

Eastside Environmental Pros

25 February 2026

Project: EE-652

Andrew Lamb
5450 E Mercer Way,
Mercer Island, WA 98040
Via email: andrewklamb@gmail.com

REFERENCE: King County Tax Parcel #192405-9134
SUBJECT: Critical Areas Study

Dear Andrew,

At your request, Eastside Environmental Pros has investigated your property (hereinafter referred to as "Site") and areas within 300 feet of the property for the presence of critical areas (*i.e.* wetlands and streams). The Site and 300 feet surrounding the Site are referred to jointly as the "Study Area". This report has been prepared to satisfy the ecological reporting requirements of the City of Mercer Island outlined in MICC §19.07.110 –*Critical area study*.

PROPERTY LOCATION

The Site is comprised of a single King County parcel (TPN: 192405-9134). The parcel has an assigned address of 5450 E Mercer Way in the City of Mercer Island, Washington. The Public Land Survey System location of the Site is the southeastern quarter of Section 19, Township 24 North, Range 05 East, of the Willamette Meridian.

PROPERTY DESCRIPTION AND LAND USE

The Site is 0.33-acres in size and is bordered to the west by single-family residences, a private road that connects to E Mercer Way, to the east by Lake Washington, and to the north and south by similarly developed shoreline single family residences. Topography generally slopes downwards from the west to the east. The highest elevation is located along the western boundary of the Site at approximately 55 feet, and the lowest elevation is located along the eastern boundary of the Site at approximately 5 feet.

METHODOLOGY

The Study Area was evaluated for the presence of critical areas on 12 August 2025 using the routine approach described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (U.S. Army Corps of Engineers, 2010) and the Washington State Department of Ecology’s publication, *Determining the Ordinary High Water Mark for Shoreline Management Compliance in Washington State* (2016). Off-Site areas were evaluated from what could be observed visually from the boundary of the Site, public rights-of-way, and via agency databases.

Wetland Determination Datasheets were recorded within representative locations on-Site (**Attachment 1**). Climatic conditions were evaluated through the Army Corps of Engineers Antecedent Precipitation Tool application (**Attachment 2**). Climatic conditions during the Site visit were **drier than normal**.

ONSITE INVESTIGATION RESULTS

Lake Washington borders the eastern portion of the Site and the OHWM was delineated during the 12 August 2025 Site visit. In addition, a potential landslide hazard area is depicted on the City of Mercer Island’s Geospatial Hub. Therefore, per section 19.07.160.B(1)-

“Geologically hazardous areas “When an alteration within a landslide hazard area, seismic hazard area or buffer associated with those hazards is proposed, the applicant must submit a critical area study concluding that the proposal can effectively mitigate risks of the hazard. The study shall recommend appropriate design and development measures to mitigate such hazards. The code official may waive the requirement for a critical area study and the requirements of subsections (B)(2) and (B)(3) of this section when he or she determines that the proposed development is minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity, or that the development site does not meet the definition of a geologically hazardous area.”.

Therefore, further investigations by a qualified licensed geotechnical engineer or consultant of the geologic hazard areas may be required by the City, please see any associated report for more information. **No other critical areas were identified within the Study Area.** Critical Areas are summarized below in **Table 1**.

Table 1. Critical Areas Summary Table.

Critical Area	Category / Type	Standard Buffer and/or Setback*
Lake Washington	Shoreline of the State (Type S)	25 feet/10 feet**

*Maximum Hardscape and Lot Coverage: 10%: between 0 and 25 feet from OHWM, and 30%: between 25 and 50 feet from OHWM.

LAKE WASHINGTON

Lake Washington is an approximately 21,933-acre lake located along the western boundary of the Site (**Photo 4**). Lake Washington has multiple tributary inlets from major watercourses in the drainage basin. Such streams include Cedar River, Sammamish River, Bear Creek, Thornton Creek, Juanita Creek, Lyon Creek, May Creek, and others. The drainage basin for Lake Washington includes approximately 357,760 acres of developed urban growth areas, rural residential areas, agricultural land, and commercial land uses surrounding the upslope areas.

The Washington State Department of Fish and Wildlife (WDFW) documents several fish species within Lake Washington including Chinook salmon, coastal resident cutthroat trout, coho salmon, Kokanee, sockeye salmon, and other more common fish species.

Lake Washington is designated as a Shoreline of the State and is categorized as a Type S water accordingly. Type S watercourses within Mercer Island require a shoreline setback as determined by its environment residential zoning per the Shoreland Development Standards Table C listed in MCC §19.13.050. The shoreline setback is a minimum of 25 feet in accordance with MCCC §19.13.050. In addition to a setback, there are limits on the maximum hardscape and lot coverages. Between 0 and 25 feet from the ordinary high watermark 10% is allowed as hardscape, and 30% is allowed between 25 and 50 feet from the ordinary high watermark.

OFF-SITE DRAINAGE DITCH

Per the city GIS portal, a watercourse was mapped as adjacent to the Site. Eastside Environmental Pros, Inc. investigated the property and identified a stormwater pipe but did not locate a defined stream channel with a bed and bank. Per the city GIS portal, the stormwater pipe is also mapped in the same location as the potential watercourse, and according to a LiDAR Watercourse and Stormwater Conveyance Analysis (Herrera 2019), the feature is an unregulated drainage feature. Therefore, the feature will be maintained as a constructed drainage conveyance.

NON-REGULATED WETLAND

The United States Army Corps of Engineers (USACE) (Federal Register 1982) and the EPA (Federal Register 1980) jointly define wetlands as:

*“Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that **under normal circumstances** [emphasis added] do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas”*

*“Wetlands **do not include** [emphasis added] those artificial wetlands intentionally created from non-wetland sites, including but not limited to irrigation and **drainage ditches** [emphasis added], grass-lined swales, canals, detention facilities, farm ponds, and landscape amenities if routinely maintained for those purposes.”*

Eastside Environmental Pros, Inc. investigated the property and identified a suspected wetland onsite, adjacent to the footprint of an existing deck. However, hydrology supplied to this feature is entirely supplied by the unregulated stormwater drainage conveyance discussed in the previous section. According to previous geotechnical studies conducted on parcels nearby, a perched aquifer water table is present in the area but occurs 4–9 feet below the surface, which does not provide the shallow saturation or inundation within 12 inches of the surface that would be necessary to sustain natural wetland hydrology. In addition, according to the City’s GIS mapping and LiDAR Watercourse and Stormwater Conveyance Analysis (Herrera 2019) the area is a location for stormwater conveyance discharges. The observed wetland indicators are therefore attributable to artificial groundwater created by an evidenced stormwater drain line that disperses beneath the deck and to the lake rather than a naturally occurring system. Therefore, this feature does not meet wetland criteria and is not regulated per the USACE definition.

Mercer Island’s critical areas regulations are intended to protect wetlands that provide natural hydrologic, biologic, and ecological functions; however, wetlands maintained only by artificial water sources fall outside the scope of regulation unless specifically created for mitigation or development requirements. Since this wetland’s hydrology is not naturally occurring and is sustained solely by artificial stormwater conditions, it should be designated as non-regulated.

PROPOSED PROJECT

Per the proposed Site Plan (**Attachment 3**), the applicant proposes the construction of an uncovered decking, hardscapes, walkways, and approximately 135 linear feet of cast-in-place concrete retaining walls to address slope stability and erosion control on a property located within a mapped steep slope critical area. Integrated stairs will be installed at the ends of each wall segment to facilitate safe slope transitions. In addition, a planting plan has been prepared that will include vegetation plantings within the property that will enhance the properties shoreline buffer functions.

Regulatory Review

Mercer Island shoreline permit codes: MICC 19.07.110 - The retaining walls are necessary to stabilize the slope, prevent erosion, and provide functional grading transitions on the developed lot. MICC 19.13.020(G)(1), as it involves normal repair and maintenance and/or protective measures for an existing developed Site. No new overwater coverage, impervious area, or change in shoreline use is proposed. The work is landward of the OHWM and will not impact shoreline ecological function.

As the scope of work qualifies for a shoreline exemption, the project will be reviewed under a Critical Area Review 2 (CAR2) in combination with a shoreline exemption request.

Hardscaping within critical area setbacks is permitted per MICC §19.07.180.C.8 and additions to, or reconstruction of, an existing legally established structure or building is allowed per MICC §19.07.130 - *Modifications*. The criteria for this provision are listed below in *italicized* text and the response of how the proposed project meets each criteria is listed in plain text.

A.1. The seasonal limitations on land clearing, grading, filling, and foundation work described in section 19.07.160(F)(2) shall apply.

Pursuant to MICC §19.07.160(F)(2), land clearing, grading, filling, and foundation work within: (a) an erosion hazard area, when 2,000 square feet or more of Site disturbance is proposed, and/or (b) a landslide hazard area are not permitted between October 1 and April 1. This project does not propose 2,000 square feet or more of impact within erosion hazard areas and the proposed development will occur outside of the October 1 and April 1 timeframe.

A.2.a. The structure is enlarged not more than a cumulative total of 200 square feet larger than its footprint as of January 1, 2005;

The structure is not proposed to be enlarged or expanded within critical area setbacks of the shoreline.

A.2.b. If the existing, legally established structure is located over or within a wetland or watercourse, no further expansion within the wetland or watercourse is allowed;

The project is not located over or within a wetland or watercourse and is not being expanded any closer to the watercourse than the existing single-family residence.

A.2.c. If the existing legally established structure is located within a wetland or watercourse buffer, the addition may be no closer to the wetland or watercourse than a distance equal to 75 percent of the applicable standard buffer and must also be no closer to the watercourse or wetland than the existing structure.

The existing legally established structure is not located within a wetland or watercourse buffer.

A.2.d. A critical area study approved by the city demonstrates that impacts have been avoided or minimized and mitigated consistent with section 19.07.100, mitigation sequencing;

The proposed project development have been designed to be placed outside all critical areas and their buffers. Per MICC 19.07.110 - The retaining walls are necessary to stabilize the slope, prevent erosion, and provide functional grading transitions on the developed lot. Impacts to the adjacent buffer areas have been avoided and minimized to the maximum extent practicable through design and location and have been mitigated per the vegetation plan.

Low-impact equipment will be used in sensitive areas to minimize disturbance. Temporary erosion and sediment control (TESC) measures – such as silt fencing, wattles, and stabilized construction entrances – will be installed before work begins. Drainage systems, including perforated pipes and outlet controls, will redirect stormwater safely away from the slope, consistent with MICC 19.07.080.

A.2.e. If the modification or addition is proposed within a geologically hazardous area or associated buffer, a qualified professional provides a statement of risk consistent with section 19.07.160(B)(3).

Geologically hazardous areas or associated buffers are known to be located on the property. Therefore, per section 19.07.160.B(1)-*Geologically hazardous areas “When an alteration within a landslide hazard area, seismic hazard area or buffer associated with those hazards is proposed, the applicant must submit a critical area study concluding that the proposal can effectively mitigate risks of the hazard. The study shall recommend appropriate design and development measures to mitigate such hazards. The code official may waive the requirement for a critical area study and the requirements of subsections (B)(2) and (B)(3) of this section when he or she determines that the proposed development is minor in nature and will not increase the risk of landslide, erosion, or harm from seismic activity, or that the development site does not meet the definition of a geologically hazardous area.”*. In summary, a geotechnical consultant will likely be required to provide a statement of risk separately for this project.

3. Reconstruction of legally established nonconforming structures shall meet the standards in section 19.01.050. The code official may require a critical area study and mitigation plan addressing temporary impacts to critical areas and buffers.

Alteration calculations have been included in the architectural and Site plans. The project components result in a minor net increase in impervious located entirely outside of the critical areas and their buffers. This project is anticipated to result in an overall increase in overall shoreline buffer functions. Therefore, no additional mitigation measures are required.

4. Demolition. Removal of structures in watercourse and wetland buffers and geologically hazardous areas, provided:

4.a. Site disturbance is limited to the existing access and building footprint;

Site disturbance is limited to the necessary proposed retaining wall area and hardscaping.

4.b. There is no site disturbance within or to wetlands or watercourses;

The Site disturbance is proposed to occur entirely outside of the shoreline buffer, no streams or wetlands were determined to be located on-Site, and the project will not result in impacts.

4.c. All soils are stabilized and the area is revegetated with appropriate native vegetation; and

Vegetation removal will be limited to what is strictly necessary for wall installation. Following completion, the Site will be restored using native species consistent with Mercer Island's critical area restoration standards (MICC 19.07.120). These development areas are not anticipated to require additional stabilization measures unless deemed necessary by a qualified Geotech.

4.d. Necessary building permits are obtained.

This report is required to meet the necessary criteria for obtaining building permits. Any required building permits will be obtained for this project following the submission of this Critical Areas Study.

