SHORELINE MASTER PROGRAM UPDATE

Kirkland's Shoreline Master Program

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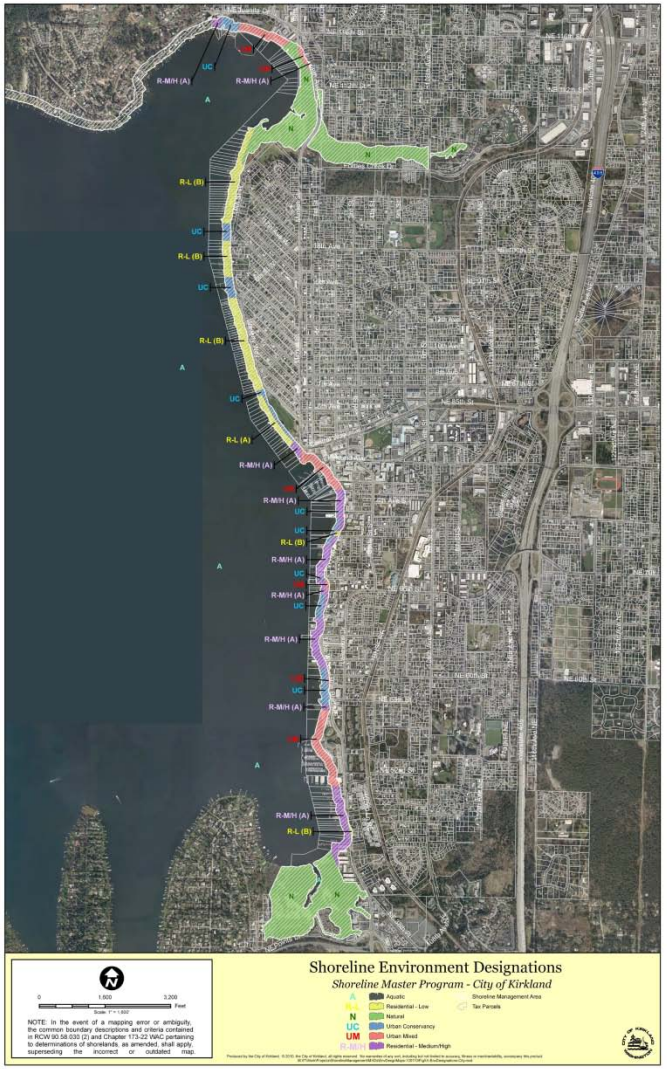
Shoreline Master Program Update

City of Kirkland

- East of Lake WA
- North of Hwy 520 & Bellevue
- Population of 50,000
- 6 miles of shoreline
  - 2 miles in public parks
- Urban setting
- Only 8 vacant parcels out of 336 lots



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Type of Use	Approx. Length	Approx. Area
Parks	2.0 miles	139.5 acres
Low Density Residential	1.8 miles	40.8 acres
Urban (multi-family & commercial)	2.3 miles	53.4 acres

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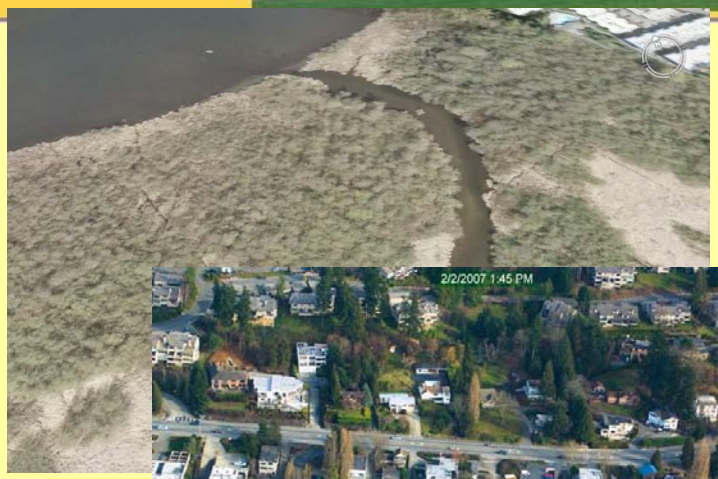
Findings of 2006 Shoreline Inventory

- **Functions:**
  - Wetland areas high function
  - All other areas generally have low function
- **Key mgmt. issues**:
  - -Hardened shoreline
  - -Extent of overwater coverage
  - -Lack of shoreline riparian vegetation & close setbacks
- **Other issues of concern**:
  - Impervious surfaces/compacted lawns
  - Aquatic invasive species



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Presentation Topics

- **Shoreline setback standards &** how they were derived.
- **Pier/docks** standards & how they were derived.
- **Flexible standards** for setbacks, piers/docks & vegetation.
- **Cumulative Impact Analysis** and how it documents that No Net Loss is met.
- Decision Tree for **Shoreline Stabilization Measures.**

Key Objectives for Standards

- Meet **State Guidelines** and receive **Ecology approval**.
- Have **clear** and **up front** standards using chart format when possible.
- Reflect **existing city conditions**.
- Minimize number of **new non-conformances** with setback standards.
- Treat properties **similar in meeting citywide NNL** (vacant, developed & re-developable) for setback standards.
- Develop pier/dock & vegetation standards consistent with **state & federal** agencies, if possible.
- Provide **flexible options** in standards**.**

1. Shoreline Setback Standards

City's Approach:

- Meet Ecology's general direction of **25' minimum urban setback** for Lake Washington.
- Use **setback** rather than **buffer** standard to reflect existing conditions & access to lake.
- Find balance between minimum # of **new non-conformances** & meeting **No Net Loss.**
- Provide **up front & clear** requirements (no biological assessments).

