LANDAU ASSOCIATES

September 11, 2023

Transmitted via email to: david.d.tyler@comcast.net

9055 Hargreaves Place
Mukilteo, Washington 98275

Attn: David Tyler

Re: Hydrogeologic and Stormwater System Design Assessment
Harbor Grove Subdivision Preliminary Plat
Mukilteo, Washington
Project No. 2201001.010

Dear Mr. Tyler:

At your request, Landau Associates, Inc. (Landau) has completed a review of technical information and design documents related to the proposed Harbor Grove Subdivision Preliminary Plat project (project) located at 9110 53rd Avenue West in Mukilteo, Washington (site). Landau's review focused on which potential impacts on the hydrogeologic system and stormwater flows at—and in the vicinity of—the site have been adequately accounted for in the project design plans and documentation. Landau's review, described herein, is based on a site visit,[1] project design plans and other documentation provided on the City of Mukilteo's (City's) Land Use Action Notices website,[2] as well as project documentation provided on the City's separate website for this specific project.[3] The City issued a Determination of Non-Significance (DNS) related to the State Environmental Protection Act (SEPA) requirements for the project on August 30, 2023. The City's DNS indicated that the City has determined the project "will not have a probable significant adverse impact on the environment that won't be adequately mitigated through application of existing city procedures and regulations (e.g., clearing and grading, critical areas, established impact fees)" and that the project "has been clarified and changed by the applicant, and conditioned to include necessary mitigation measures to avoid, minimize or compensate for probable significant impacts."

Based on our review, it is Landau's opinion the project design plans and other documentation—as updated in April 2023—do not provide sufficient assurance that adverse environmental impacts due to project development can be avoided or mitigated as presently proposed. Landau's primary findings of project deficiencies can be categorized into two subjects—anticipated stormwater flows and

[1] Landau's site visit included visual observations of the site from the public right-of-way and two private residences immediately west of the site.
[2] https://mukilteowa.gov/departments/planning-development/development-regulations/land-use-action-notices/?cn-reloaded=1
[3] https://mukilteowa.gov/harbor-grove/

proposed stormwater management—and are described in more detail below, following a basic description of Landau's understanding of the project.

Project Understanding

Existing Conditions

The site comprises a 2.43-acre parcel (Snohomish County #00611600015901) that is currently forested with understory vegetation and has one single-family home with garage and driveway. As described in the project Geotechnical Engineering Study (Geotechnical report; Earth Solutions NW 2021), the site surficial (or shallow) soils are mapped as Vashon-age glacial till (typically dense to very dense and relatively impermeable to downward water percolation), which was consistent with site-specific geologic explorations. The existing topography is described in the project Storm Drainage Report (drainage report; Blueline 2022) as having a "significant amount of elevation change across the parcel, with slopes greater than 33 percent in multiple areas." The Geotechnical and drainage reports describe a topographic ridge (or drainage divide) running north-south in the central portion of the site and a vertical relief of approximately 30 feet (ft) across the site, resulting in stormwater runoff primarily sheet-flowing toward the west, east, and possibly south away from the site. The lowest point of the site is in the southwest corner, where the site parcel abuts a neighboring private parcel at 9107 Hargreaves Place (neighboring parcel). According to the owners of the neighboring parcel, stormwater flows from the site have contributed to past flooding of their yard and home.

Proposed Developed Conditions

Site Development Plans

The proposed project includes the demolition of the existing home and garage and construction of seven new single-family homes with associated access drive, utilities, and landscaping. All but 0.19 acres of the site, which will remain undisturbed/preserved within a Native Vegetative Area Easement, will be regraded to accommodate construction of the proposed homes. The proposed regrading of the site includes a multi-tiered retaining wall system that would result in a vertical relief of up to approximately 26 ft within the westernmost approximately 30 ft of the site (an area referred to herein as the 'retaining wall area'). The grading plan[4] notes an anticipated cut volume of approximately 4,446 cubic yards and an anticipated fill volume of approximately 9,873 cubic yards (i.e., over 2 times as much fill as cut), which will require imported material. In addition, the Geotechnical report indicates that the native soils (i.e., till) may not be appropriate for use as structural fill, which is specified to be "granular soil" with low (5 percent or less) fines content. Figure 1, an adaptation of the project Road and Stormwater Civil plan sheet, shows the boundaries of the site, the low-lying neighboring parcel, the preserved native vegetative area, the proposed retaining wall area, the drainage divide in the native till surface, and existing/proposed site ground surface elevations.

[4] Sheet 9 of 22 of Blueline's April 19, 2023 Civil Plan sheets.

Stormwater Management Plan

According to the drainage report, the proposed grading will result in the majority of site stormwater runoff being collected and routed to a detention vault in the central/eastern portion of the site and, from there, into piped stormwater infrastructure eastward toward 53rd Avenue West, then southward toward 92nd Street Southwest, then westward toward Hargreaves Place, then northward along Hargreaves Place before discharging to the Smuggler's Gulch Creek drainage. As such, the project stormwater design anticipates the majority of the site stormwater runoff to be collected and ultimately discharged west of Hargreaves Place, essentially bypassing the neighboring parcel(s) immediately west of the site. Part of the stormwater management plan, as documented in the drainage report and the Civil Plan sheets, is to collect the stormwater drainage from the retaining wall area (via perforated drain pipe installed behind the footings of the walls) and pump it back up to a catch basin at the top of the retaining wall area, where it will gravity flow toward the east to the proposed detention vault and discharge from the site as described above. The location of the proposed pump, in relation to the proposed retaining wall area, is shown on Figure 1. An emergency overflow or bypass for the pump system is not provided—or apparent—in the project design plans or documentation.

The drainage report documents hydraulic modeling performed with the Western Washington Hydrology Model (WWHM) in support of project design. The WWHM model is a standard hydraulic analysis tool that is used throughout western Washington to assist in estimating stormwater runoff rates and volumes and for appropriately sizing stormwater management facilities (e.g., detention vaults, infiltration facilities, etc.). Within a WWHM simulation of a specific site location, the user can specify the overall acreage of the following parameters for a given contributing area with the following variable parameters:

- surficial soil type, including "A/B" or outwash-type soils (i.e., relatively permeable) and "C" or till-type soils (i.e., relatively impermeable)
- land coverage, including pervious coverage (e.g., lawn, pasture, or forest) and impervious coverage (e.g., roads, parking, roofs, etc.)
- land slope, including flat, moderate, or steep.

All these parameters affect the amount of estimated stormwater flows and groundwater recharge (or more generally 'stormwater infiltration') in a simulated contributing area. For example, till-type ("C") soils result in more surface runoff (and less groundwater recharge) compared to outwash-type ("A/B") soils; impervious land cover results in more surface runoff (and less groundwater recharge) compared to pervious land cover; within pervious land cover, lawn results in more surface runoff than forest; and steeper slopes result in more surface runoff (and less groundwater recharge) than flat slopes.

