses must be on file with us prior to permit issuance.
- Payment is due at the time the permit is issued. Payment must be made by cash or check only.
- At permit issuance you will receive your permit, a placard for display on the job site as well as a copy of the approved plans, which must remain on the job site at all times
- After the permit has been issued you may begin construction. Call our office for the appropriate inspections as the work progresses.
- Upon completion of the project and after you pass **all** the required final inspections, you must provide the Building Commissioner with the original bond receipt that will then be submitted to the Finance Department for final distribution of funds.

If you have any questions about the permit process, please call our office at (630) 789-7030.

Our office hours are 8 a.m. to 4:30 p.m. Monday through Friday.

Most Common Errors

The inspectors and plan reviewers were asked to summarize the most frequently found code-related mistakes made during the application and construction process. See items listed below:

- Fences are permitted to be constructed up to, but not over the property line
- All components of the fence, postholes included, are to remain on the subject property and not encroach over the property line
- The finished side of the fence shall face outward from the subject property
- Fence heights are measured from existing natural grade
- Fence posts cannot be not more than 6" taller than the permitted fence heights
- Fences not located within the front or corner side yards are limited to 6.0' in height, unless said property line abuts a non-residential district
- Fences in the front yard are limited in height and type as identified below:
 - 3.0' maximum height for fences that are 1/3 open
 - 2.0' maximum height for solid fences. A solid fence is any fence in which the open spaces of the fence is less than 1/3 of the total fence area
- Fences in the corner side yard are limited in height and type as identified below:
 - 4.0' maximum height for fences that are 1/3 open
 - 2.0' maximum height for solid fences. A solid fence is any fence in which the open spaces of the fence is less than 1/3 of the total fence area