Discussion of No Net Loss to Shoreline Ecological Functions

According to the Department of Ecology, all Shoreline Master Programs shall include provisions that require assurance to no net loss of shoreline ecological functions. **This project has been designed to ensure no net loss to shoreline ecological functions** by avoiding impacts as much as practicable, by minimizing the degree and magnitude of impacts through development design and location, using appropriate minimization measures in accordance with best available science, and installing shoreline enhancement native plantings in accordance with the planting plan and schedule prepared by Studio Terrain within **attachment 3**.

The Department of Ecology's SMP handbook outlines potential no net loss indicators for the shoreline master programs. Below are the listed relevant indicators in *italicized* text and how the project has been designed to ensure no net loss of shoreline ecological functions follows in regular text:

1) *Forest cover: Acres converted from forest to other land uses;*

No changes in forest cover are proposed and planting as proposed along the shoreline. As a result there will be no net loss to the shoreline management zone and an increase functions for the shoreline vegetation conservation buffer.

2) *Shoreline stabilization: linear length or area of bulkheads, revetments, bioengineering, seawalls, groins, retaining walls, gabions;*

No modifications to such structures are proposed; considering this, there is no net loss of ecological functions.

- 3) *Marine: linear measurement of mature native marine vegetation of a given width (buffer width) or percent cover of different vegetation classes;*

Native plantings will be established within the vegetation conservation buffer as depicted in Studio Terrain's planting plan (**Attachment 3, L2.1**). This is anticipated to increase shoreline functions and ensures no net loss to ecological functions.

- 4) *Piers/docks/floats, overwater structures: number of structures, square footage of new and replacement;*

No additional piers, docks, floats, or overwater structures are proposed to be constructed or their footprints expanded.

- 5) *Road lengths (feet) within 200 feet of a water body;*

No road lengths are proposed as part of this development.

- 6) *Number of road crossings;*

No road crossings are proposed as part of this development.

- 7) *Water quality: 303(d) list;*

Many areas of Puget Sound are listed on the 303(d) list for various water quality parameters. The Site is within the City of Mercer Island jurisdiction, where stormwater is managed by conveying roof and driveway runoff to the public stormwater drainage system. The civil engineer and architect have designed the project such that all additional runoff from the proposed development will also be routed to this system, avoiding impacts to shoreline ecological functions and ensuring no net loss.

- 8) *Floodplain area: acres allowed to flood – tidal;*

This development will not result in any loss of floodplain area or alterations to tidal processes due to its strategic location.

- 9) *Number of bald eagle, osprey nests and roosts, and great blue heron rookeries;*

No bald eagle, osprey nests and/or roosts, or great blue heron rookeries are located onsite or within the Study Area.

10) *Impervious surface area;*

No increase in impervious surface is proposed within the shoreline setback ensuring no net loss to ecological functions.

11) *Area of seagrasses, kelp, and emergent aquatic vegetation.*

No decreases in aquatic vegetation are proposed as part of this project.

This project has been designed to meet the “no net loss” standard for shoreline ecological functions. Impacts are avoided by strategically locating development within previously maintained ornamental shrub and already disturbed or maintained areas. The shoreline vegetation will be enhanced, as shown in **Attachment 3**. The project avoids new overwater structures, additional road crossings, and impacts to aquatic vegetation, while providing overall vegetative enhancement and reducing impervious surface coverage onsite. These improvements are expected to increase habitat and foraging opportunities for local wildlife, reduce runoff from impervious areas, and improve water quality within the watershed and adjacent shoreline areas.


SUMMARY

The Site is located on Lake Washington waterfront and contains a potential landslide hazard area, depicted on the City of Mercer Island’s Geospatial Hub. No other critical areas were identified on-Site or within the Study Area. Additional investigation may be necessary before development by a licensed geotechnical engineer or consultant to address the landslide hazard area. However, the proposed project is consistent with City of Mercer Island’s shoreline master program requirements and local Critical Areas Ordinance requirements. The proposed project is located entirely outside of critical areas and their buffers.

We trust that the information presented here sufficiently describes and documents critical areas on your property. Should you have questions or wish to discuss any of the information in this report, please contact me at (614) 653-4035.

Sincerely,
Eastside Environmental Pros, Inc.

Tarek Akkari,
Ecologist


Kellen Maloney, PWS
Senior Ecologist



Attachments:

- Photos
- 1. Wetland Determination Datasheets
- 2. Corps Antecedent Precipitation Tool
- 3. Studio Terrain Landscape Architecture Permit Set

REFERENCES

- Anderson, P. S., Meyer, S., Olson, P., & Stockdale, E. (2016). *Determining the Ordinary High Water Mark for Shoreline Management Act compliance in Washington State* (Publication No. 16-06-029). Washington State Department of Ecology.
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- Hruby, T. & Yahnke, A. (2023). Washington State Wetland Rating System for Western Washington: 2014 Update (Version 2). Publication #23-06-009. Washington Department of Ecology.
- Lichvar, R.W. *National Wetland Plant List*. ERCD/CRREL TR-12-11, Hanover, NH: U.S. Army Corps of Engineers, Cold Regions Research and Engineering Laboratory, 2016.
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- U.S. Army Corps of Engineers. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)*. Final Report, U. S. Army Corps of Engineers, Wetlands Regulatory Assistance Program, 2010.
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- Washington State Department of Natural Resources. (2025). *Natural Heritage Information System*. Retrieved from <http://www1.dnr.wa.gov/nhp/refdesk/datasearch/>
- Wetlands Subcommittee, Federal Geographic Data Committee. *Classification of Wetlands and Deepwater Habitats of the United States*. Adapted from Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe (1979). Federal Geographic Data Committee, August 2013.

PHOTOS



Photo 1. Photo of inaccurately mapped stream location south of the deck

DIRECTION
19 deg(T)

47.55308°N
122.21004°W

ACCURACY 10 m
DATUM WGS84



Existing Site
Conditions

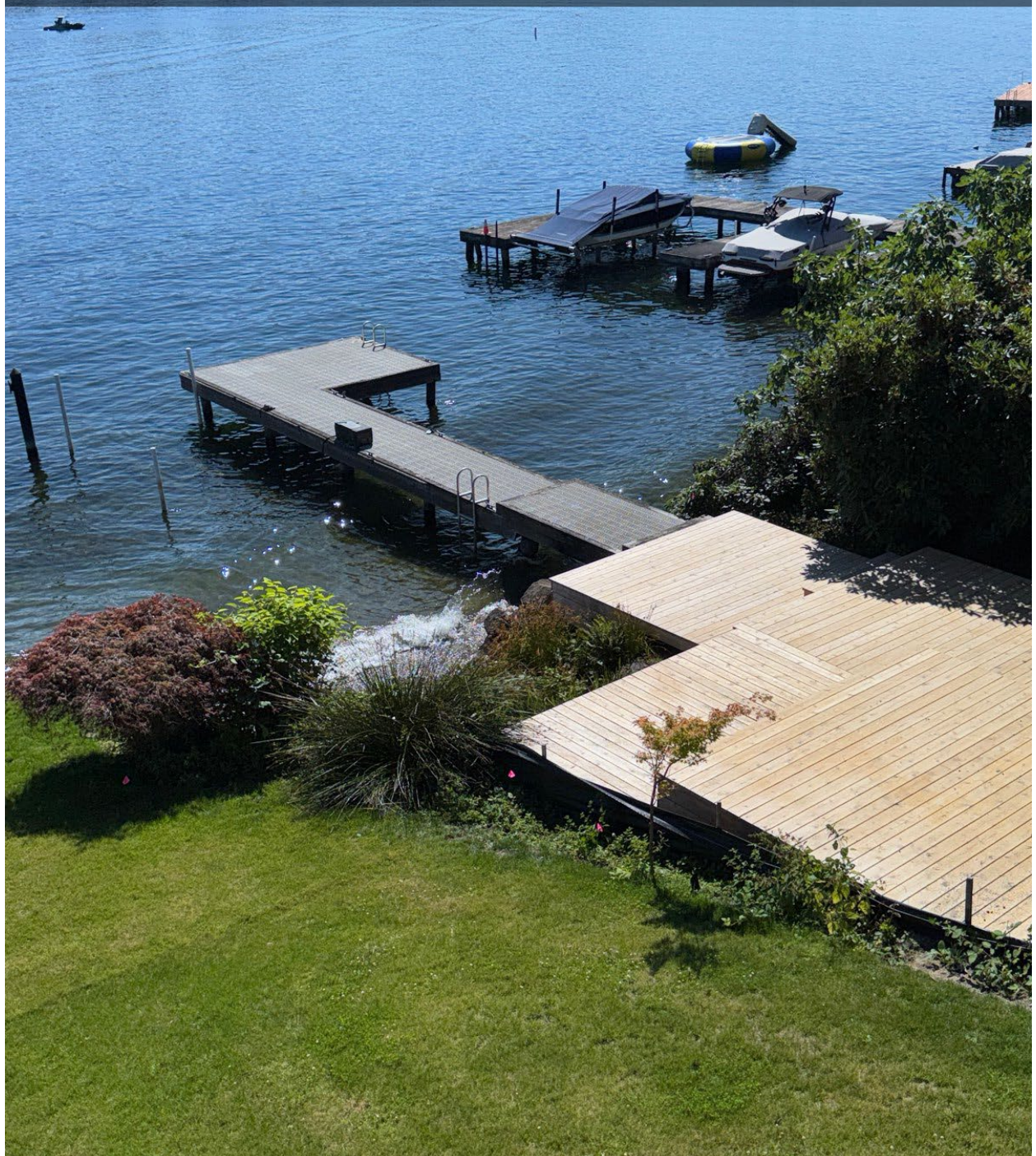
2025-08-12
09:47:34-07:00

Photo 2. Photo of the OHWM of Lake Washington, photo taken facing to the north.

DIRECTION
124 deg(T)

47.55319°N
122.21021°W

ACCURACY 10 m
DATUM WGS84



Existing Site
Conditions

Non-Regulated
Wetland

2025-08-12
11:13:19-07:00

Photo 3. Photo of the Non-Regulated Wetland along deck, photo taken facing to east.

ATTACHMENT 1

Wetland Determination Datasheets.

Eastside Environmental Pros, Inc.

12 August 2025

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: EE-652 City/County: City of Mercer Island Sampling Date: 2025-08-12
 Applicant/Owner: Andrew Lamb State: WA Sampling Point: SP-1
 Investigator(s): TA Section, Township, Range: S19T24R05
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 28%
 Subregion (LRR): A Lat: 47.55321 Long: -122.21000 Datum: NAD83
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Sample point taken within lawn area. Drier than normal climatic conditions present during Site Evaluation. Sample point does not meet wetland criteria.	

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft</u>)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A/B)
1. <u>None</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
			_____ = Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
			_____ = Total Cover	
Herb Stratum (Plot size: <u>5 ft</u>)				
1. <u>Poa pratensis</u>	<u>100%</u>	<u>YES</u>	<u>FAC</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
			<u>100%</u> = Total Cover	
Woody Vine Stratum (Plot size: <u>15 ft</u>)				
1. <u>None</u>	_____	_____	_____	
2. _____	_____	_____	_____	
			_____ = Total Cover	
% Bare Ground in Herb Stratum <u>0%</u>		% Cover of Biotic Crust <u>0%</u>		
Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____				
Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)				
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.				
Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>				
Remarks: Hydrophytic vegetation criteria met.				

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: EE-652 City/County: City of Mercer Island Sampling Date: 2025-08-12
 Applicant/Owner: Andrew Lamb State: WA Sampling Point: SP-2
 Investigator(s): TA Section, Township, Range: S19T24R05
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None Slope (%): 28%
 Subregion (LRR): A Lat: 47.55321 Long: -122.21000 Datum: NAD83
 Soil Map Unit Name: Kitsap silt loam, 2 to 8 percent slopes NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Remarks: Sample point taken adjacent to deck. Drier than normal climatic conditions present during Site Evaluation. Sample point does meet wetland criteria. However, this small area along the historic deck is likely only meeting due to the presence and discharge from a stormwater drainage from the surrounding properties through this particular area on the property as mapped by the City of Mercer Island drainage and evidenced by correspondence. Surrounding areas are non-wetland in nature and previous geotechnical evaluations place the water table far below 12 inches	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)
2. _____				
3. _____				
4. _____				
	<u>0%</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)				
1. <u>Rubus bifrons</u>	<u>15%</u>	<u>YES</u>	<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____				
3. _____				
4. _____				
5. _____				
	<u>15%</u>	= Total Cover		
Herb Stratum (Plot size: 5 ft)				
1. <u>Juncus effuses</u>	<u>55%</u>	<u>YES</u>	<u>OBL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Wetland Non-Vascular Plants ¹ <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
2. <u>Ranunculus repens</u>	<u>20%</u>	<u>YES</u>	<u>FAC</u>	
3. <u>Solanum nigrum</u>	<u>15%</u>	<u>NO</u>	<u>FACU</u>	
4. <u>Epilobium ciliatum</u>	<u>5%</u>	<u>NO</u>	<u>FACW</u>	
5. <u>Iris pseudacorus</u>	<u>5%</u>	<u>NO</u>	<u>OBL</u>	
6. _____				
7. _____				
8. _____				
	<u>100%</u>	= Total Cover		
Woody Vine Stratum (Plot size: 15 ft)				
1. <u>None</u>				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
% Bare Ground in Herb Stratum <u>0%</u> % Cover of Biotic Crust <u>0%</u>				

Remarks: Hydrophytic vegetation criteria met.