The WWHM simulation of the proposed developed conditions described in the drainage report (referred to herein as the "drainage report simulation") comprised a contributing area for stormwater flows to the proposed detention vault including: 1.10 acres impervious (i.e., the homes, access drive, etc.); 1.24 acres of pervious pasture land coverage on till-type ("C") soils; and 0.13 acres of pervious lawn coverage on till-type ("C") soils, for a total contributing area of 2.47 acres. Presumably, because the stormwater surface runoff from the retaining wall area is planned to be captured and pumped back up to the top of the site for eventual gravity flow to the detention vault, the drainage report simulation did not specifically assess—for pump and/or retaining wall drainage pipe design purposes or otherwise—the estimated quantities of stormwater flows generated from the retaining wall area on its own.

The stormwater flows from the retaining wall area—and possibly other portions of the site that contribute stormwater flows toward the west—pose a particular risk to the neighboring parcel(s) immediately west of the site; therefore, a lack of detailed analysis of anticipated stormwater flows on the westward-draining portion of the site was an important missing piece in the project design plans and documentation.

Additional Stormwater Analysis

To better compare the anticipated stormwater flows from the westward-draining portion of the site (including the westward-sloping areas under existing conditions and the retaining wall area under proposed developed conditions), Kindred Hydro performed additional WWHM simulations (referred to herein as the "Kindred simulations"), as documented in an April 19, 2023 letter (Kindred Hydro 2023). Part of the purpose of the Kindred simulations was to assess the magnitude of stormwater flows that may impact the neighboring parcel(s) immediately west of the site in the event of stormwater pump failure or other malfunction compared to flows estimated to be impacting those parcels under current conditions.

The Kindred simulation of existing conditions included a 1.24-acre contributing area (representing the portion of the site that, due to site topography, currently drains toward the west) of pervious pasture and forest, as appropriate, on till-type ("C") soil. The Kindred simulation of proposed developed conditions included a 0.24-acre contributing area (representing the retaining wall area) of pervious lawn on till-type ("C") soil. According to the Kindred simulations, stormwater surface runoff flows toward the west (i.e., toward the neighboring parcel) would be expected to be lower under proposed developed conditions than flows under current conditions for the 2-year to 100-year stormwater events.

The Kindred simulations only included estimated surface runoff flows. However, because the retaining wall drainage and pumping system of the project will also likely collect stormwater infiltration water as well as shallow groundwater (as "horizontal interflow", as described by Kindred, or perched groundwater flow originating as downward precipitation percolation from the site resulting in accumulation and flow of groundwater atop the relatively impermeable till), exclusion of stormwater flows that infiltrate to ground over portions of the site represent a limitation of the project design plans and documentation. The choice of till-type ("C") soils for the contributing areas in the Kindred simulation of proposed developed conditions may be an additional limitation in the project design plans and documentation, as discussed below.

Project Planning and Documentation Deficiencies

This section provides additional details regarding what Landau considers to be deficiencies in the project design plans and documentation, organized in subsections relating to anticipated stormwater flows and general stormwater management.

Anticipated Stormwater Flows

The project design plans and documentation do not account for all stormwater flows that may impact the neighboring parcel(s) immediately west of the site. In other words, the project design plans likely underestimate the stormwater flows that may require management by the retaining wall area pump system.

As discussed above, the Kindred simulation of proposed developed conditions assumed till-like ("C") soils and also only accounted for surface water runoff flows from the 0.24-acre retaining wall area. Assuming till-like soils for the retaining wall area is likely inappropriate relative to project designs. For instance, the project retaining wall design (Attachment 2) specifies reinforced soil backfill ("Materials Note F: suitable granular material approved by the Geotechnical Engineer") behind the retaining walls. The Geotechnical report specifies that backfill material consist of "free-draining material". The purpose of the backfill behind the retaining walls is to drain any water that may accumulate behind them downward and into an underlying drainage pipe to avoid developing hydrostatic pressures behind the walls. This is a typical design feature of retaining walls. Therefore, the 0.24-acre retaining wall area would be more appropriately simulated as outwash-type ("A/B") soils, since outwash-type soils are generally more permeable than till.

An important component of the site water balance[5] that is not included in the Kindred simulation of proposed developed conditions is the portion of stormwater that infiltrates to ground and may travel laterally as shallow interflow (or perched groundwater flowing along the top of the till) that is likely to be collected by the retaining wall drainage and pump system. Kindred (2023) erroneously indicates that WWHM "does not provide estimates of groundwater recharge." In fact, by toggling on the "compute recharge" option in WWHM, the stormwater infiltration component of the site water balance can be included in the WWHM output. Attachment 3 provides an illustration of several sequenced actions that can be done within the WWHM model setup to allow for infiltration output to be provided from a WWHM simulation. The stormwater infiltration flows from the retaining wall area would be appropriate to include in the design plans for the stormwater collection, conveyance, and pump system.

Along the same lines, the component of stormwater infiltrating to ground in the remaining 1.0-acre portion of the westward-draining area of the site under existing conditions (i.e., 1.24 acres of the Kindred existing conditions simulation minus the 0.24 acres of the Kindred simulation of proposed developed conditions of the retaining wall area; see Figure 1) would likely percolate downward from

[5] The site water balance includes: Flow in (precipitation) and flow out (surface runoff, groundwater recharge, and evapotranspiration). For a given time period, flow out should be approximately equal to flow in.

the surface through the grading fill material, perch on top of the underlying native till, and flow west as "horizontal interflow" following the topography of the original till surface. It would then presumably be intercepted by the retaining wall drainage and pump system. In the current design, all stormwater from this 1.0-acre area is assumed to be directed to the east, a limitation that ignores infiltrated stormwater.

The designation of A/B (outwash-like) soil in the WWHM simulation is supported by site grading recommendations in the Geotechnical report. This report specifies that the imported soil used for fill throughout the site[6] should be granular material composed of 5 percent or less fines. While this fill will be compacted, the specified compaction is unlikely to result in till-like soil (which was compressed—made dense to very dense—below immense glacial ice during the Vashon glaciation). Infiltrating stormwater throughout the site would then likely discharge in the direction of the slope of the original till surface that underlies the fill instead of the slope of final grades.

Incorporating these modifications to the project design plans would provide a more realistic estimate of stormwater flows that may be anticipated to require management in the retaining wall area drainage, conveyance, and pump system.

Proposed Stormwater Management

The project design includes a pump system to manage stormwater flows from the retaining wall area. Aside from the likely underestimate of flows requiring management by that pump system, as described above, the concept of a pump system without an emergency overflow or bypass system is inherently risky. In-perpetuity pumping is not standard practice for retaining wall drainage design. It is not clear in the project design documentation what the emergency overflow/bypass plan is in the event of prolonged power outage or other pump system malfunction. If emergency bypass flows will drain westward by gravity, some type of overflow and conveyance system would typically be appropriate to protect the neighboring parcel(s) from impacts. If the bypass flows will be retained on the site, the retaining wall design should explicitly include considerations for ponding of water (and therefore increased hydrostatic pressure) behind the retaining wall system to ensure structural stability of the retaining walls.