Steps to Derive Setback Standards

A. Existing Conditions (GIS)

- Measure **average parcel depths** using aerials (exclude ≥40% slopes).
- Measure **existing setbacks** for median, mean & percentiles and minimum & maximum using aerials.
- Look for **patterns** of existing setbacks & lot depths
- Overlay **prior setback** standards = how many existing non-conformances.

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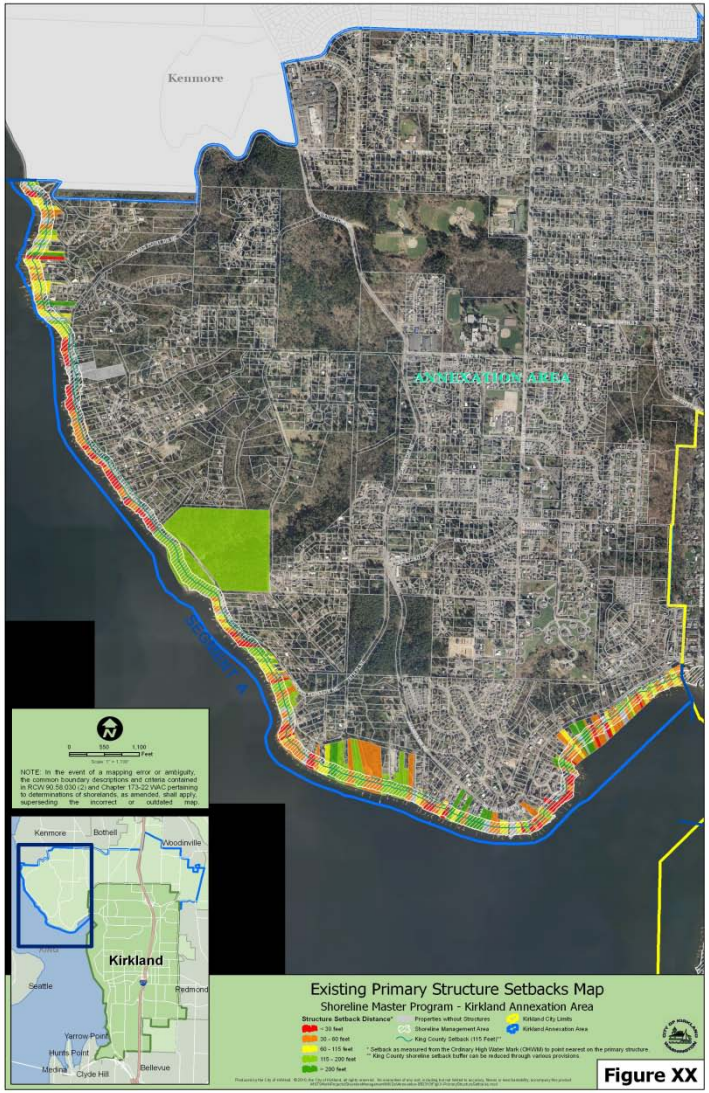
Mapping Existing Setbacks To Find any Patterns

- less than 30’
- 30’-60’
- 60’-115’
- 115’-200’
- >200’



Steps to Derive Setback Standards

B. Future Development (Assessor's info)

- # **vacant parcels** & zoning.
- # **subdivdable parcels** & zoning.
- # **likely to redevelop =** homes before 1971 where ImpVal to LandVal ratio ≤ 0.5 .
- **Exclude** sensitive areas & buffers.