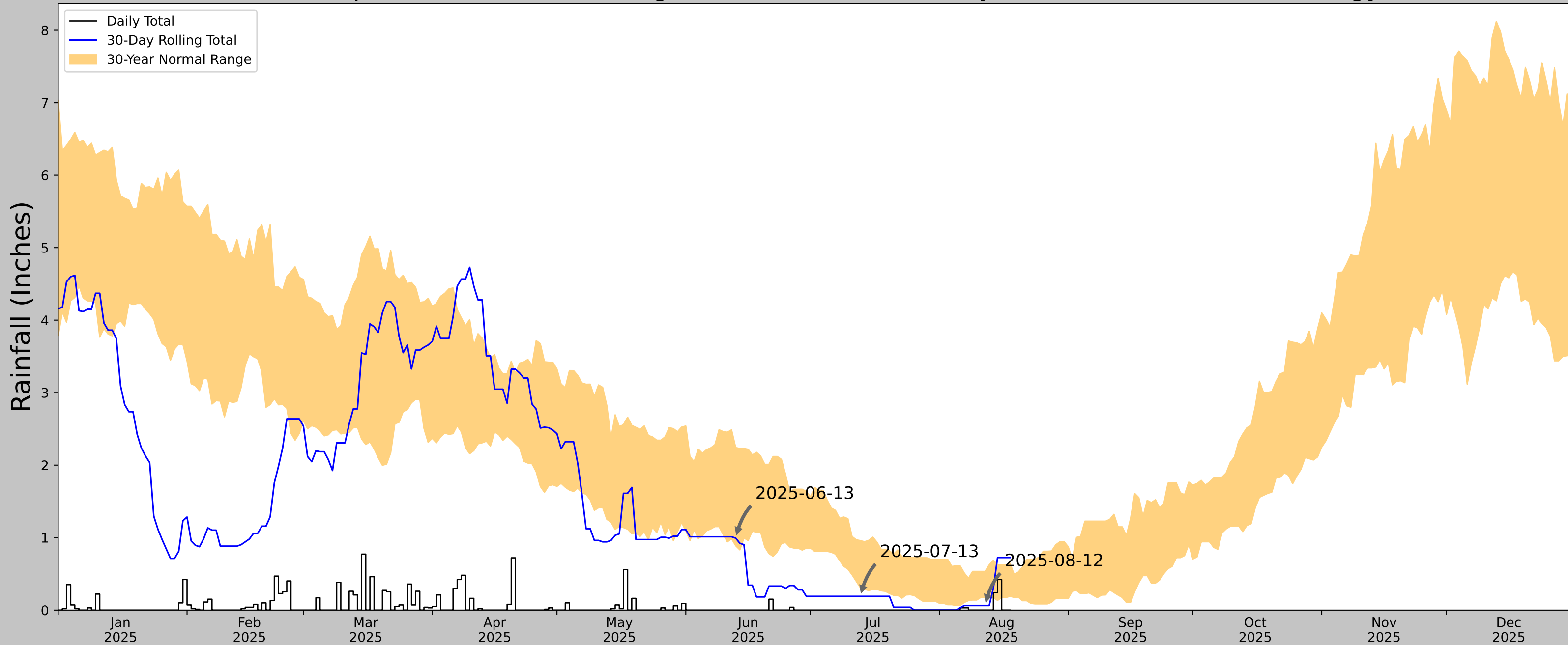
ATTACHMENT 2

Corps Antecedent Precipitation Tool.

12 August 2025

This normal precipitation analysis follows the methodology described by Sprecher and Warne (2000). The Corps Antecedent Precipitation application tool was used to determine that drier than normal climatic conditions were present during the 12 August 2025 Site Evaluation.


Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network




Coordinates	47.55322, -122.21025
Observation Date	2025-08-12
Elevation (ft)	36.23
Drought Index (PDSI)	Severe drought (2025-07)
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-08-12	0.174803	0.533465	0.062992	Dry	1	3	3
2025-07-13	0.307874	0.958268	0.188976	Dry	1	2	2
2025-06-13	0.887008	2.241732	0.992126	Normal	2	1	2
Result							Drier than Normal - 7

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0



US Army Corps of Engineers.

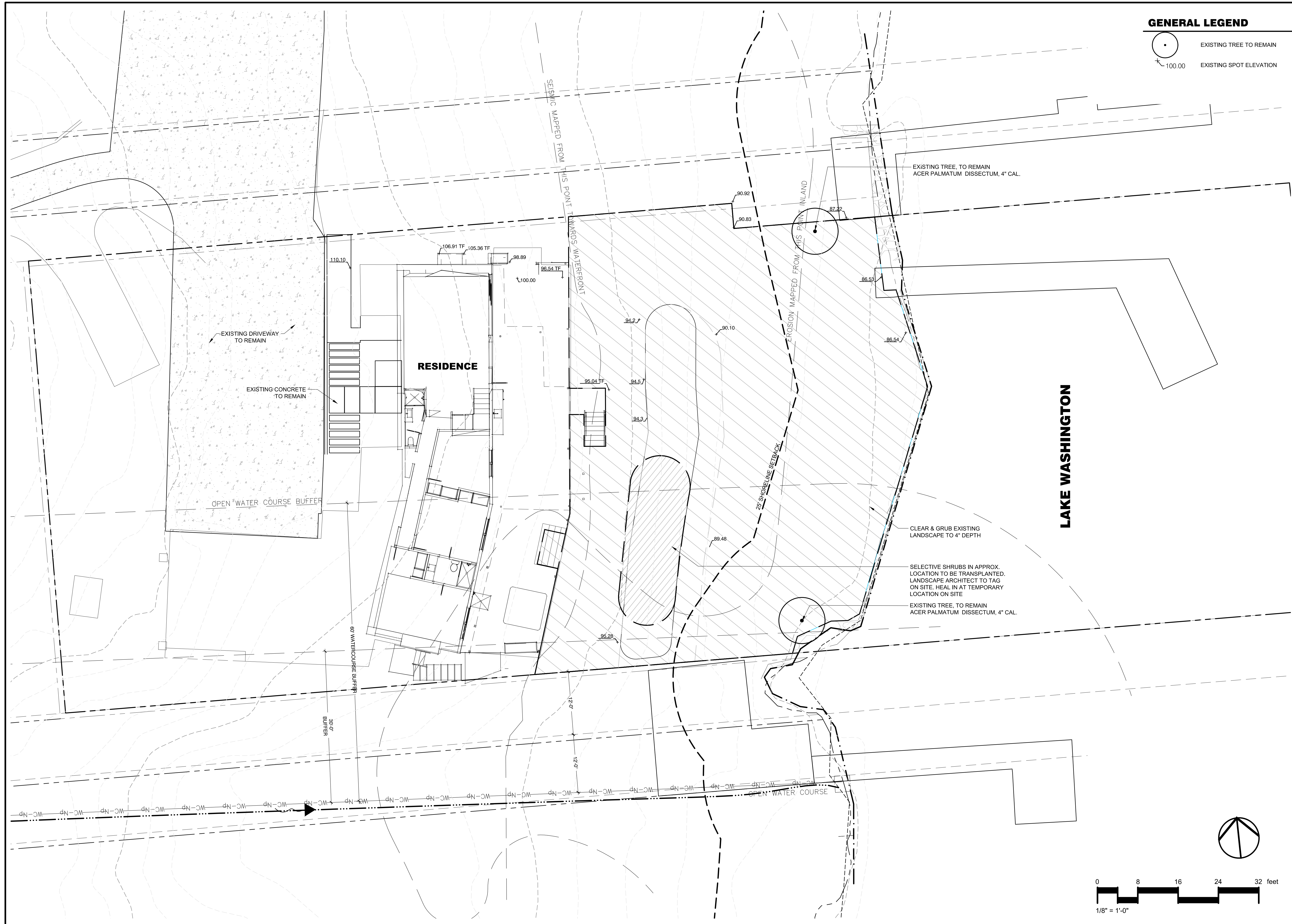


Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
SEATTLE BOEING FLD	47.5456, -122.3147	24.934	4.899	11.296	2.26	9399	90
SEATTLE 5.8 SSE	47.544, -122.3038	196.85	0.52	171.916	0.323	16	0
SEATTLE 6.3 S	47.5312, -122.3462	387.139	1.774	362.205	1.441	2	0
SEATTLE 5.1 SE	47.5461, -122.2685	280.84	2.155	255.906	1.521	3	0
MERCER ISLAND 1.5 NW	47.5859, -122.2509	86.942	4.074	62.008	2.086	1	0
SEATTLE 4.2 SW	47.5774, -122.412	21.982	5.041	2.952	2.283	1	0
RENTON MUNI AP	47.495, -122.2144	18.045	5.842	6.889	2.669	68	0
SEATTLE URBAN SITE	47.65, -122.3	19.029	7.246	5.905	3.303	1703	0
KENT	47.4172, -122.2433	28.871	9.477	3.937	4.302	149	0
SEATTLE SAND PT WFO	47.6872, -122.2553	60.039	10.167	35.105	4.932	10	0
SEATTLE TACOMA AP	47.4447, -122.3144	369.094	6.972	344.16	5.537	1	0

ATTACHMENT 3

Studio Terrain Landscape Architecture Permit Set
Dated February 4, 2026



GENERAL LEGEND

● EXISTING TREE TO REMAIN

⊕ 100.00 EXISTING SPOT ELEVATION

STUDIOTERRAIN
LANDSCAPE ARCHITECTURE

18040 Des Moines Memorial Drive S
Suite 103
SeaTac, WA 98148

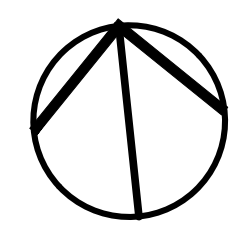
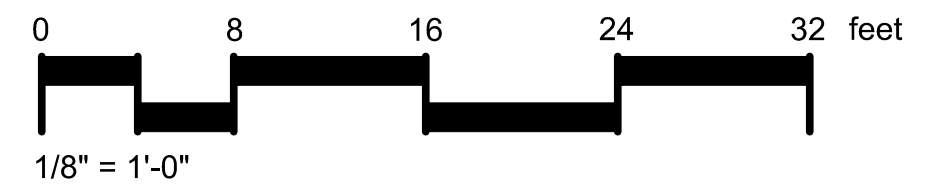
LAMB RESIDENCE
EXISTING CONDITIONS & DEMO PLAN
5450 E MERCER WAY MERCER ISLAND, WA 98040



NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.26

1/8" = 1'-0"

L1.0



PROJECT INFORMATION

PROJECT CONTACT
 LAUREN GALANTE
 STUDIO TERRAIN, LLC
 18040 DES MOINES MEMORIAL DR. S.
 SEATAC, WA 98148
 206-909-2321

SITE AREA
 14,255 SF

PARCEL NUMBER
 192405-9134

JURISDICTION
 MERCER ISLAND

LEGAL DESCRIPTION
 POR GL 2 BEG AT PT ON E MGN OF E MERCER
 WAY WCH IS 2790 FT N OF & AT R/A TO S LN OF
 SEC TH S 88-33-02 E 589.75 FT TO PT APPROX 30
 FT W OF PRESENT SH LN OF LAKE & TPOB TH N
 88-33-02 W 140 FT TH S 01-26-58 W 90 FT TH S
 88-33-02 E 151 FT ML TO SH LN OF LAKE TH NLY
 ALG SH LN TO PT 2785 FT N OF S LN OF SEC TH N
 88-33-02 W TO PT S 01-26-58 W FR TPOB TH N
 01-26-58 E 5 FT TO TPOB TGV 2ND CL SH LDS ADJ

LOT COVERAGE CALCULATIONS
 LOT AREA: 14,355 SF
 ALLOWABLE COVERAGE: 5,024 SF (35%)

EXISTING STRUCTURE: 4,205 SF
 EXISTING DRIVEWAY: 1,840 SF
 TOTAL EXISTING LOT COVERAGE: 6,045 SF

HARDSCAPE CALCULATIONS
 LOT AREA: 14,355 SF
 ALLOWED HARDSCAPE: 1,292 SF (9%)

EXISTING WALKWAYS: 277 SF
 EXISTING RETAINING WALLS: 89 SF
 TOTAL EXISTING HARDSCAPE: 366 SF

PROPOSED UNCOVERED DECKS: 354 SF
 PROPOSED WALKWAYS: 404 SF
 PROPOSED STAIRS: 161 SF
 TOTAL PROPOSED HARDSCAPES: 919 SF

TOTAL PROJECT HARDSCAPES: 1,285 SF (8.9%)