Recommendations

Landau provides the following recommendations to better quantify the anticipated stormwater flows that may impact the neighboring parcel(s) immediately west of the site and to provide a more conservative stormwater management design concept:

- Account for all stormwater flows—including surface flows and infiltration flows—that may be anticipated to flow toward and require management by the retaining wall area drainage, conveyance, and pump system. Estimates of those flows should be based on realistic assumptions for land coverage, soil type, and contributing area. Landau recommends the

[6] The native till to be cut during grading may not be suitable as on-site fill, according to the Geotechnical report.

following components be included in the retaining wall area stormwater drainage, conveyance, and pump system design:

- Combined surface and infiltration flows from the 0.24-acre retaining wall area, assuming outwash-type (“A/B”) soils, lawn coverage, and flat slopes.
- Infiltration flows from the 1.0-acre portion of the site—where downward percolating stormwater would likely perch on top of the underlying native till, flow west following the topography of the underlying till, and be intercepted by the retaining wall area drainage and pump system—assuming outwash-type (“A/B”) soils, land coverage in accordance with proposed site conditions within this area, and flat slopes.

- Incorporate an emergency backup drainage and conveyance system to bypass the designed pump system and convey drainage past, and to reduce the risk of impacts to, the low-lying neighboring parcel(s) immediately west of the site, in the event of prolonged power failure or other pump system malfunction.

LANDAU ASSOCIATES, INC.

Ben Lee, PE, CWRE
Senior Associate

BDL/EFW/kjg
[Y:\2201\R\HG AND STORMWATER ASSESSMENT\LANDAU HG AND STORMWATER ASSESSMENT_2023_09_11]

References

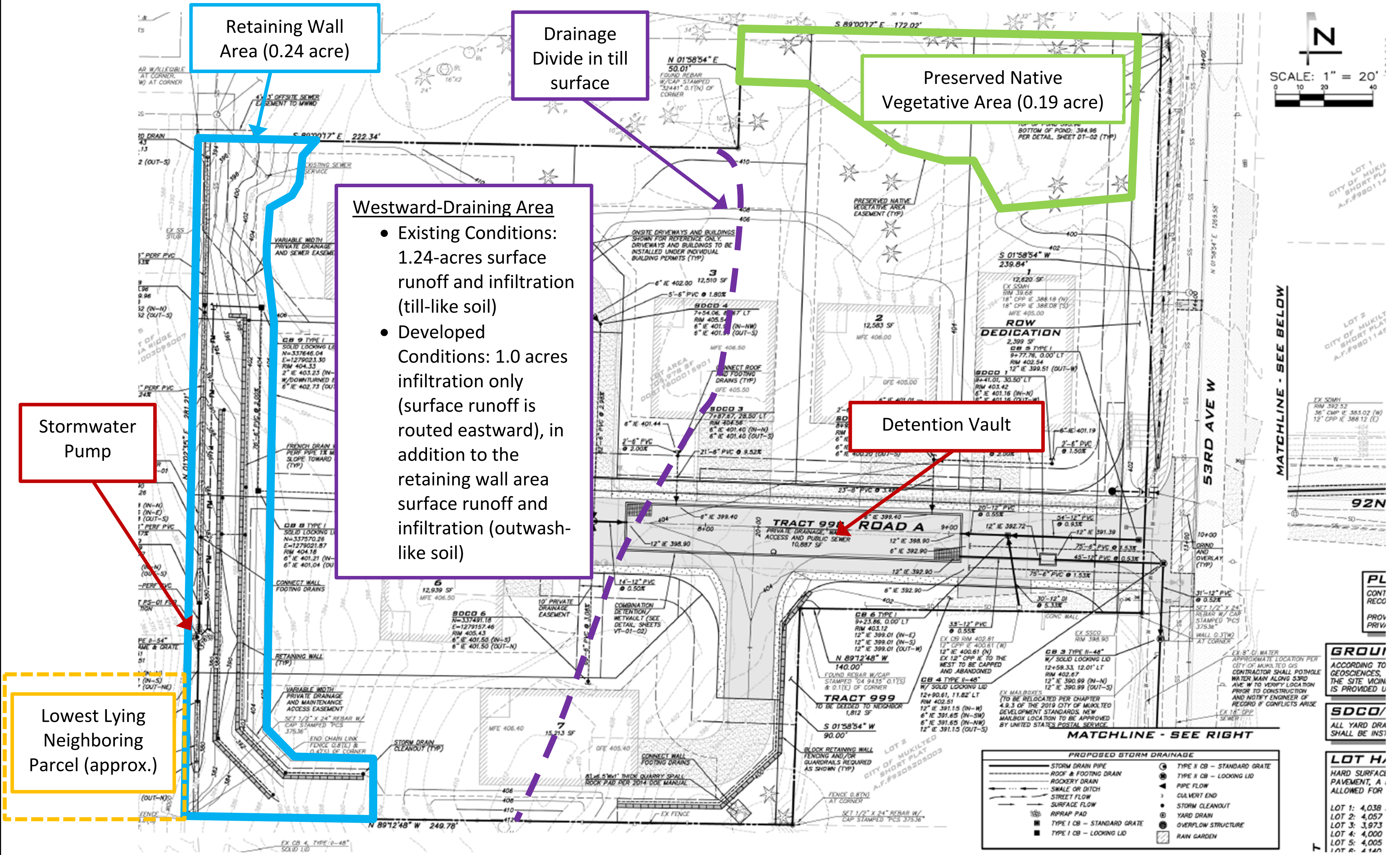
Blueline. 2022. Final: Storm Drainage Report: Harbor Grove Parcel No. 00611600015901; 9110 53rd Ave W, Mukilteo, WA 98275. May 3. Revised April 20, 2023.

Earth Solutions NW. 2021. Report: Geotechnical Engineering Study, Daffron Property; 9110 53rd Avenue West, Mukilteo, Washington. Earth Solutions NW, LLC. July 30. Updated July 28, 2022.

Kindred Hydro. 2023. Letter: Harbor Grove Development Hydrologic Impacts Assessment, 9110 53rd Ave West, Mukilteo, Washington. From J. Scott Kindred, to Glen Belew, Sea Pac Homes. April 19.

Attachments

Figure 1	Site Map
Attachment 1	Proposed Developed Conditions from Drainage Report, April 21, 2023
Attachment 2	Retaining Wall Design Drawings, Earth Sciences NW, April 24, 2023
Attachment 3	WWHM Groundwater Recharge Output Toggling Illustrations



Note: Adapted from Road & Storm Plan, Harbor Grove Civil Plans; Blueline Group, revised 4/12/2023

Hydrogeologic and Stormwater System Design Assessment Harbor Grove Subdivision Mukilteo, Washington	**Site Map**	Figure 1