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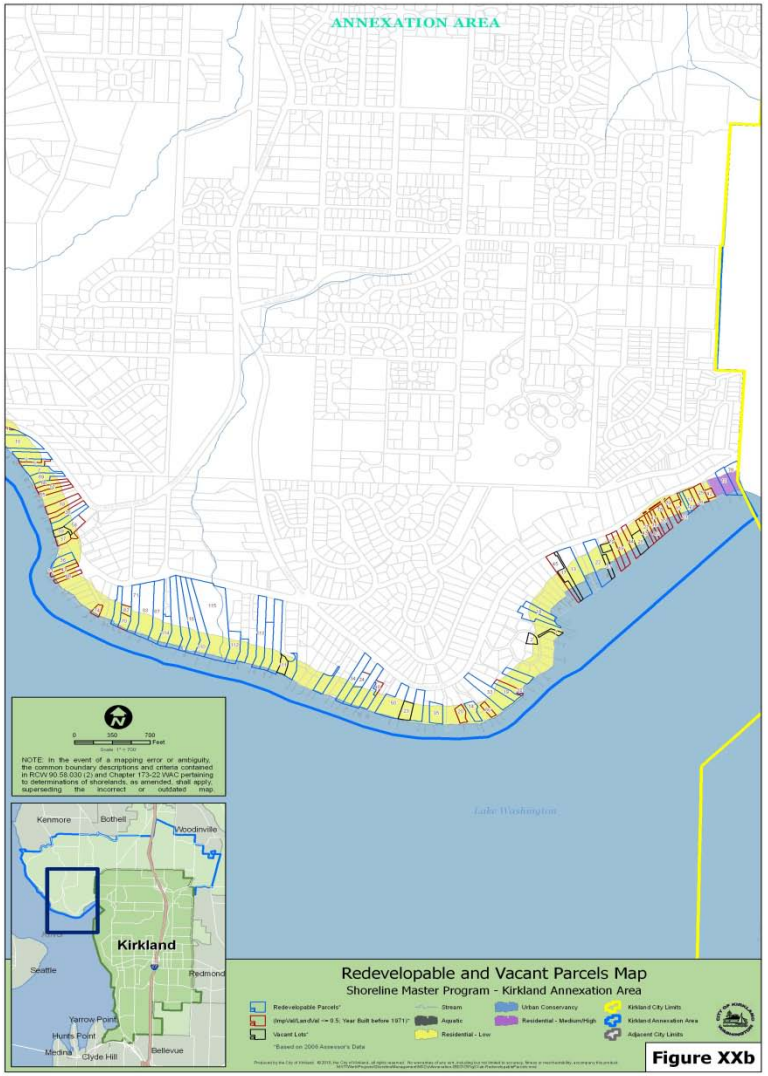
Mapped Re-Developable Lots

- vacant lots
- subdivisions
- age of home



Steps to Derive Setback Standards

C. Overlay Several Setback Options

1. Develop **trial options** based on existing setback & parcel depth info.
2. Count # **new non-conformances** for all lots.
3. Estimate total **open space gain/reduction** (between home & OHWM) for re-developable lots.
4. Estimate total **gain of native vegetation** (.75 length along shoreline x 10’ depth of vegetation) for re-developable lots.

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Overlay Setback Options

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Prior and New Setback Standards

Environment Area	Prior Setback	Median Setback	New Setback ("sweet spot")
R-L (wide variation in lot depths)	Average of adjacent homes or 15% APD with 15' min	43'	30% APD with 30' min 60' max
R-M/H (less variation in lot depth)	15% APD with 15' min	24'	15% APD with 25' min
UM (less variation in lot depth)	15% APD with 15' min	28'	15% APD with 25' min
	APD = Average Parcel Depth		

Example of Range in Setbacks Standards for Diverse Area

- 30% APD with 30’ min & 60’ max (or 80’ max).
- 25% APD with 30’ min & 60’ max (or 80’ max).
- 20% APD with 25’ min & 60’ max (or 25’ min).
- 15% of APD with 25’ min & 80’ max.
- 15% APD with 15’ min (constrained areas).
- 15 ft. Minimum (constained areas).

Kirkland’s annexation area will have 8 different setback standards for residential area.

Steps to Derive Setback Standards

D. Examples of Flexible Setback Reductions

- -15% APD: 75% **soft shore** = 15’ reduction
- -5% APD: **cove** of 15 linear feet = 5’ reduction
- -5% APD: setback **bulkhead** = 5’ reduction
- -2% APD: **gravel/logs/veg.** waterward OWHM = 2’ reduction
- -2% in ADP: **lawn ≥ 50%** in setback = 2‘ reduction