GENERAL LEGEND

- EXISTING DECIDUOUS TREE TO REMAIN
- EXISTING EVERGREEN TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- 1/4" x 4" STEEL EDGING
- LANDSCAPE EDGE - NO EDGING
- 4" SCH. 40 PVC SLEEVE
- 100.0 FS PROPOSED SPOT ELEVATION
- PROPOSED LAWN
4" DEPTH 80/20 TOPSOIL
- PROPOSED PLANTING BED
12" DEPTH 60/40 TOPSOIL
3" DEPTH DARK FINES MULCH
- LANDSCAPE BOULDER, MARENAKOS
WEATHERED GRANITE, 3-4 MAN BOULDER

LIGHTING SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	FX LUMINAIRE MO ORDER CODE: MO-RD, BRASS, (FB) FLAT BLACK, MO MOUNTING BRACKET LAMP: MO-RD-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: WIDE FLOOD	15
	FX LUMINAIRE RH ORDER CODE: RH, ALUMINUM, (BZ) BRONZE METALLIC, DIRECT MOUNT LAMP: RH-1LED, 1.9W / 2.2VA, 2700K, BEAMSPREAD: WIDE	6
	FX LUMINAIRE NP ORDER CODE: NP, ALUMINUM ALLOY, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: NP-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: NARROW FLOOD	1
	FX LUMINAIRE DM ORDER CODE: DM, COPPER AND BRASS, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: DM-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: WIDE FLOOD	9
	FX LUMINAIRE PB ORDER CODE: PB, ALUMINUM ALLOY, (FB) FLAT BLACK, 3-PRONG SPIKE LAMP: PB-1LED, 2W / 2.4VA, 2700K, BEAMSPREAD: VERY WIDE FLOOD	2
	FX LUMINAIRE SRP	29 LF

GRADING LEGEND

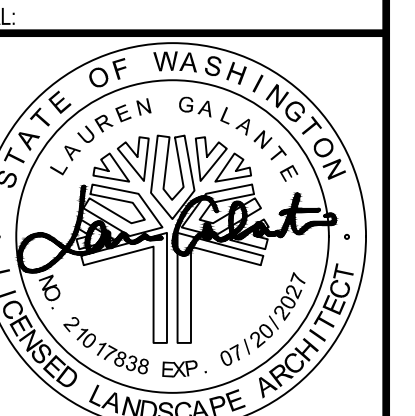
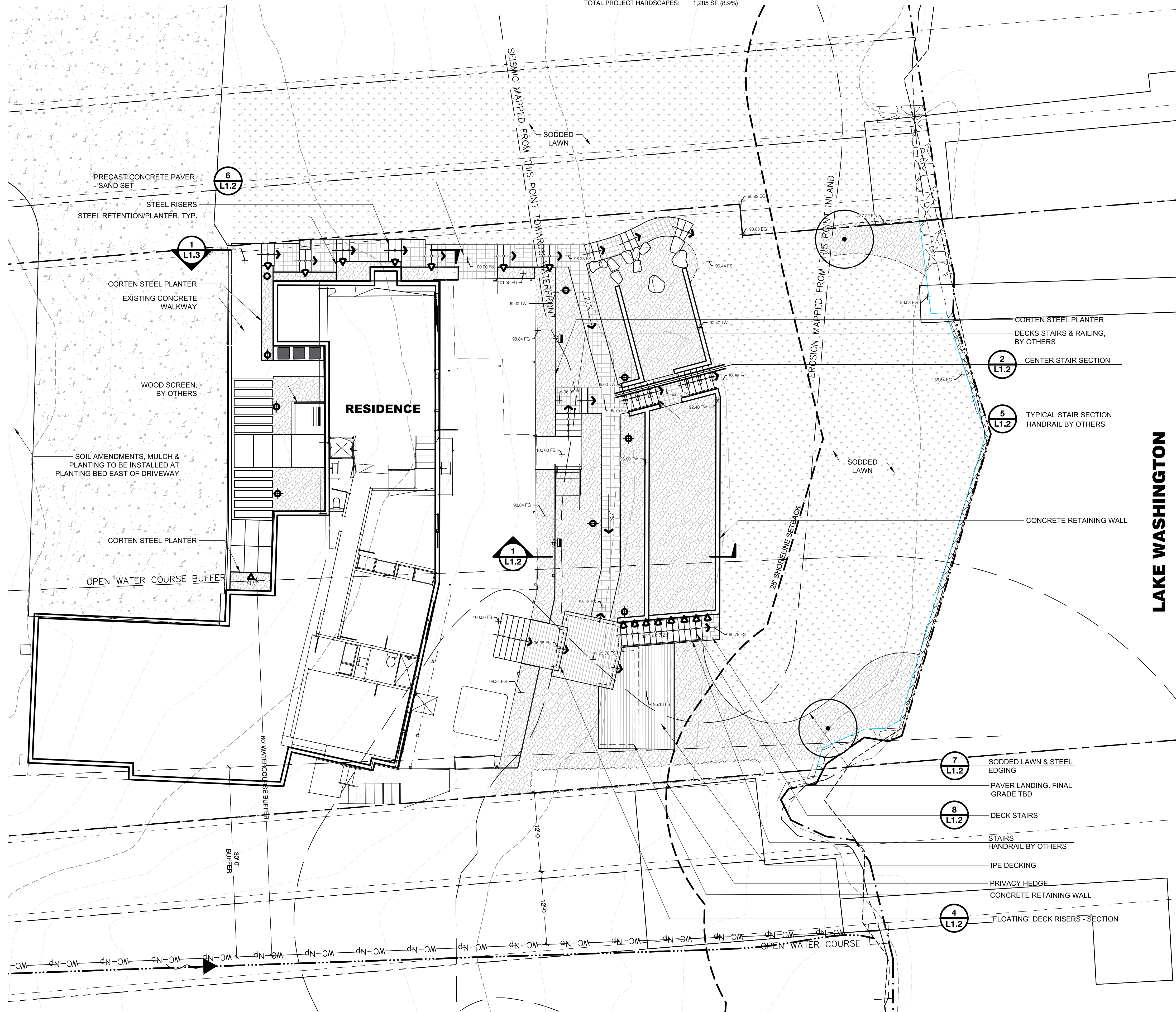
- FFE FINISHED FLOOR ELEVATION
- FS FINISHED SURFACE
- FG FINISHED GRADE
- EG EXISTING GRADE
- TW TOP OF WALL

GRADING NOTES

- ALL HARDSCAPES TO HAVE 2% POSITIVE DRAINAGE UNLESS OTHERWISE SPECIFIED.
- ALL HARDSCAPE LAYOUT & GRADES TO BE VERIFIED IN FIELD WITH LANDSCAPE ARCHITECT.

SHEET INDEX

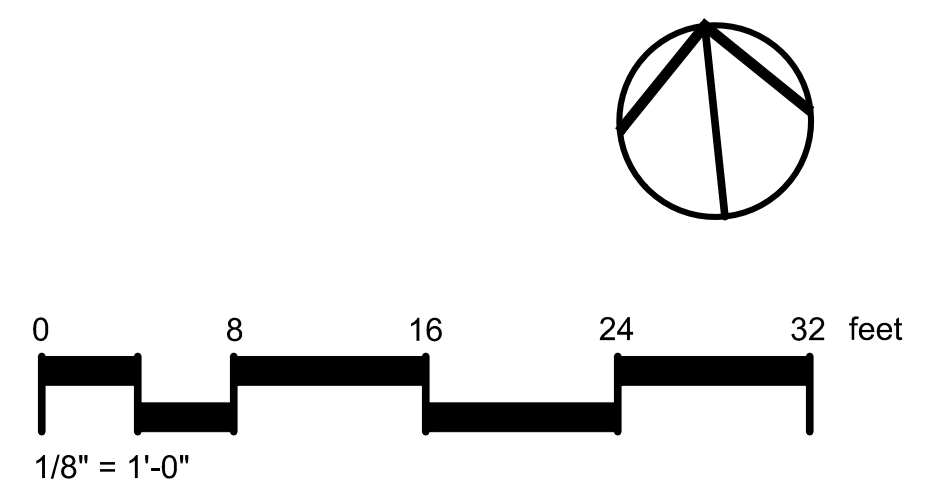
SHEET	DESCRIPTION
L1.1	SITE & LAYOUT PLAN
L1.1a	DIMENSION PLAN
L1.2	SITE DETAILS
L1.3	SITE DETAILS
L2.1	PLANTING PLAN
L2.2	PLANT SCHEDULE

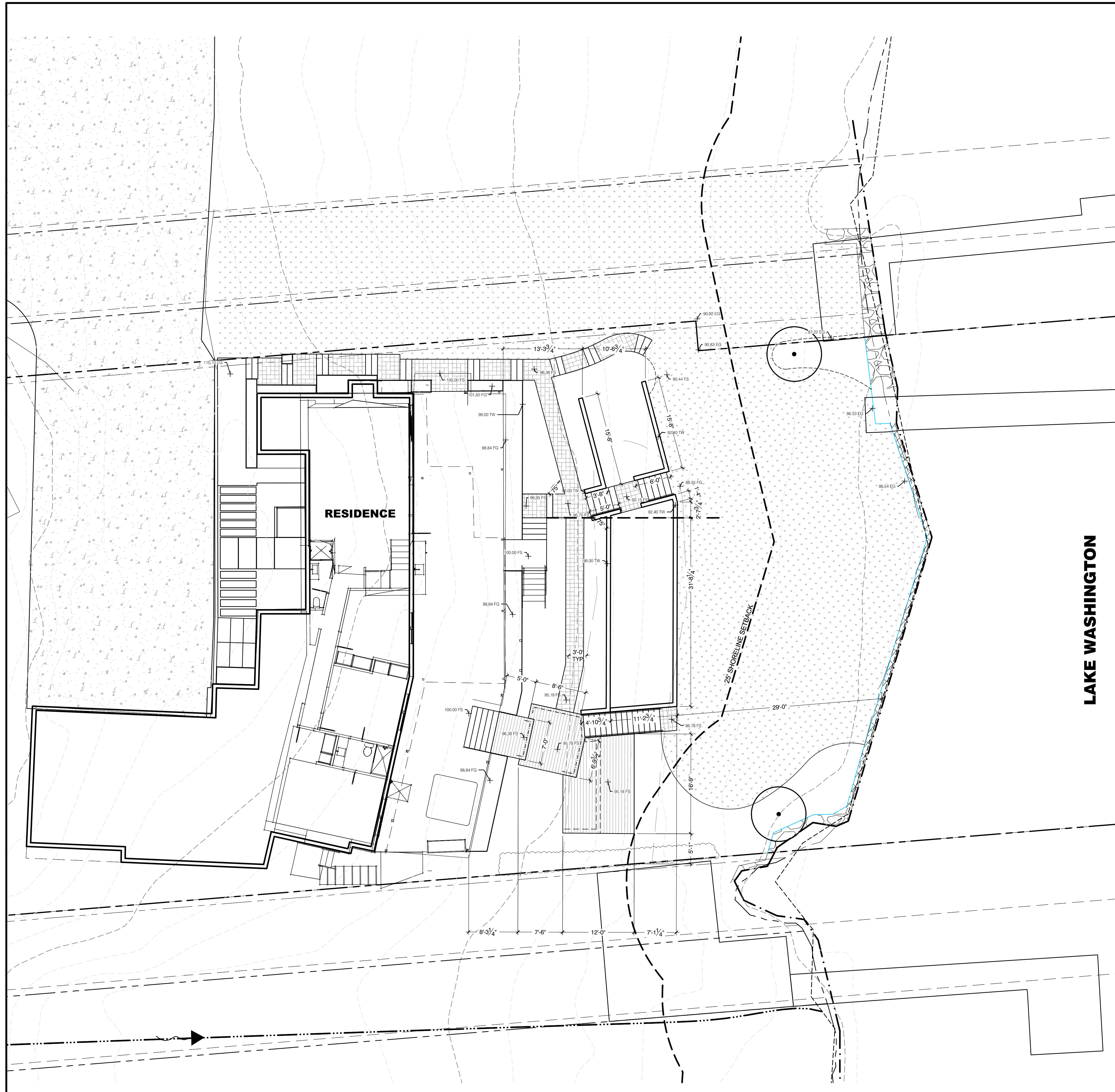


NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.23



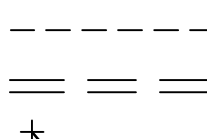
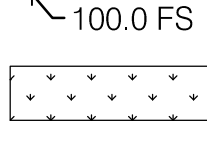
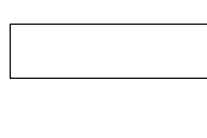



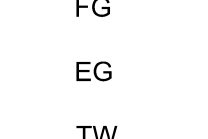

1/8" = 1'-0"

L1.1





GENERAL LEGEND

-  EXISTING DECIDUOUS TREE TO REMAIN
-  EXISTING EVERGREEN TREE TO REMAIN
-  EXISTING TREE TO BE REMOVED
-  1/4" x 4" STEEL EDGING
-  LANDSCAPE EDGE - NO EDGING
-  4" SCH. 40 PVC SLEEVE
-  100.0 FS PROPOSED SPOT ELEVATION
-  PROPOSED LAWN
4" DEPTH 80/20 TOPSOIL
-  PROPOSED PLANTING BED
12" DEPTH 60/40 TOPSOIL
3" DEPTH DARK FINES MULCH
-  LANDSCAPE BOULDER, MARENAKOS
WEATHERED GRANITE, 3-4 MAN BOULDER

GRADING LEGEND

- FFE FINISHED FLOOR ELEVATION
- FS FINISHED SURFACE
- FG FINISHED GRADE
- EG EXISTING GRADE
- TW TOP OF WALL

GRADING NOTES

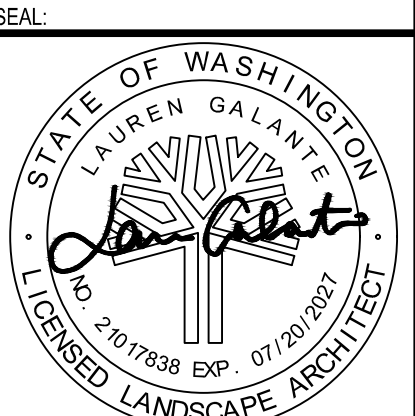
1. ALL HARDSCAPES TO HAVE 2% POSITIVE DRAINAGE UNLESS OTHERWISE SPECIFIED.
2. ALL HARDSCAPE LAYOUT & GRADES TO BE VERIFIED IN FIELD WITH LANDSCAPE ARCHITECT.