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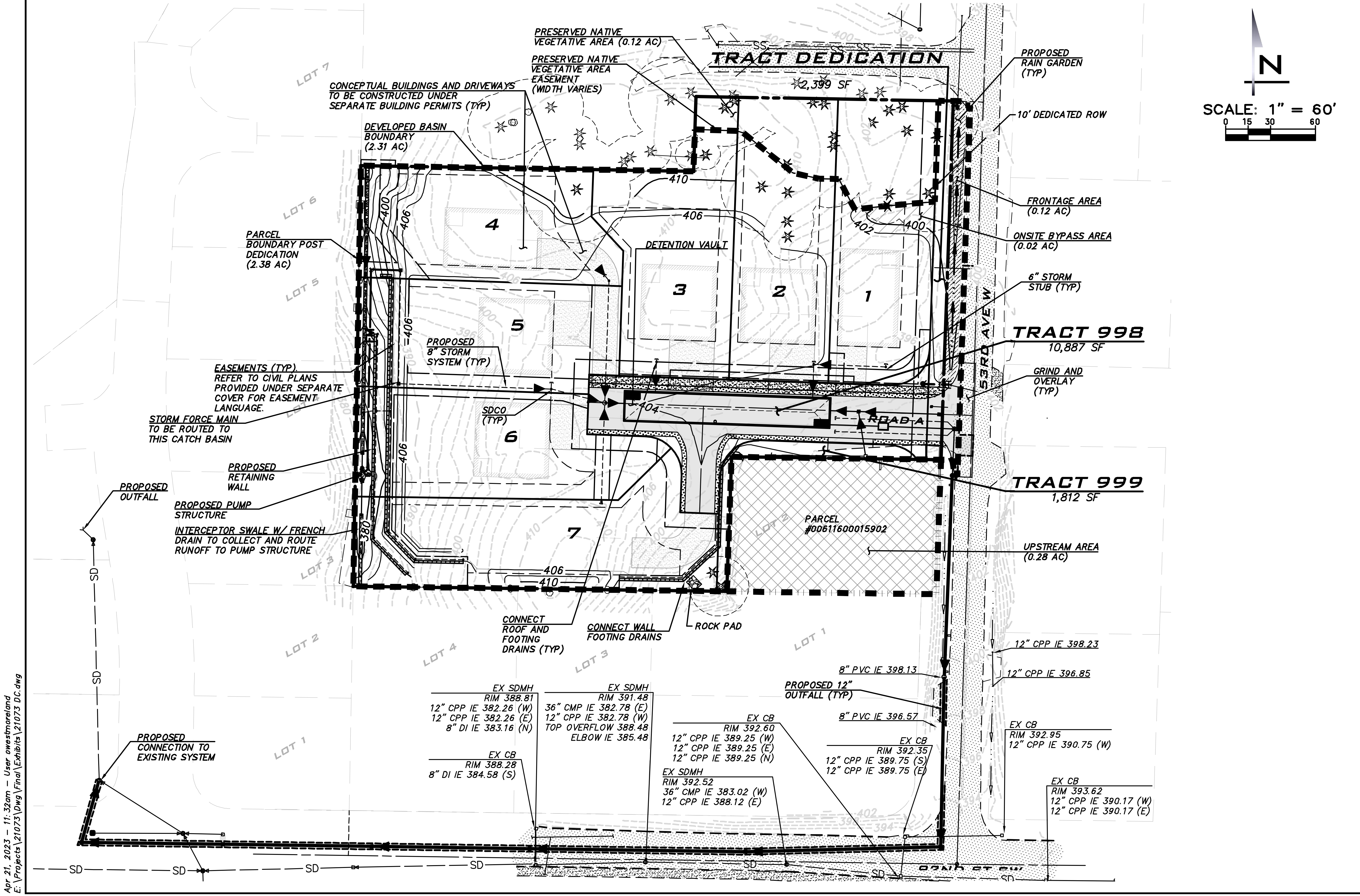
ATTACHMENT 1

Proposed Developed Conditions from Drainage Report, April 20, 2023

DEVELOPED CONDITIONS EXHIBIT



BLUELINE

DEVELOPED CONDITIONS EXHIBIT
HARBOR GROVE
STORM DRAINAGE REPORT

SCALE	1" = 50'
PROJECT MANAGER	TC COLLERAN, PLA
DESIGNED BY	LEE TOMKINS
DRAWN BY	OLIVIA WESTMORELAND
PLOT DATE	April 21, 2023

JOB NUMBER: 21-073

FIGURE: DC

ATTACHMENT 2

Retaining Wall Design Drawings, Earth Solutions NW
April 24, 2023

DESIGN NOTES:

Reference: Blueline, Grading Plan, April 19, 2023

The following design assumptions were used:
- Internal angle of friction for reinforced soil = 32 degrees (design only - see Material Note "F")
- Unit weight of reinforced soil = 125 pcf
- Maximum wall height = 12.00 feet (single tier), 22.67 feet (total height for two tiers)
- Batter of wall = 1H : 10V
- Surcharge = Footing Load and Backslope

TECHNICAL SPECIFICATIONS FOR MECHANICALLY STABILIZED LOCK + LOAD RETAINING WALLS

GENERAL:

A. The work involves the supply and installation of soil reinforced retaining walls. The Concrete Panels and Counterforts will consist of Lock + Load Stone. Counterfort and Geogrid are the types of soil reinforcement. The work will include, but is not limited to:
- excavation to the grades shown on the civil drawings
- supply and installation of geogrid reinforcement
- supply and installation of drainage fill and piping
- supply and installation of segmental Lock + Load Stones
- supply and installation of retained and reinforced soil fill

B. The walls shall be installed on undisturbed Native Soils or Structural Fill, as appropriate.

MATERIALS

A. Concrete Panels and Counterforts are locked together to form a "Stone". The retaining walls have been designed on the basis of Lock + Load Retaining Wall "Stones". Stones are to be purchased from a licensed Lock + Load manufacturer. The Lock + Load trademark on each pallet identifies Lock + Load products.

B. Information on the purchase of Lock + Load products can be obtained through:

Pacific LOCK + LOAD, Inc.
Telephone: (503) 682-2868
Website: www.pacificlocknload.com

C. Geogrid - See Geogrid Schedule.

D. Drainage Fill - Drainage Fill placed around and above the perforated drainage pipe shall consist of clean aggregate between 3/4 inch and 1 1/2 inch.

E. Face Gravel - 3/4 inch to 1 inch Clean Crushed Rock, no fines. Face Gravel shall be compacted thoroughly to ensure no settlement of panels.

F. Reinforced Backfill - Suitable granular material approved by the Geotechnical Engineer.

G. Leveling Pad - The Leveling Pad shall consist of angular, crushed aggregate of maximum size of 3/4 inch. The Leveling Pad Fill may be single size or may be well graded containing a maximum of 5% passing the #200 sieve.

EXECUTION

A. Contractor shall excavate to the lines and grades shown on the construction drawings. The Geotechnical Engineer should observe the excavation prior to the placement of the leveling material or fill soils.

B. Over-excavation of deleterious soils or rock shall be replaced with material meeting the specifications described in the section "Material G" above, and compacted to 95% of ASTM D-1557-91 (Modified Proctor) within 2% of the optimum moisture content of the soil.

C. The first course of concrete Lock + Load Stones shall be placed on the Leveling Pad and the alignment and level checked.

D. Stones shall be placed with the top of the panel level and parallel to the wall face. The Counterfort Base installs horizontal and perpendicular to the face of the retaining wall.

E. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

F. Geogrid reinforcement shall be placed at the levels and to the lengths shown on the drawings beginning at the back of the Lock + Load Panels.

G. The geogrid shall be laid horizontally in the direction perpendicular to the face of the retaining wall. The geogrid shall be pulled taut, free of wrinkles and anchored prior to backfill placement on the geogrid.