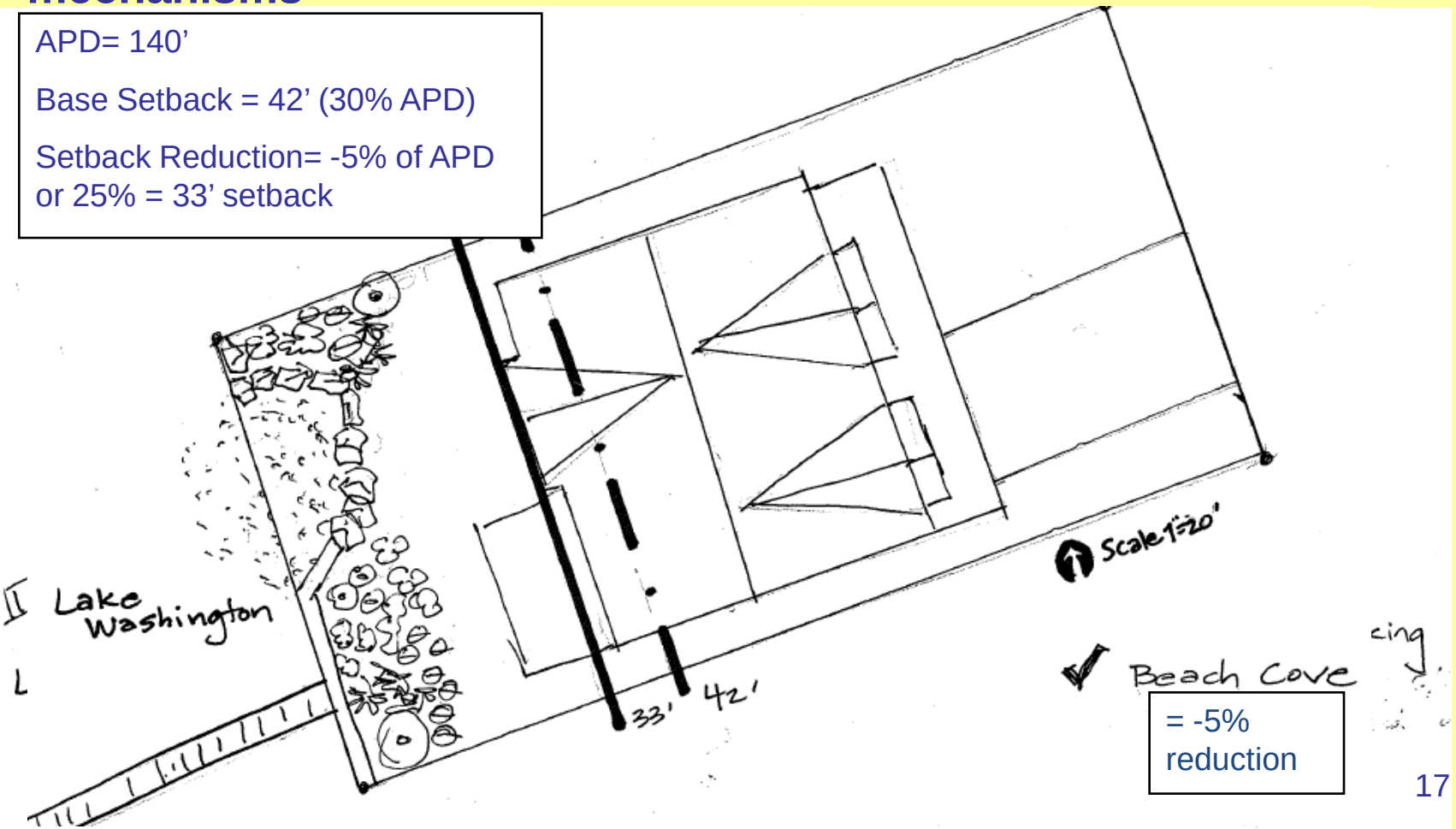
Kirkland has 10 available options .

Example of setback reduction using waterward reduction mechanisms

APD= 140’

Base Setback = 42’ (30% APD)