STUDIOTERRAIN
LANDSCAPE ARCHITECTURE

18040 Des Moines Memorial Drive S
Suite 103
SeaTac, WA 98148

LAMB RESIDENCE
DIMENSION EXHIBIT

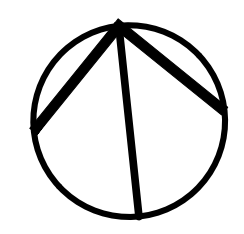
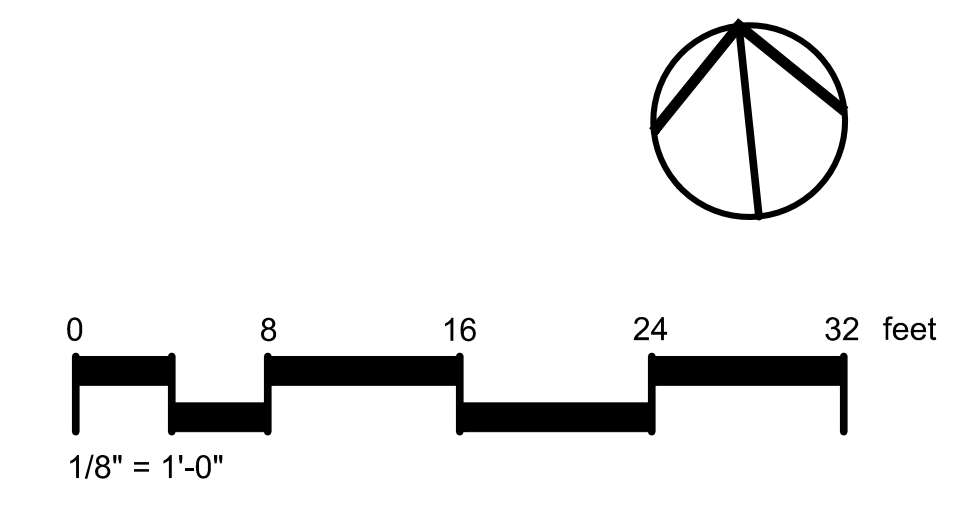
5450 E MERCER WAY MERCER ISLAND, WA 98040

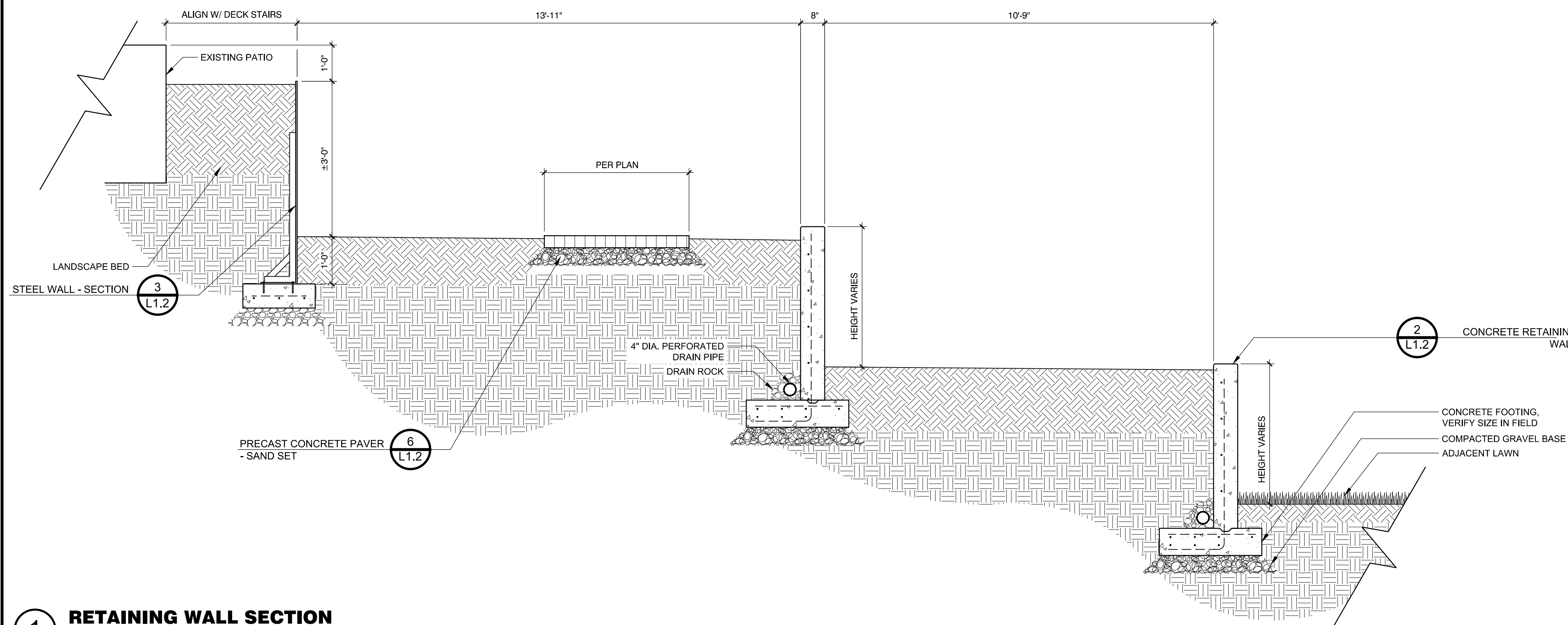


NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.26

1/8" = 1'-0"

L1.1a

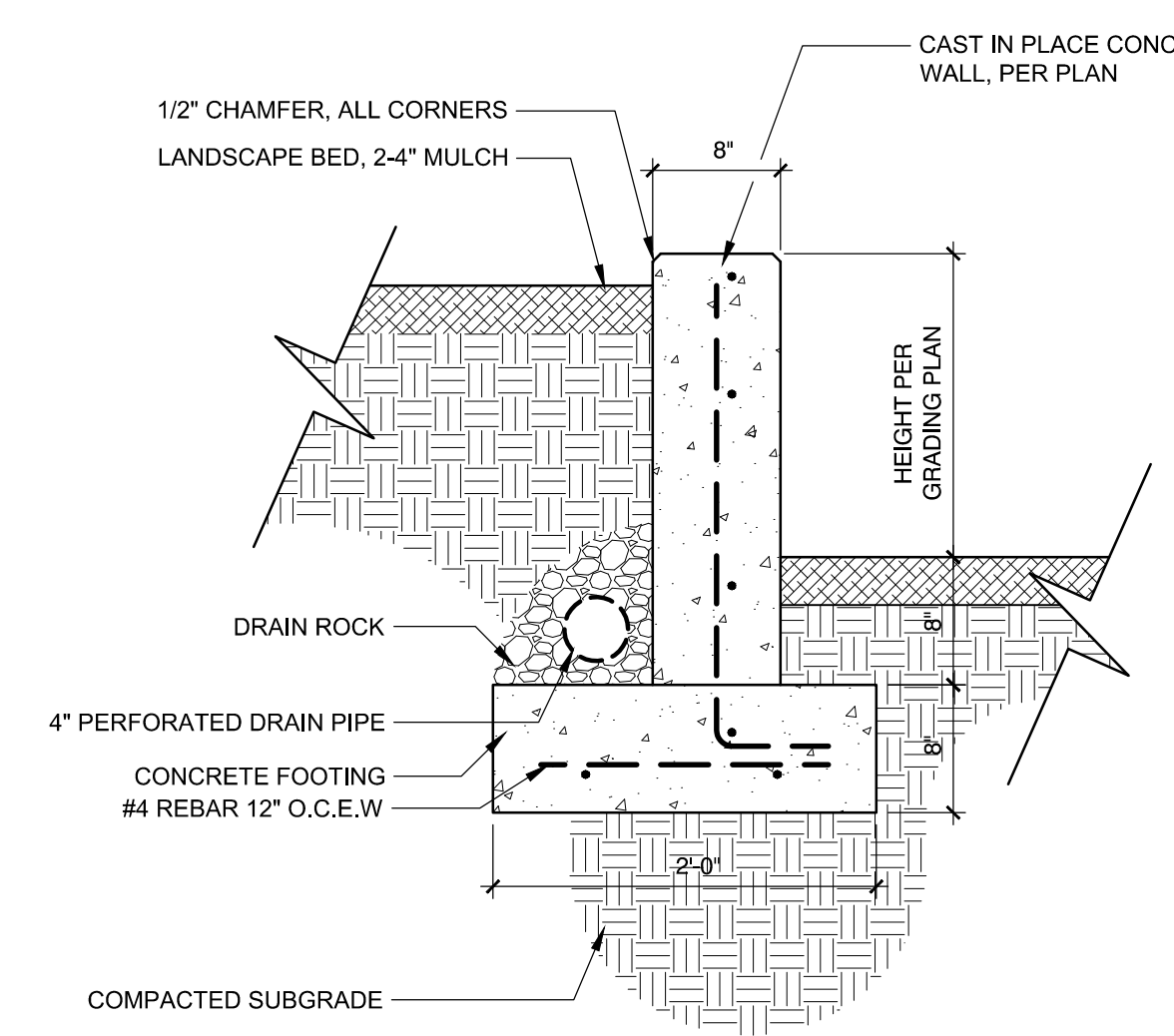




1 RETAINING WALL SECTION

1/2" = 1'-0"

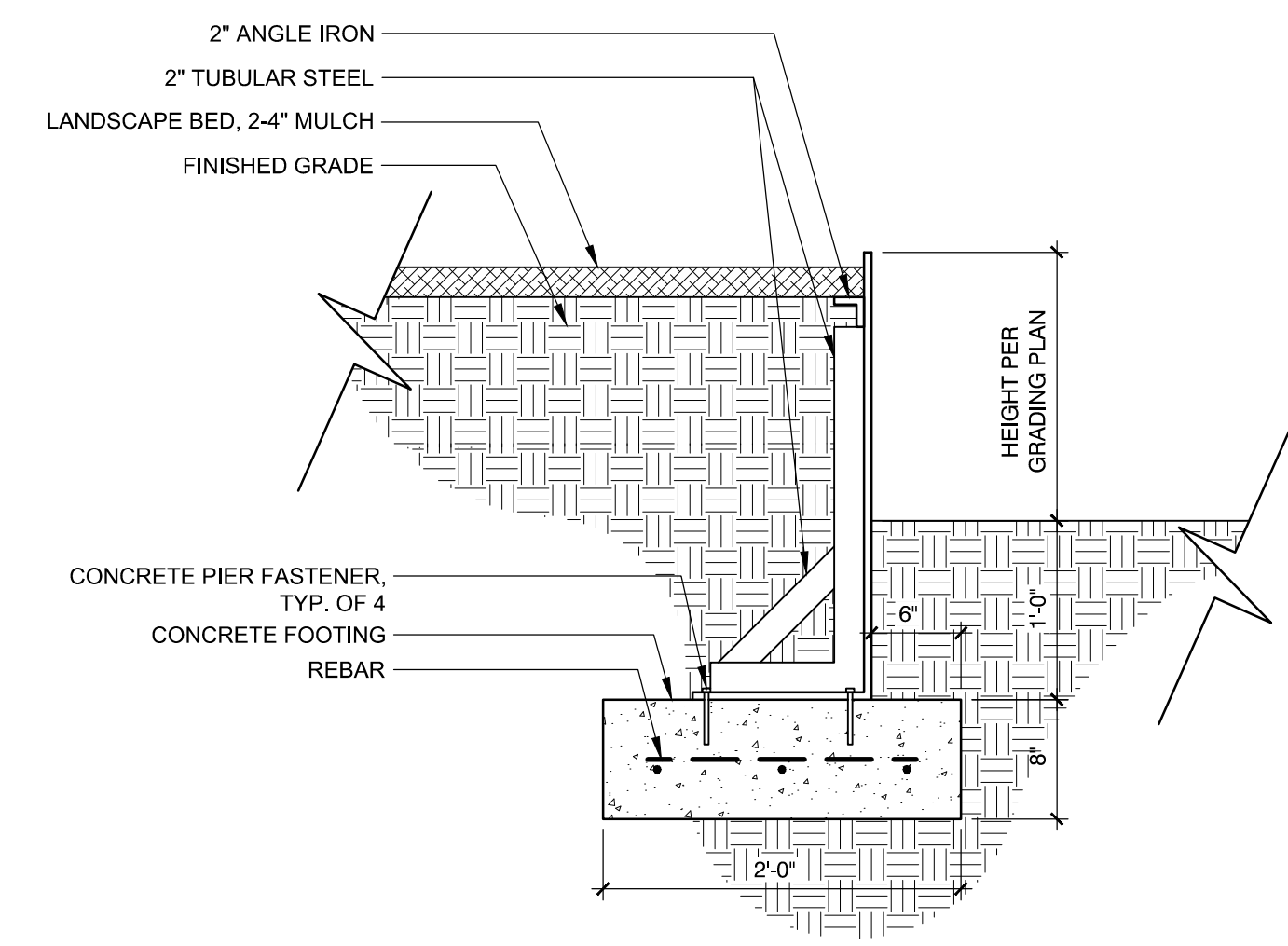
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2 CONCRETE RETAINING WALL