H. The geogrid reinforcement shall be continuous throughout their embedment lengths. Spliced connection between shorter pieces of geogrid is not permitted.

I. The drainage pipe discharge points shall be connected to approved discharge.

J. Reinforced and Retained Backfill shall be placed, spread and compacted in such a manner that minimizes the development of slack in the geogrid.

K. Reinforced and Retained Backfill shall be placed and compacted in lifts not to exceed 8 inches where hand compaction equipment is used and not more than 12 inches where heavy compaction equipment is used. FIRST - compact over tail of Counterfort then away from the retaining wall structure. Hand operated compaction equipment (700 lb. to 1,000 lb.) Vibratory Plate shall be used to compact face gravel at wall face.

L. Reinforced and Retained Backfill shall be compacted to 95% of the maximum density as determined by ASTM D-1557-91 (Modified Proctor) or equivalent. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be within 2 percentage points of the optimum moisture content.

M. Hand-operated equipment (700 lb. to 1,000 lb. Vibratory Plate) shall be used within 26 inches of the front face of the concrete facing.

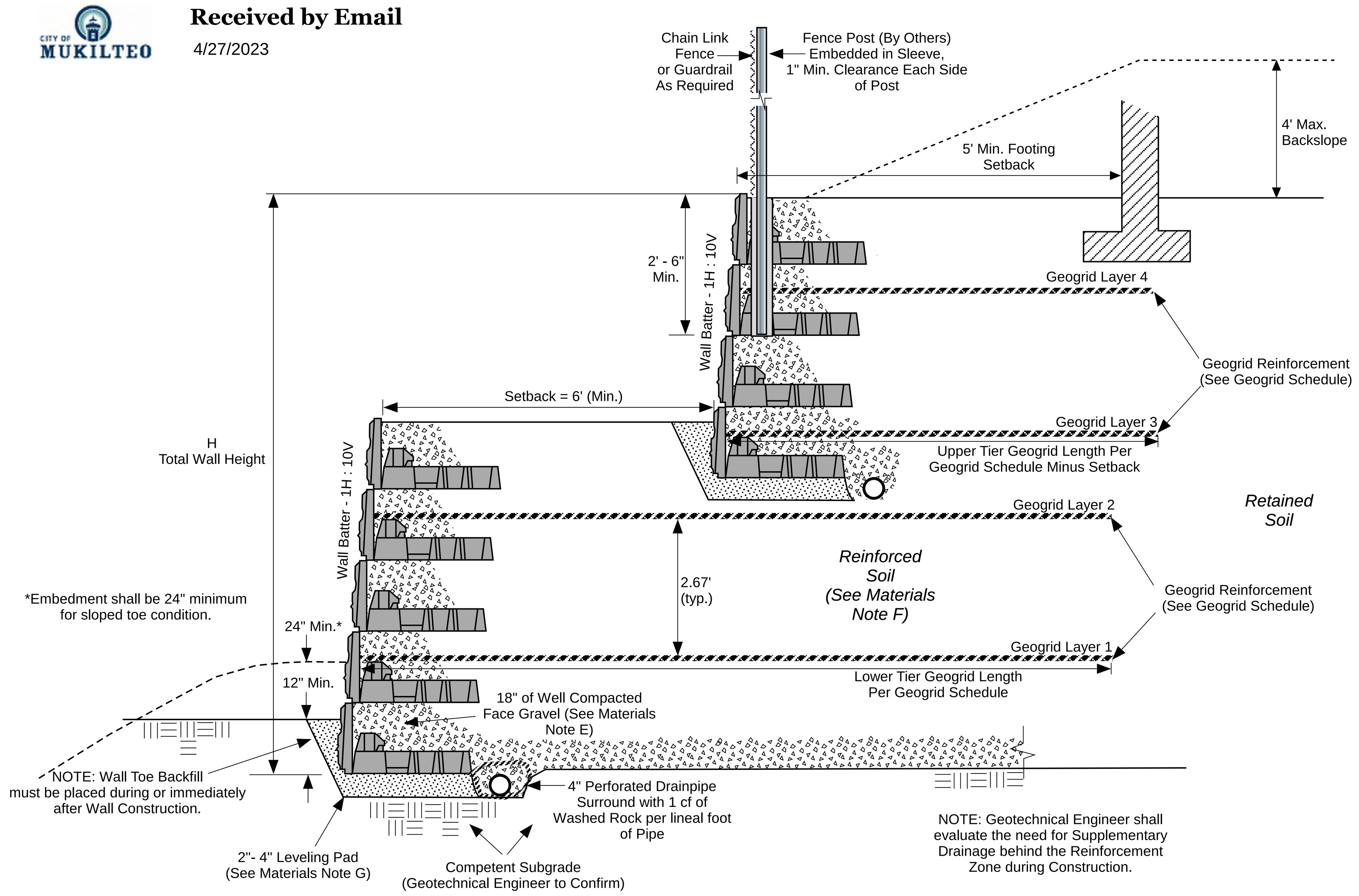
N. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid.

O. Rubber tired equipment may pass over the geogrid reinforcement at slow speeds less than 5 mph. Sudden braking and sharp turning shall be avoided.

P. At the end of each day of operation, the contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from the wall face. The contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

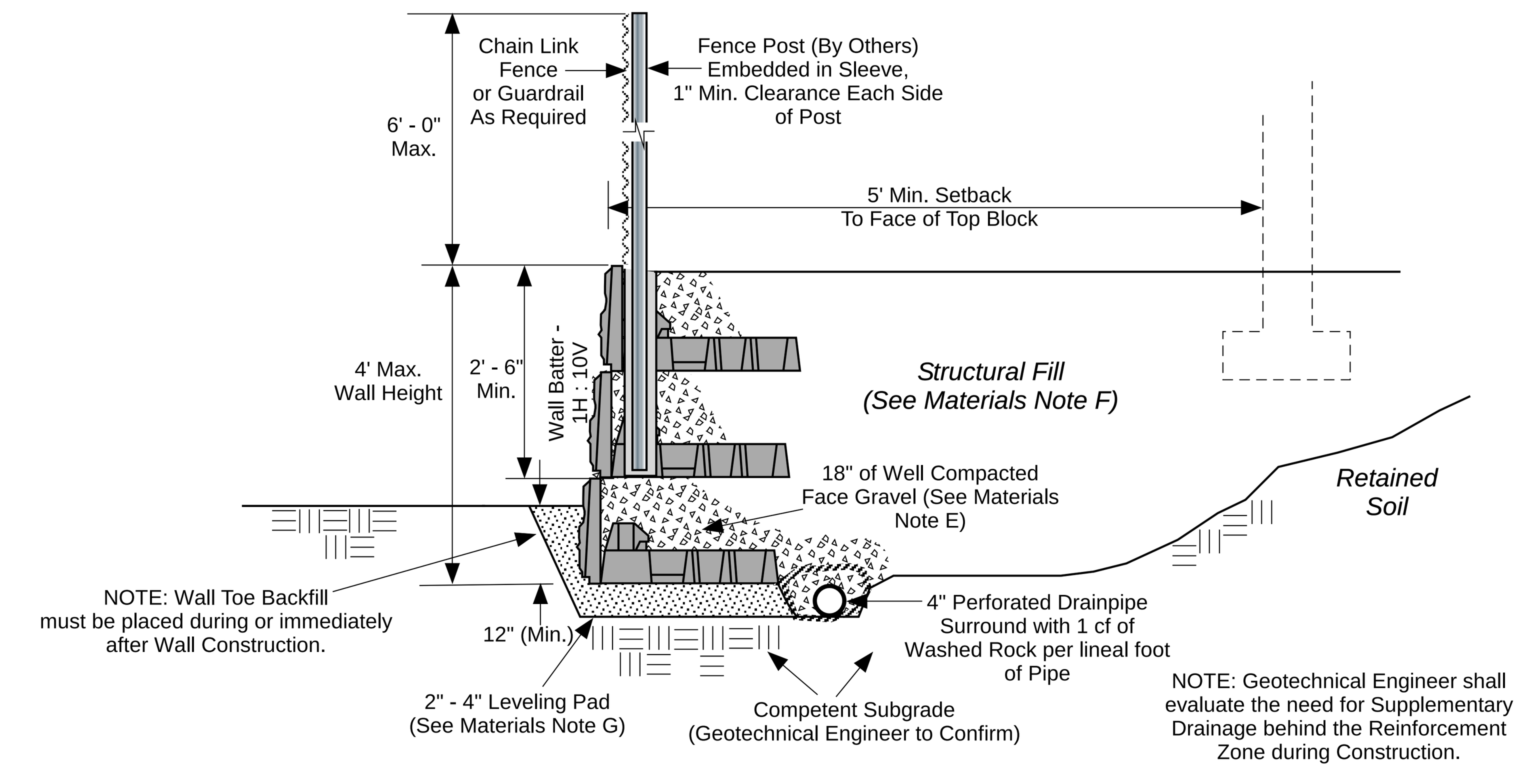
NOTE: Wall Alignment and Heights To Be Established By Contractor / Surveyor.