Setback Reduction= -5% of APD or 25% = 33’ setback

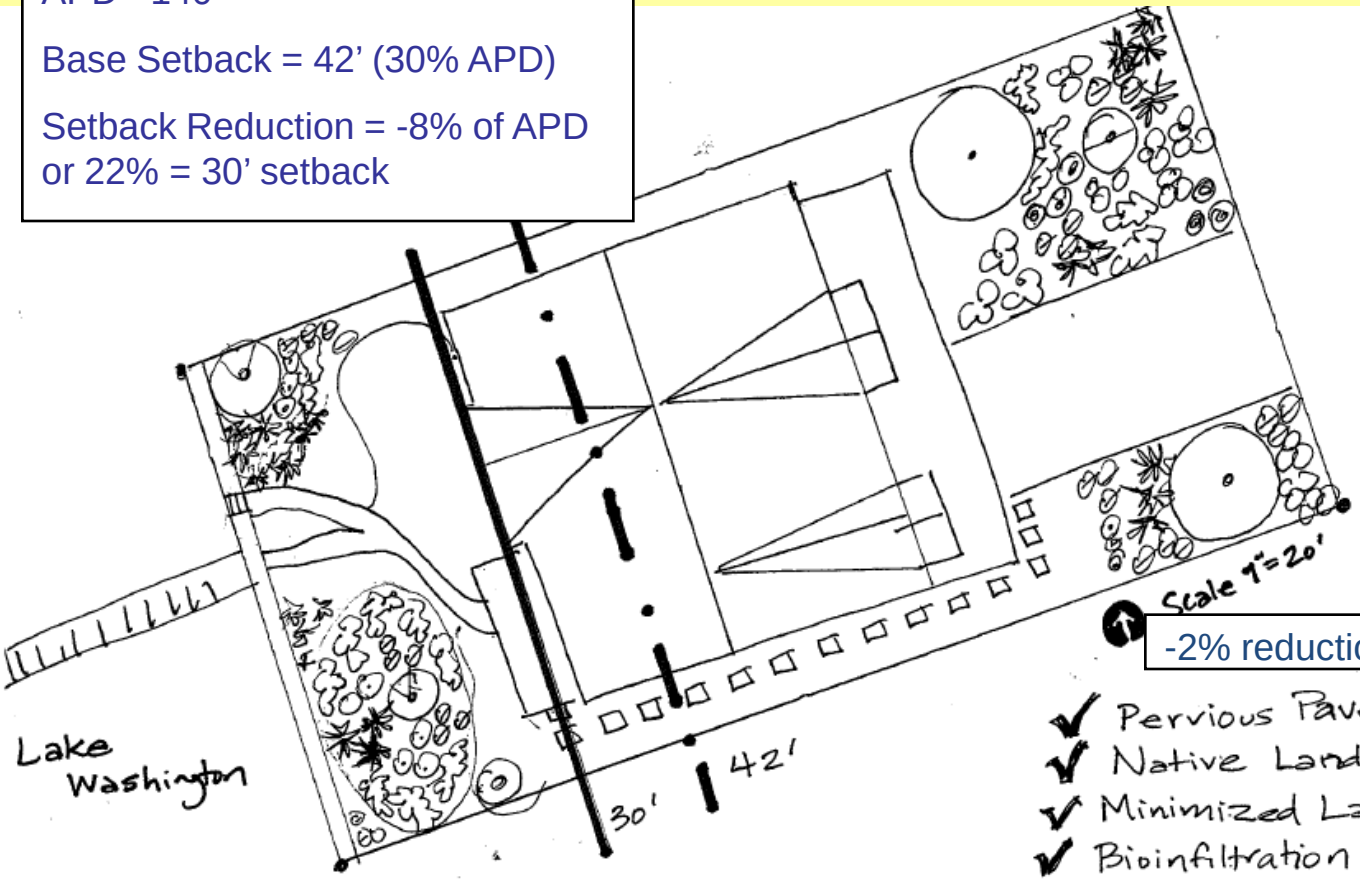


Example of setback reduction using upland reduction mechanisms

APD= 140’

Base Setback = 42’ (30% APD)

Setback Reduction = -8% of APD or 22% = 30’ setback



-2% reduction for each = -8%

- ✓ Pervious Pavements / Decking
- ✓ Native Landscaping
- ✓ Minimized Lawn
- ✓ Bioinfiltration

Non-Conformances

Provisions

- **No replacement**, except on constrained sites.
- Replace only on lot with **≤ 3,000 sf of buildable area** or due to **fire**, etc.
- Replace **overwater residences** due to fire, etc. but minimize impacts.
- **Addition ≥10% of footprint** in setback with mitigation.

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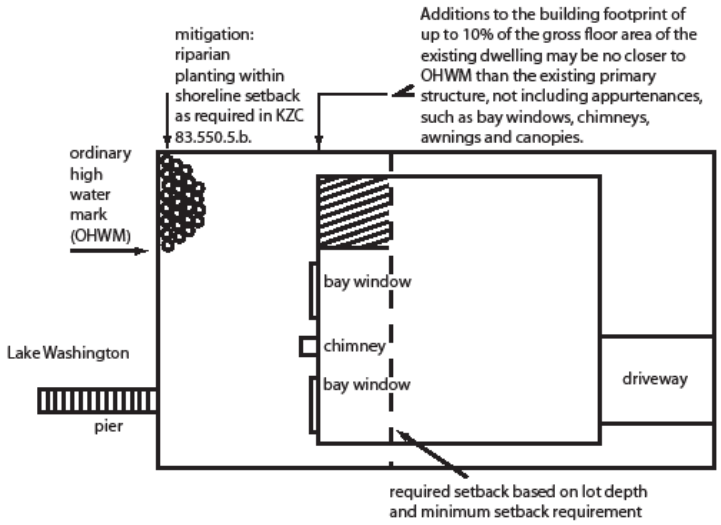
Plate XX
Addition to Nonconforming Detached Dwelling Unit



Example of 10% addition within shoreline setback

Steps to Derive Setback Standards

E. Cumulative Impact Analysis = NNL Met

Combination of:

- ≈ 3 to 1 ratio of reduction **in open space to gain in native vegetation** from new development**.**
- **Native vegetation** standards.
- **Lighting** & **pervious** material standards.
- **Tree retention** standards in shoreline.
- **Non-conformance** provisions.

F. Allowed in Shoreline Setback:

- **Bay windows, eaves, awnings** ≤18 inches.
- Private paved **walkways** ≤ 8 ft.
- **Decks and patios:** ≥50% pervious, ≤ 10 ft into setback, & ≤ 50% of façade & ≥ 25’ to OHWM.
- Urban Mix: **outdoor seating area** ≤ 10 ft into setback & ≤16 ft to OWHM.
- Urban Mix: **balconies** ≤ 4ft into setback & ≥ 21ft to OWHM.
- **Not allowed**: fences, swimming pools, tool sheds, etc

G. Code Changes to Offset Shoreline Setback

- Increase allowable single family **height** from 25’ to 30.’
- Reduced **front yard** setback requirement from 20’ to10.’
- Replaced large north setback yard requirement for **smaller side yards** of 5’/15’.