1" = 1'-0"

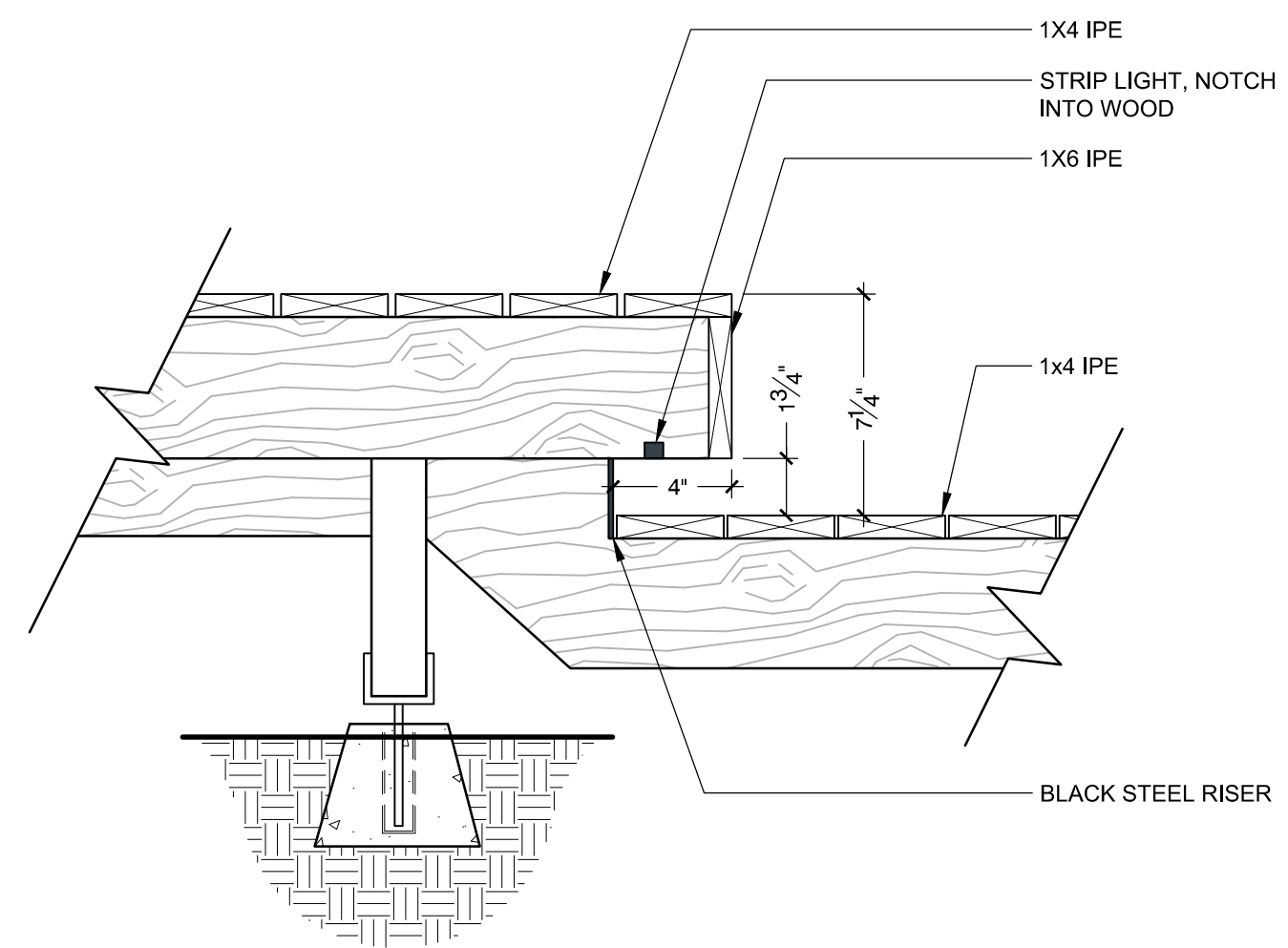
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3 STEEL WALL - SECTION

1" = 1'-0"

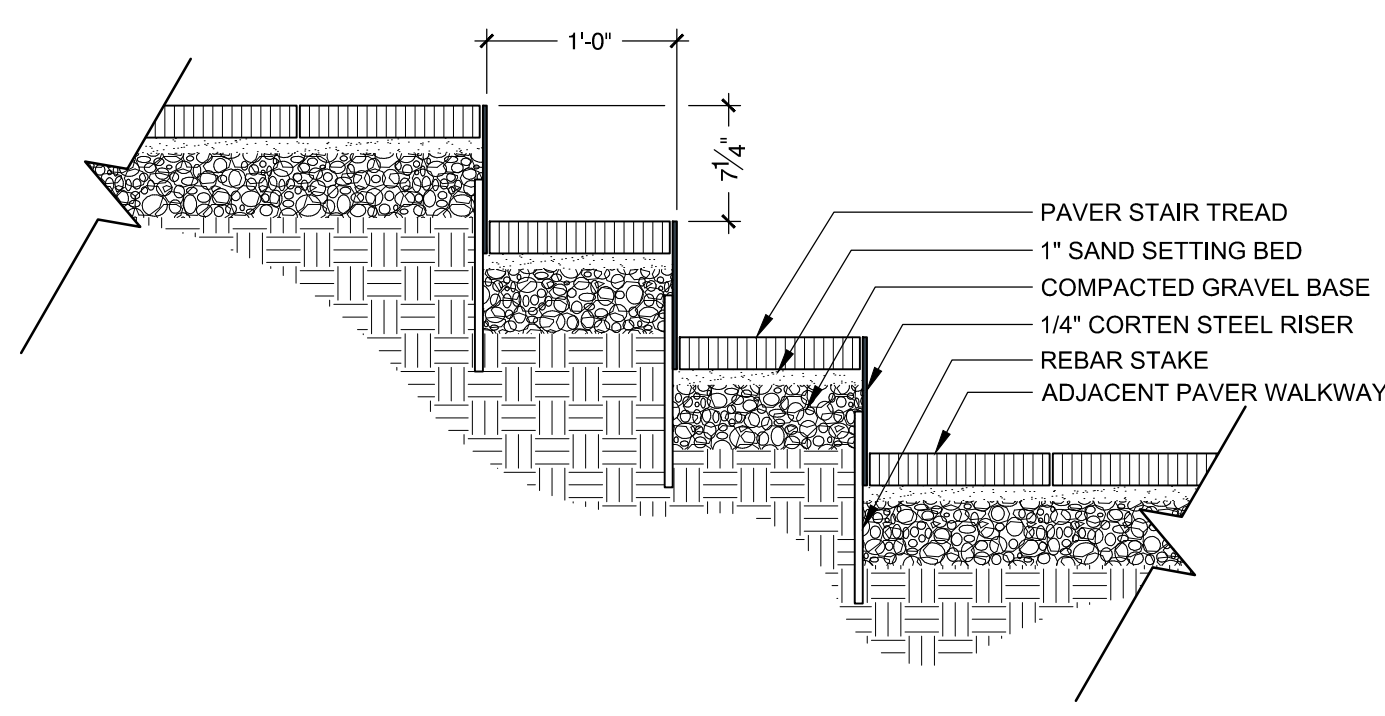
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4 "FLOATING" DECK RISERS - SECTION

2" = 1'-0"

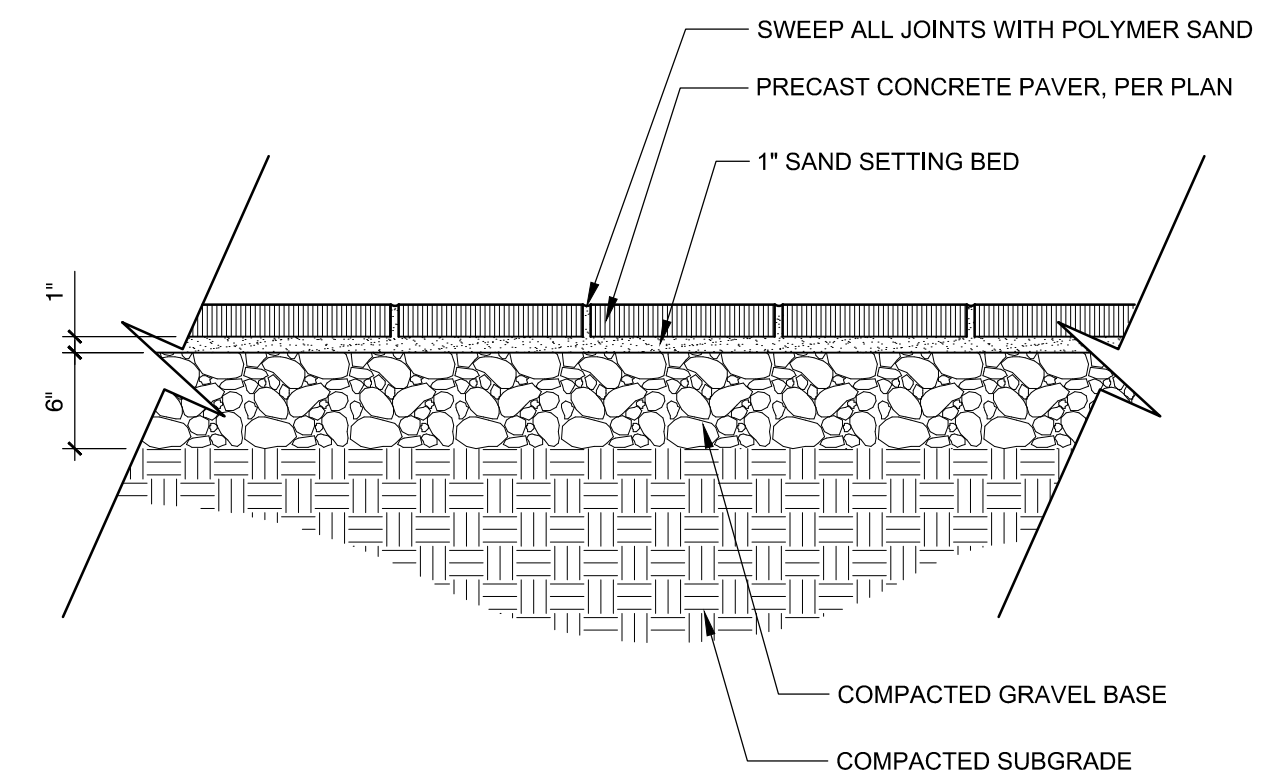
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5 TYPICAL STAIR SECTION

1" = 1'-0"