CITY OF MUKILTEO
Received by Email
4/27/2023



TIERED WALL SECTION (If upper tier is within 1H:1V of lower tier)

NOT - TO - SCALE

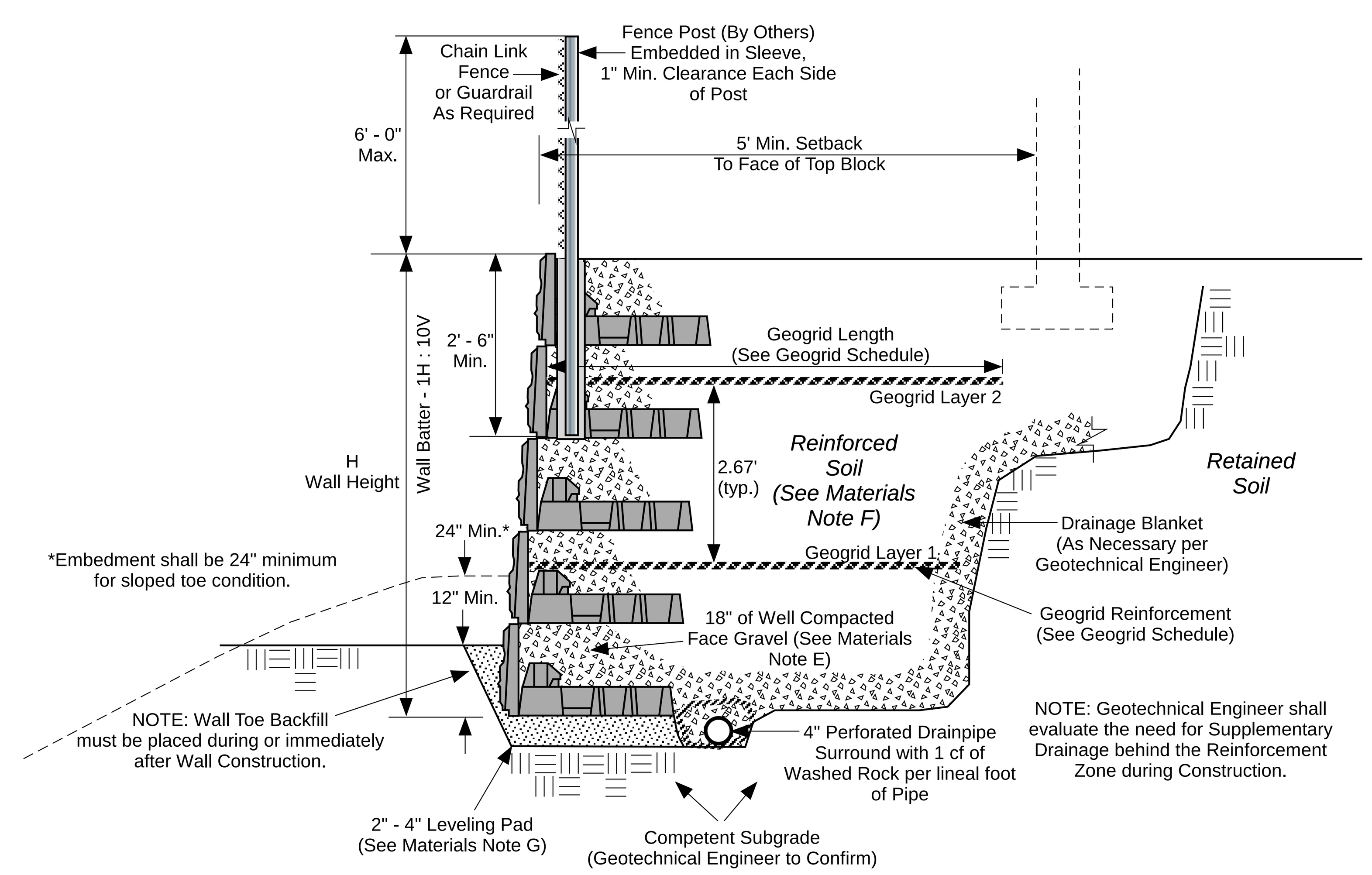


GRAVITY WALL CONDITION (4 Foot Max. Height)