2. Pier and Dock Standards

Topics

- New piers/docks
- Replacement & major repairs
- Additions
- Minor repairs
- Administrative Approval
- Corps of Engineers expedited review

2. Pier and Dock Standards

A. New piers

- Separate regulations for SF, MF and marinas.

- Dimensional standards similar to **Corps.**

  -Use Corps' **expedited review process.**

  OR

- **Administrative approval** approved by state/federal agencies for area, pier width, depth of fingers/ells.

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New SF Pier	Standards
Maximum Area	480 sq. ft. single owner 700 sq. ft. joint owners 1,000 sq. ft. for 3 or more owners When 10’ depth not reached, 4 sf. more for each 1’ of pier
Maximum Length	150 ft. but no longer than adjacent pier unless show no adverse impact. 26’ for ells 20’ for fingers and float decks
Maximum Width	4’ for pier or dock 2’ for fingers 6’ for ells
Height	Min 1.5’ above OHWM
Mitigation	Plantings of 10’ deep along 75% of frontage (15’ for MF) 3 trees per 100’ of frontage & 60% shrubs & rest groundcover

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New SF Pier/Dock	Standards (cont).
Minimum Water Depth for Ells & Float Decking	-9 ft or greater at the landward end of ell or finger. -10 ft or greater at the landward end of float.
Decking	-Fully grated or materials that allow 40% light transmittance.
Location of Ells, Fingers & Deck Platforms	-No closer than 30 ft. waterward of OHWM. -Within 30' of OHWM, only access ramp portion of pier or dock is allowed.
Pilings, Moorage Piles & Buoys	-1st set of pilings no closer than 18 ft. of OHWM. -Moorage piles no closer than 30' waterward of OHWM & not waterward of end of pier. -Moorage buoys not permitted. -Max 2 moorage piles per pier/dock or 4 piles for joint use.

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New SF Pier	Administrative Approval
Maximum Area	No larger than authorized through state and federal approval.
Maximum Width	4’ for portion of pier or dock located within 30’ waterward of OHWM, otherwise 6’ for walkways.
Minimum Water Depth	No shallower than authorized through state and federal approval. All other components must meet City standards.

2. Pier and Docks Standards

B. Replacement Piers and Major Repairs

- Major repair = >**50%** of pilings and decking/stringers.
- **Mitigation** =
  - -Existing skirting removed
  - -Remove other in-water structures 30’ of OHWM
- **Dimensional standards** same as new pier, except pier area & expedited review by Corps, OR
- **Administrative approval** for alterations approved by state/federal agencies.

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SF Replacement / Major Repair	Administrative Approval
Maximum Area	Size of existing pier or as allowed for new pier.
Maximum Width	-4’ for walkway or ramp within 30’ of OHWM. -6’ for walkway beyond 30’ waterward of OHWM. -8’ for ells and float decks. -If no ells or fingers, most waterward 26’ section of walkway at 8’.
Maximum Length	26’ for fingers and float decks.
Minimum Water Depth	No shallower than authorized by state and federal approval.

2. Pier and Docks Standards

C. Additions to Piers/Docks:

- Demonstrate **need** (water depth/boat size).
- **Dimensional standards** meet new pier/dock standards.
- **Grating** installed within 30’ waterward of OHWM at 1:1 ratio of pier addition.
- **Mitigation** =
  - Plantings same as new pier requirements
  - Remove skirting
  - Remove in-water structures within 30’ waterward of OHWM at 1:1 ratio

2. Pier and Docks Standards

D. Minor Repair Activities:

- Need not meet new pier standards.
- Minimize size of pilings or moorage piles.
- Maximize space between pilings.
- Replace >50% decking, convert to grated material in first 30’ waterward of OHWM.

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SF Boatlift & Canopies	Standards
Location	Boatlift as far waterward of OHWM as feasible. Bottom of canopy at least 4’ above ordinary high water and top not ≤ 7’ above pier/dock.
Maximum Number	1 boatllft per SF 2 jet ski lifts or 1 platform lift per SF 1 canopy for SF (for MF greater of 2 or 10% of development)
Fill for Boatlift	Max 2 cubic yards of fill to anchor boatlift with list of requirements.

2. Pier and Docks Standards

E. Cumulative Impact Analysis

- Totaled # **existing** piers.
- Projected # **new** piers (single & joint), % of **replacement, additions & repairs**.
- Projected amount of replacement to **grating** for both private & public.

= **5% reduction in overwater cover**.