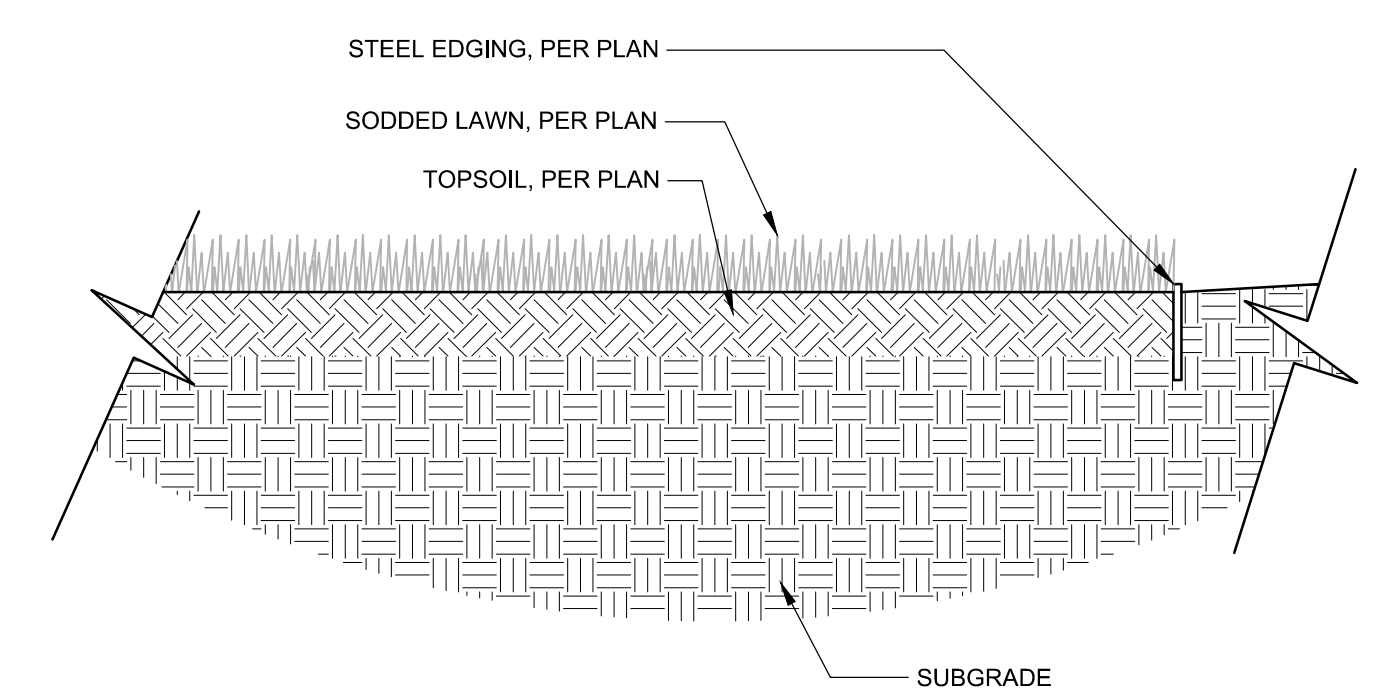
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6 PRECAST CONCRETE PAVER - SAND SET

1" = 1'-0"

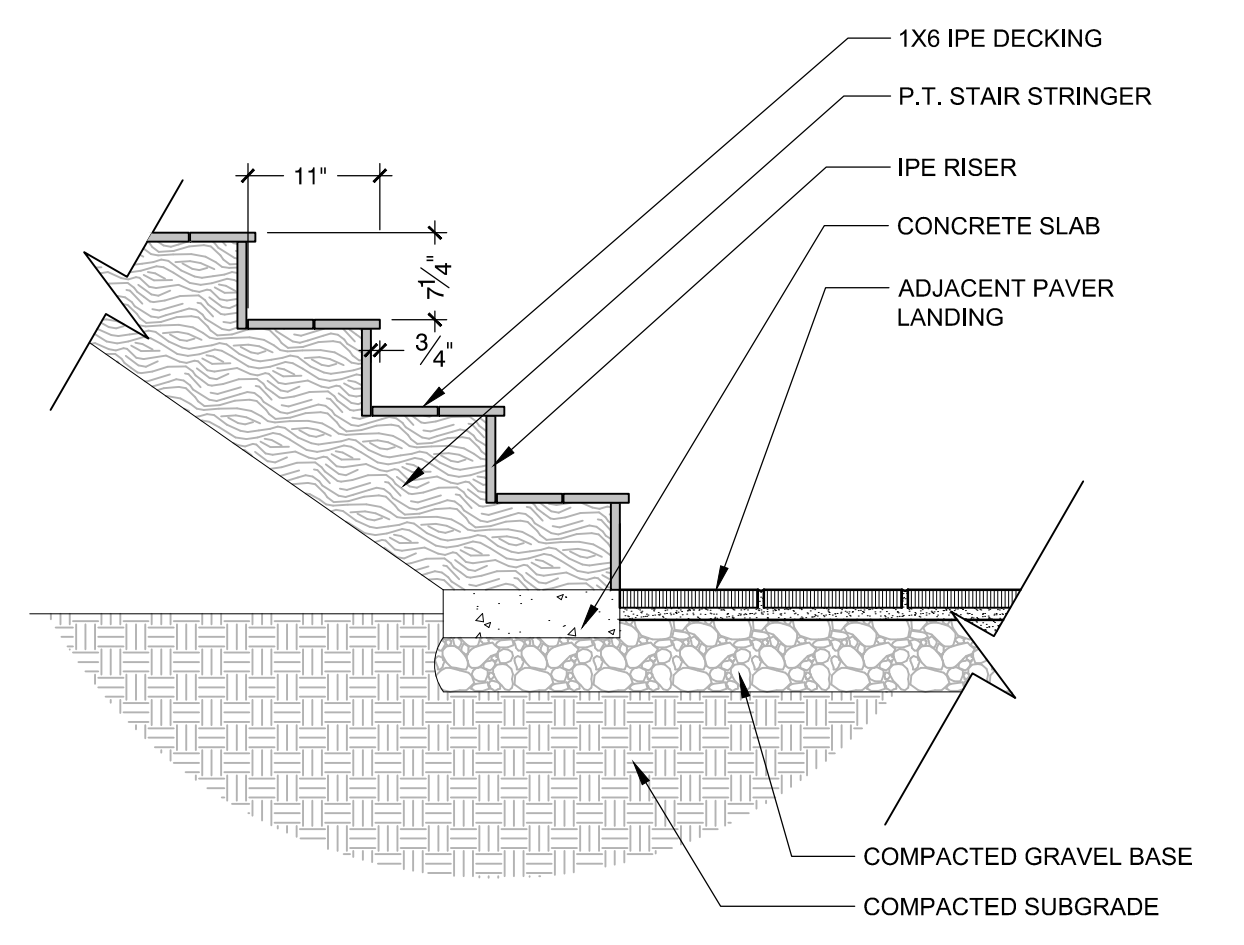
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7 SODDED LAWN & STEEL EDGING

1" = 1'-0"

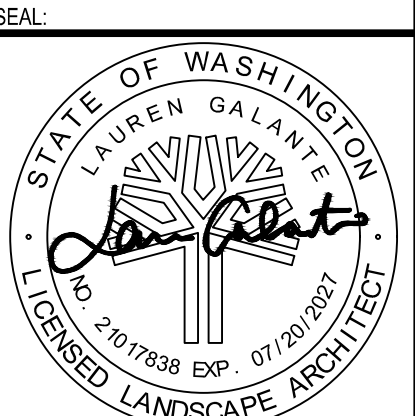
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8 TYPICAL DECK RISER

3/4" = 1'-0"

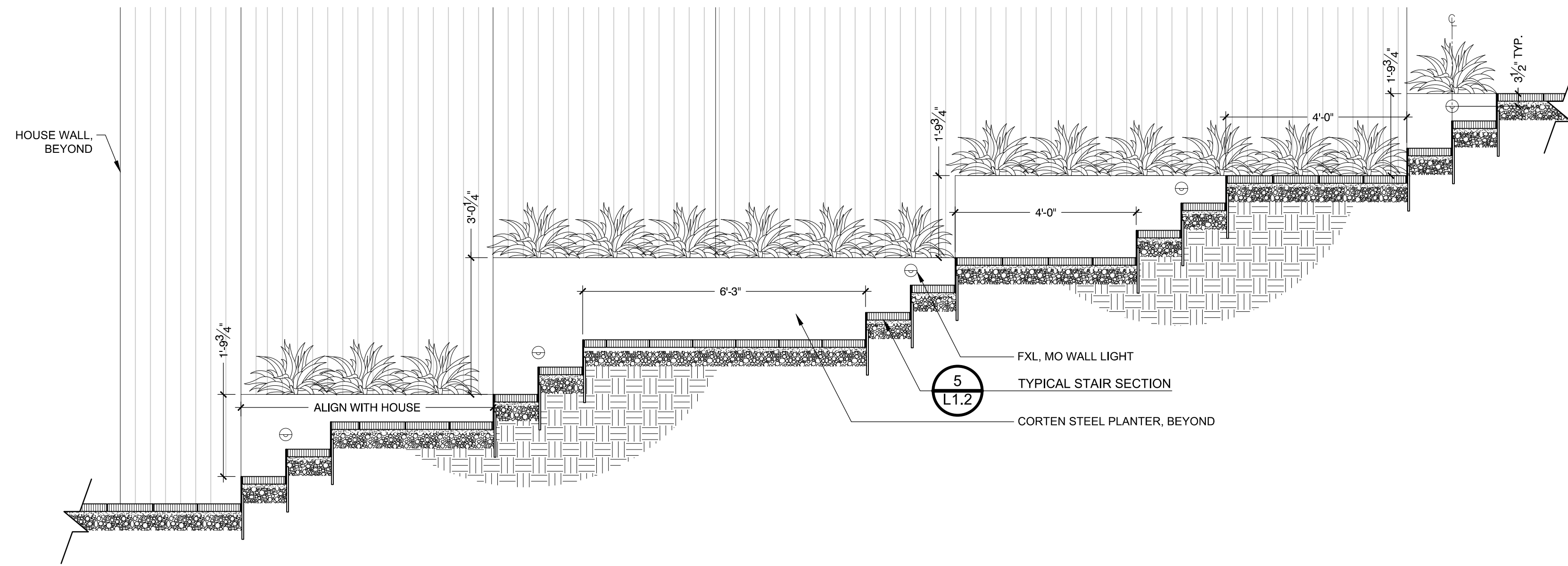
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NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.26

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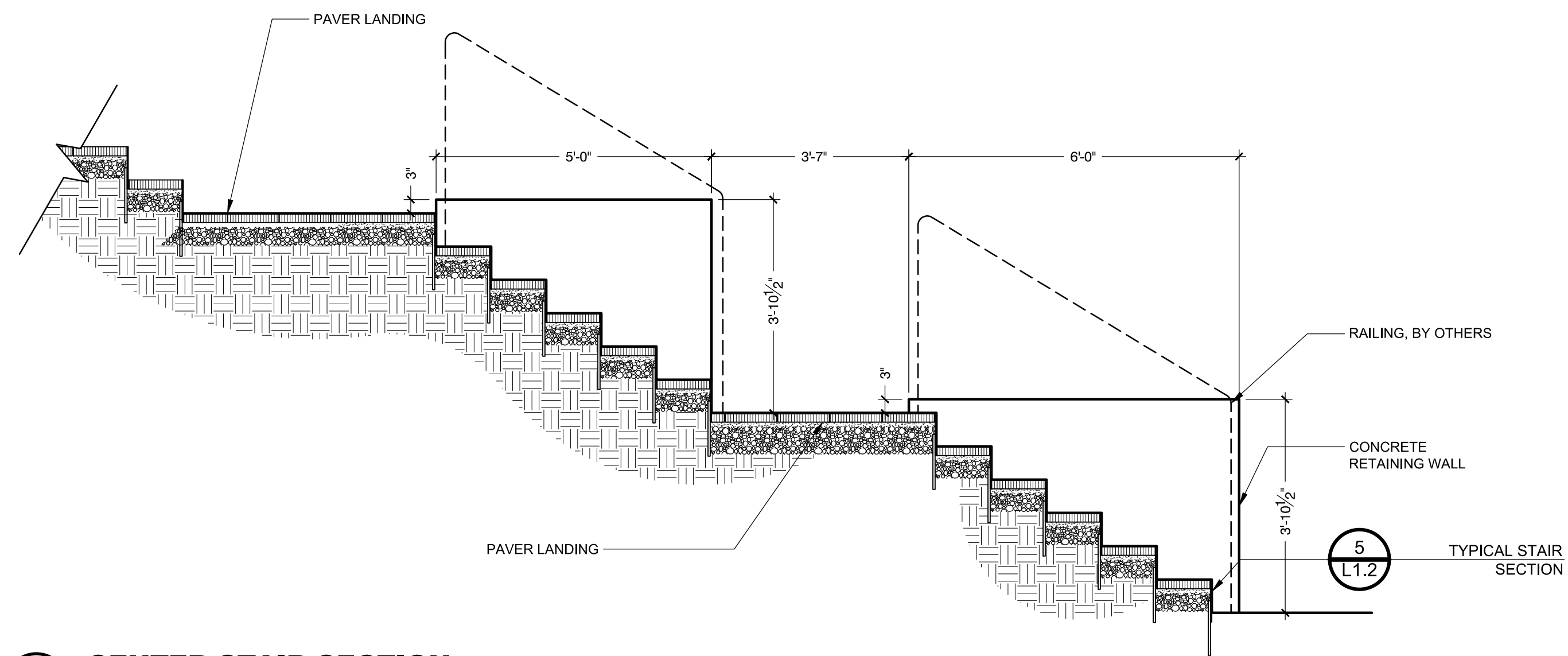
L1.2