NOT - TO - SCALE

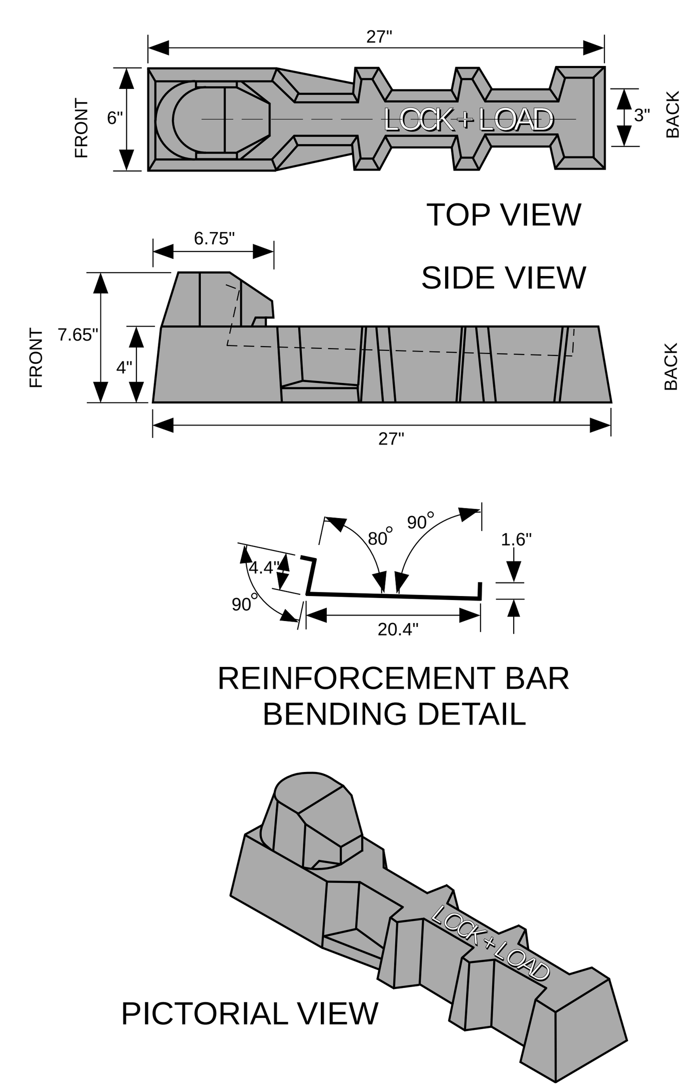
GEOGRID SCHEDULE										
# of Panels	H, Wall Height (feet)	Geogrid Length (feet)	Layers							
			1	2	3	4	5	6	7	8
4	5.33	7.00	A	A	-	-	-	-	-	-
5	6.67	8.00	A	A	-	-	-	-	-	-
6	8.00	9.00	A	A	A	-	-	-	-	-
7	9.33	10.00	A	A	A	-	-	-	-	-
8	10.67	12.00	B	A	A	A	-	-	-	-
9	12.00	14.00	B	A	A	A	-	-	-	-
10	13.33	15.00	B	A	A	A	A	-	-	-
11	14.67	17.00	B	B	A	A	A	-	-	-
12	16.00	18.00	B	B	A	A	A	A	-	-
13	17.33	20.00	C	B	A	A	A	A	-	-
14	18.67	22.00	C	B	B	A	A	A	A	-
15	20.00	23.00	C	B	B	A	A	A	A	-
16	21.33	25.00	C	C	B	B	A	A	A	A
17	22.67	27.00	C	C	B	B	A	A	A	A

GEOGRID: A = Miragrid 5XT
B = Miragrid 8XT
C = Miragrid 10XT



TYPICAL WALL SECTION

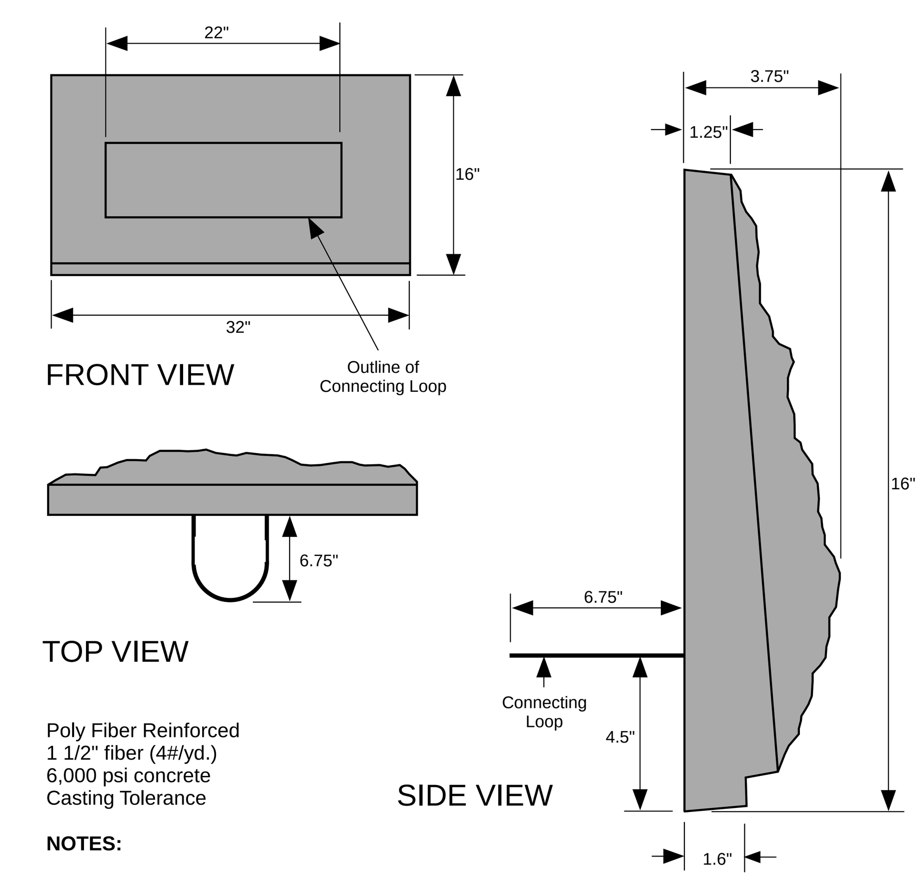
NOT - TO - SCALE



NOTES:
1. Installation to be completed in accordance with manufacturer's specifications.
2. Do not scale from drawings.

LOCK + LOAD COUNTERFORT

NOT - TO - SCALE



Poly Fiber Reinforced
1 1/2" fiber (4#/yd.)
6,000 psi concrete
Casting Tolerance

NOTES:
1. Installation to be completed in accordance with manufacturers specifications.
2. Do not scale from drawings.

LOCK + LOAD PANEL

NOT - TO - SCALE

HENRY T. WRIGHT
STATE OF WASHINGTON
53803
REGISTERED PROFESSIONAL ENGINEER
04/24/2023

Lock + Load Wall Designs and Notes
HARBOR GROVE
Mukilteo, Washington

Earth Solutions NW LLC
Geotechnical Engineering, Construction Observation/Testing and Environmental Services