3. Other Flexible Standards

Alternative Options for:

- **Native vegetation plan**
- **Tree replacement for tree removal**

Following must be met:

- NNL met
- Equal or superior plan
- Certain conditions (view blockage, limited area)

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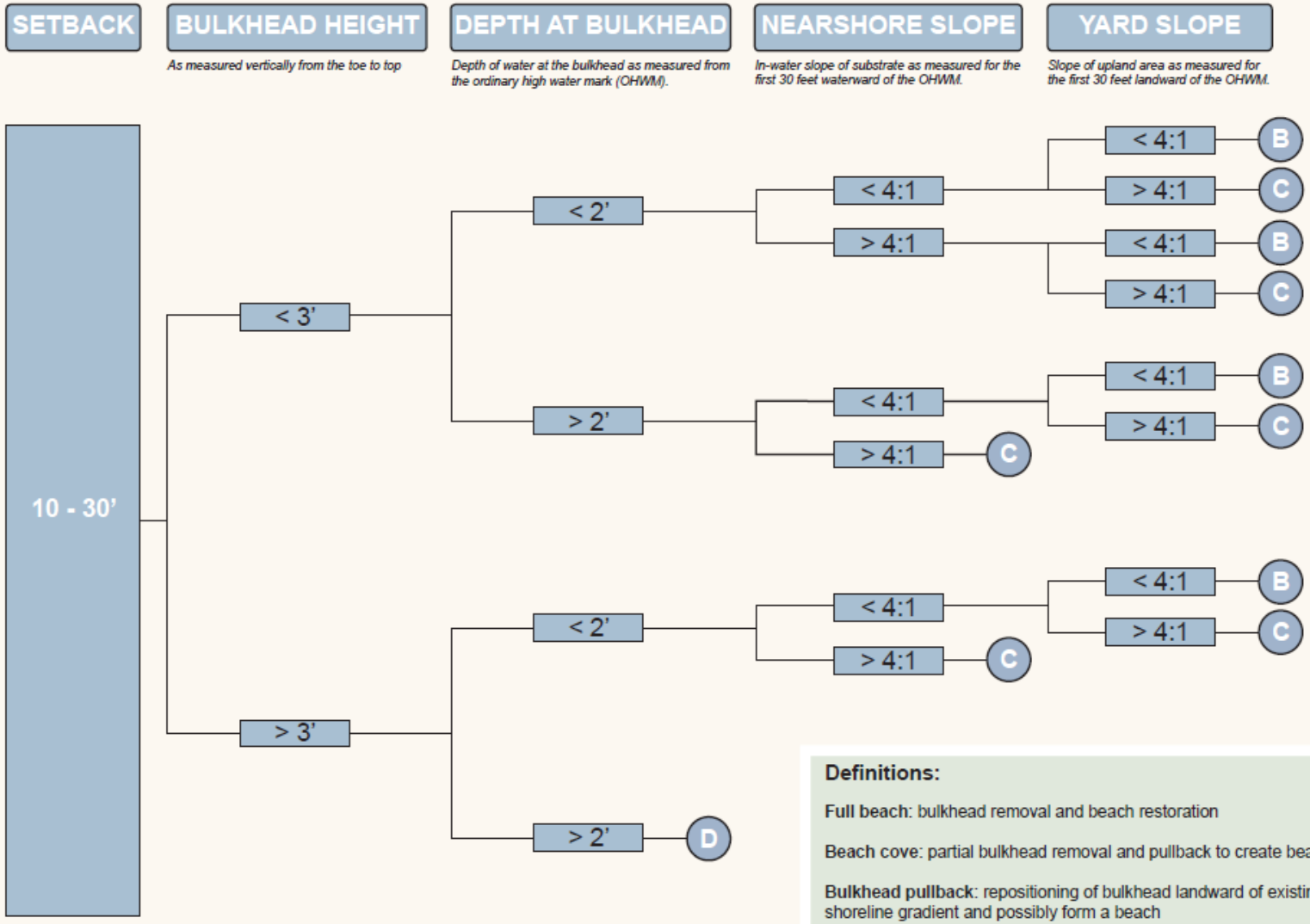
4. Shoreline Stabilization

Major Repair or Replacement of Hard Shoreline

- Major repair:
  - Lost integrity/collapsed (>**50%** % of linear length of toe rock or footing) OR
  - **>75%** linear length of top or middle rocks.

Existing structure ≤10' from OHWM , no geotech report.

Notes: Sites with less than a 10' building setback are not included with this decision tree as those sites will likely require some form of hard armoring. However, those sites may still benefit from the addition of an in-water gravel/cobble wedge to improve shoreline gradient along with a native plant buffer.



Options:

- (A) Full beach, beach cove, pullback, bioengineering, enhancement, gradient improvement
- (B) Beach cove, pullback, bioengineering, enhancement, gradient improvement
- (C) Pullback, bioengineering, enhancement, gradient improvement
- (D) Bioengineering, enhancement, gradient improvement

Definitions:

Full beach: bulkhead removal and beach restoration

Beach cove: partial bulkhead removal and pullback to create beach cove

Bulkhead pullback: repositioning of bulkhead landward of existing location to improve shoreline gradient and possibly form a beach

Slope bioengineering: shoreline stabilization using plant material and other biodegradable materials to hold upland soils in place

Bulkhead enhancement: bulkhead may stay in same general location, but modifications may include sloping back existing hard structure and/or modifying material type and layout to create potential pocket beach areas.