1 NORTH STAIRS - SECTION

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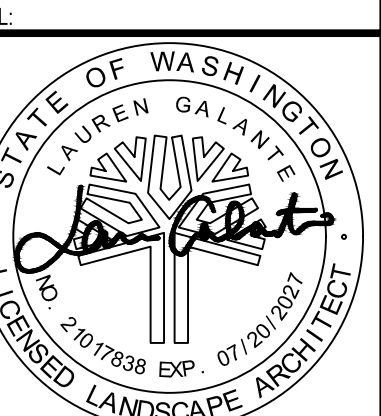
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2 CENTER STAIR SECTION

1/2" = 1'-0"



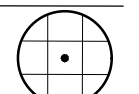





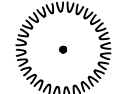



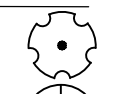
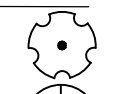
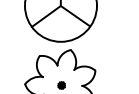

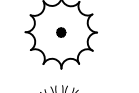
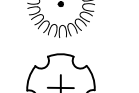
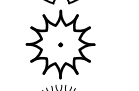
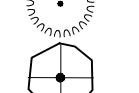


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NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.26

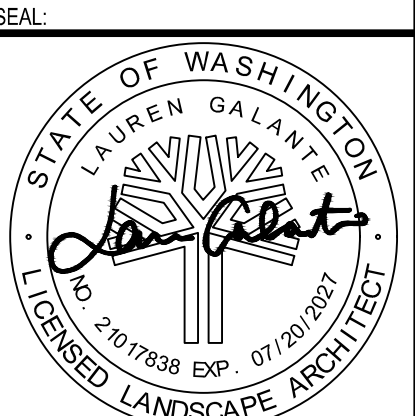
1/8" = 1'-0"

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE
TREES			
	1	ACER SHIRASAWANUM 'AUREUM' GOLDEN FULLMOON MAPLE	8'-10' HT.
	1	HAMAMELIS X INTERMEDIA 'JELENA' JELENA WITCH HAZEL	8' HT.
SHRUBS			
	3	ARCTOSTAPHYLOS X MEDIA HYBIRD MANZANITA	5 GAL.
	3	FATSIA JAPONICA 'VARIEGATA' CAMOUFLAGE® VARIEGATED FATSIA	5 GAL.
	10	GAULTHERIA SHALLON SALAL	1 GAL.
	3	HEBE X 'TURKISH DELIGHT' TURKISH DELIGHT HEBE	2 GAL.
	9	HYDRANGEA PANICULATA 'LITTLE LIME' LITTLE LIME PANICLE HYDRANGEA	5 GAL.
	2	ILEX VERTICILLATA 'FARROWBPOP' BERRY POPPINS® WINTERBERRY	2 GAL.
	1	ILEX VERTICILLATA 'FARROWMRP' MR. POPPINS® WINTERBERRY	2 GAL.
	2	PINUS MUGO 'SLOWMOUND' SLOWMOUND MUGO PINE	5 GAL.
	1	PINUS SYLVESTRIS 'HILLSIDE CREEPER' HILLSIDE CREEPER SCOTCH PINE	5 GAL.
	8	TAXUS X MEDIA 'HICKSI' HICKS ANGLO-JAPANESE YEW	5' HT.
	3	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	2 GAL.
FERNS			
	25	BLECHNUM SPICANT DEER FERN	1 GAL.
	10	POLYSTICHUM MUNITUM WESTERN SWORD FERN	1 GAL.
	10	POLYSTICHUM SETIFERUM SOFT SHIELD FERN	1 GAL.
GRASSES			
	17	BOUTELOUA GRACILIS 'BLONDE AMBITION' BLONDE AMBITION BLUE GRAMA	1 GAL.
	17	CALAMAGROSTIS X ACUTIFLORA 'KARL FOERSTER' KARL FOERSTER FEATHER REED GRASS	1 GAL.
	17	DESCHAMPSIA CESPITOSA TUFTED HAIR GRASS	1 GAL.
	41	HAKONECHLOA MACRA JAPANESE FOREST GRASS	1 GAL.
	22	PENNISETUM ALOPECUROIDES 'HAMELN' HAMELN FOUNTAIN GRASS	1 GAL.
	11	SESLERIA AUTUMNALIS AUTUMN MOOR GRASS	1 GAL.

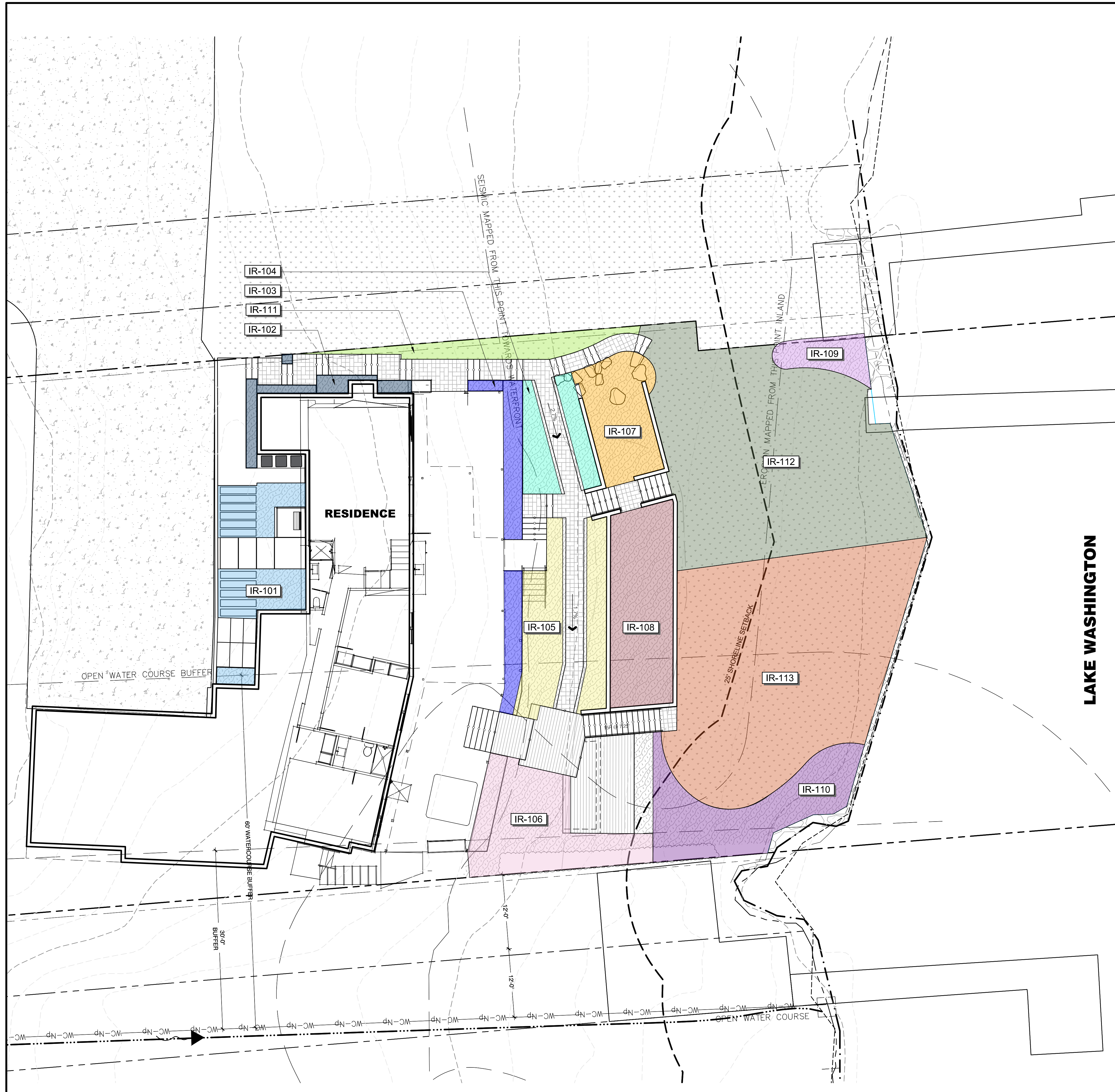
SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	21	ACHILLEA MILLEFOLIUM COMMON YARROW	1 GAL.	
	26	ALLIUM SPHAEROCEPHALON DRUMSTICK ALLIUM	1 GAL.	
	7	ALLIUM X 'PURPLE SENSATION' PURPLE SENSATION ORNAMENTAL ONION	1 GAL.	
	4	ASTILBE X 'DELFT LACE' DELFT LACE ASTILBE	1 GAL.	
	6	CARYOPTERIS X CLANDONENSIS 'HEAVENLY BLUE' HEAVENLY BLUE BLUEBEARD	1 GAL.	
	10	EUPATORIADELPHUS FISTULOSUS JOE PYE WEED	1 GAL.	
	16	IRIS TENAX OREGON IRIS	1 GAL.	
	5	LYSIMACHIA NUMMULARIA CREEPING JENNY	4" POT	
	5	SCABIOSA ATROPURPUREA 'BLACK KNIGHT' BLACK KNIGHT PINCUSHION FLOWER	1 GAL.	
	9	SCABIOSA CAUCASICA 'FAMA WHITE' FAMA WHITE PINCUSHION FLOWER	1 GAL.	
	7	SEDUM X 'AUTUMN JOY' AUTUMN JOY SEDUM	1 GAL.	
	13	SEDUM X 'BUNDLE OF JOY' BUNDLE OF JOY ROCK 'N GROW STONECROP	1 GAL.	
	12	SIDALCEA HENDERSONII HENDERSON'S CHECKERBLOOM	1 GAL.	
	12	SISYRINCHIUM IDAHOENSIS IDAHO BLUE-EYED GRASS	4" POT	

SYMBOL	QTY	BOTANICAL / COMMON NAME	SIZE	SPACING
	14	ASARUM CAUDATUM WILD GINGER	4" POT	14" o.c.
	155	FRAGARIA VESCA WOODLAND STRAWBERRY	4" POT	12" o.c.
	10	ISOTOMA FLUVIATILIS 'ALBA' WHITE STAR CREEPER	4" POT	12" o.c.
	41	LEPTINELLA SQUALIDA NEW ZEALAND BRASS BUTTONS	4" POT	12" o.c.
	14	PHLOX SUBULATA CREEPING PHLOX	4" POT	12" o.c.
	35	SALVIA ROSMARINUS 'PROSTRATUS' PROSTATE ROSEMARY	4" POT	12" o.c.
	44	STACHYS BYZANTINA LAMB'S EAR	4" POT	12" o.c.



NO.	DESCRIPTION	DATE
	PERMIT SET	02.04.26

1/8" = 1'-0"

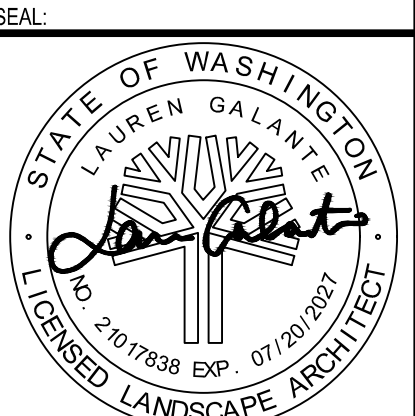


IRRIGATION ZONE SCHEDULE

CODE	DESCRIPTION
IR-101	ZONE 1 FRONT ENTRY DRIP
IR-102	ZONE 2 NORTH STAIRS DRIP
IR-103	ZONE 3 STEEL PLANTER DRIP
IR-104	ZONE 4 UPPER NORTH WALL DRIP
IR-105	ZONE 5 UPPER SOUTH WALL DRIP
IR-106	ZONE 6 DECK DRIP
IR-107	ZONE 7 LOWER NORTH WALL SPRAY
IR-108	ZONE 8 LOWER SOUTH WALL SPRAY
IR-109	ZONE 9 DOCK PLANTING BED SPRAY
IR-110	ZONE 10 PATIO PLANTING BED SPRAY
IR-111	ZONE 11 NORTH STAIRS LAWN SPRAY
IR-112	ZONE 12 NORTH LAWN SPRAY, SPRAY HEADS TO SPRAY EASEMENT LAWN
IR-113	ZONE 13 SOUTH LAWN SPRAY

STUDIOTERRAIN
 LANDSCAPE ARCHITECTURE
 18040 Des Moines Memorial Drive S
 Suite 103
 SeaTac, WA 98148

LAMB RESIDENCE
 IRRIGATION ZONE MAP
 5450 E MERCER WAY MERCER ISLAND, WA 98040



NO.	DESCRIPTION	DATE
1	PERMIT SET	02.04.26

1/8" = 1'-0"
L2.3