Nearshore gradient improvement: installation of gravel/cobble substrate wedge for the purposes of improving nearshore gradients

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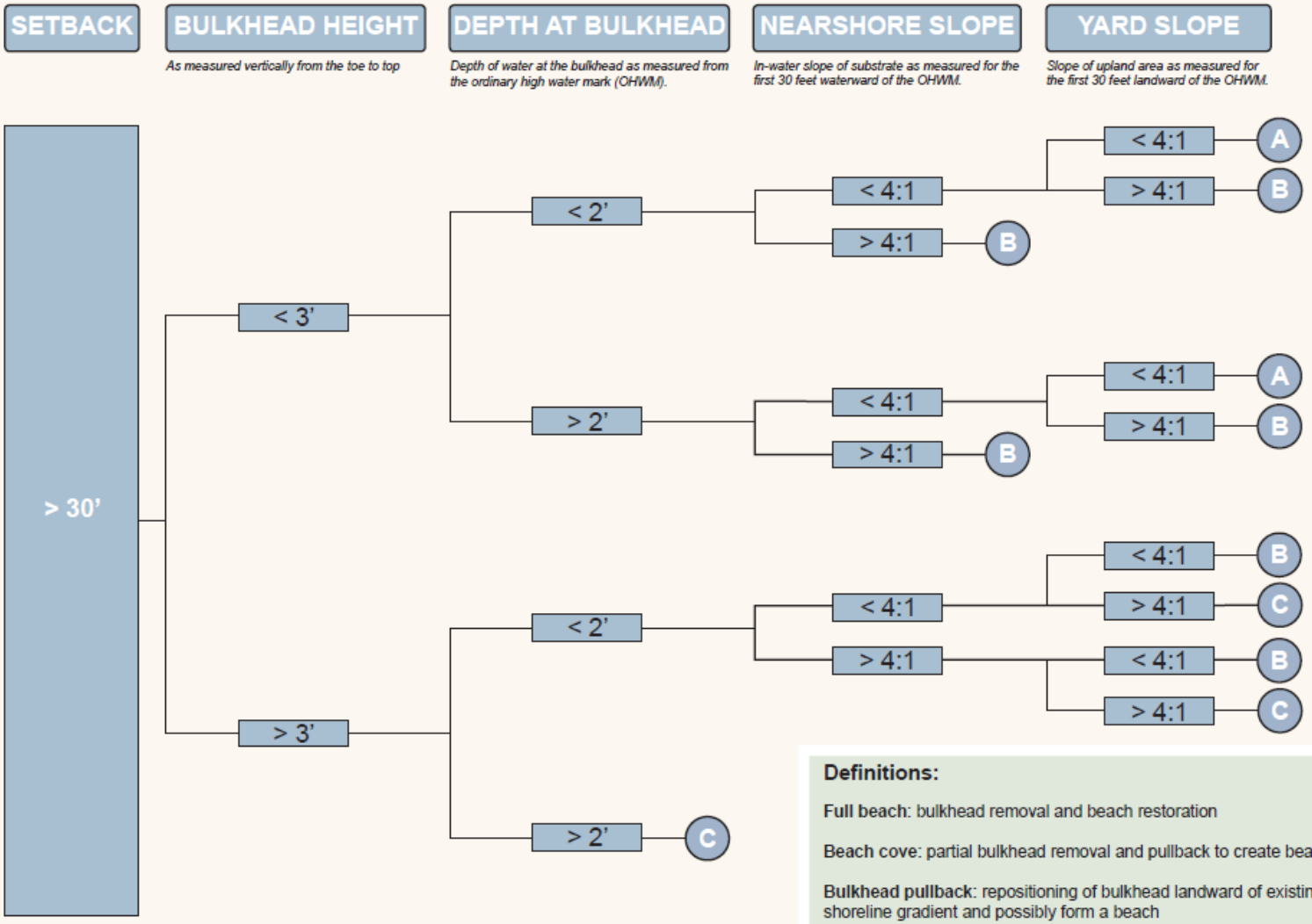

Options:

- A Full beach, beach cove, pullback, bioengineering, enhancement, gradient improvement
- B Beach cove, pullback, bioengineering, enhancement, gradient improvement
- C Pullback, bioengineering, enhancement, gradient improvement
- D Bioengineering, enhancement, gradient improvement

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Questions?

Kirkland SMP regulations found at:

www.ci.kirkland.wa.us/depart/Planning/Code_Updates.htm

Ecology's Closing Thoughts

- The City stayed true to its SMP-update Objectives throughout the Process.
- SMP-update Objective (Example) Setback/Buffer analysis.
- The Role of Regional Coordination.
- The Role of Public Input.