Date	Revisions

Proj. No.	7975.01
Date	04/24/2023
Drawn	MRS
Checked	HTW

Sheet No.
W1

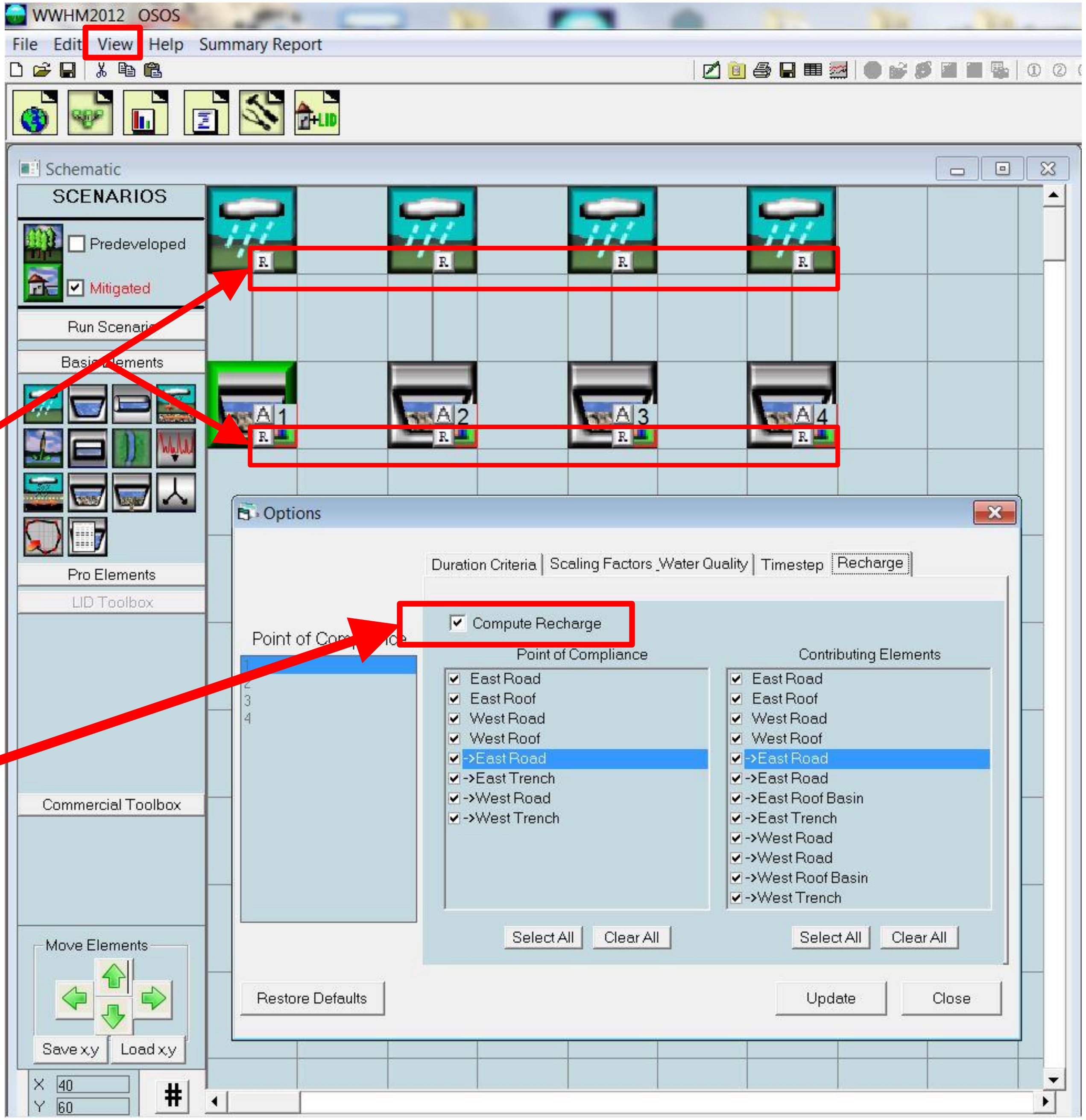
ATTACHMENT 3

WWHM Groundwater Recharge Output Toggling Illustrations

// Mounding Analysis Modeling

WWHM – COMPUTE RECHARGE TOGGLE

- You can right click and select 'Compute Recharge' for each basin and facility…
- But you also need to toggle the main 'Compute Recharge' option on
- Run Mitigated Scenario



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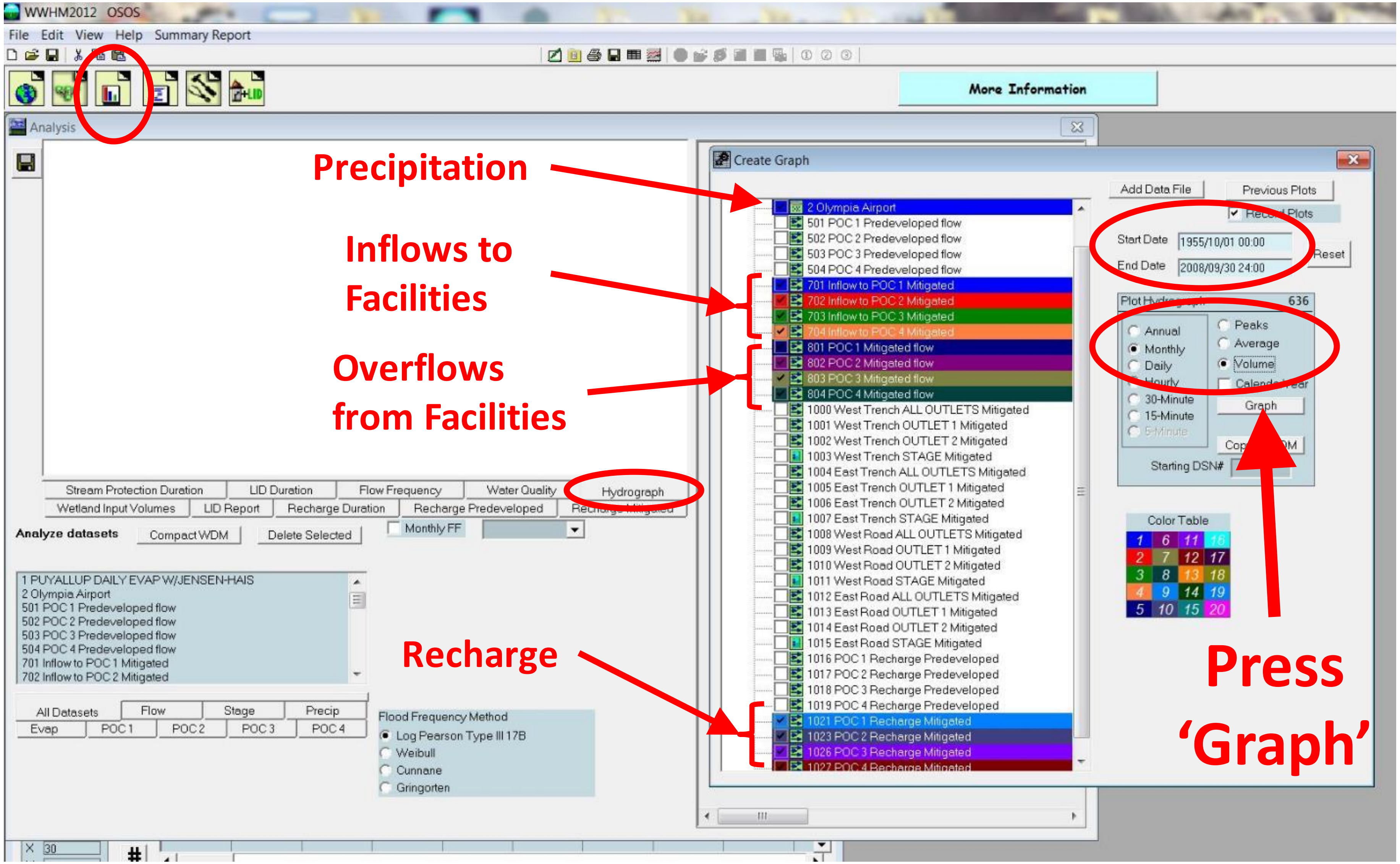
// Mounding Analysis Modeling

WWHM VOLUME OUTPUTS



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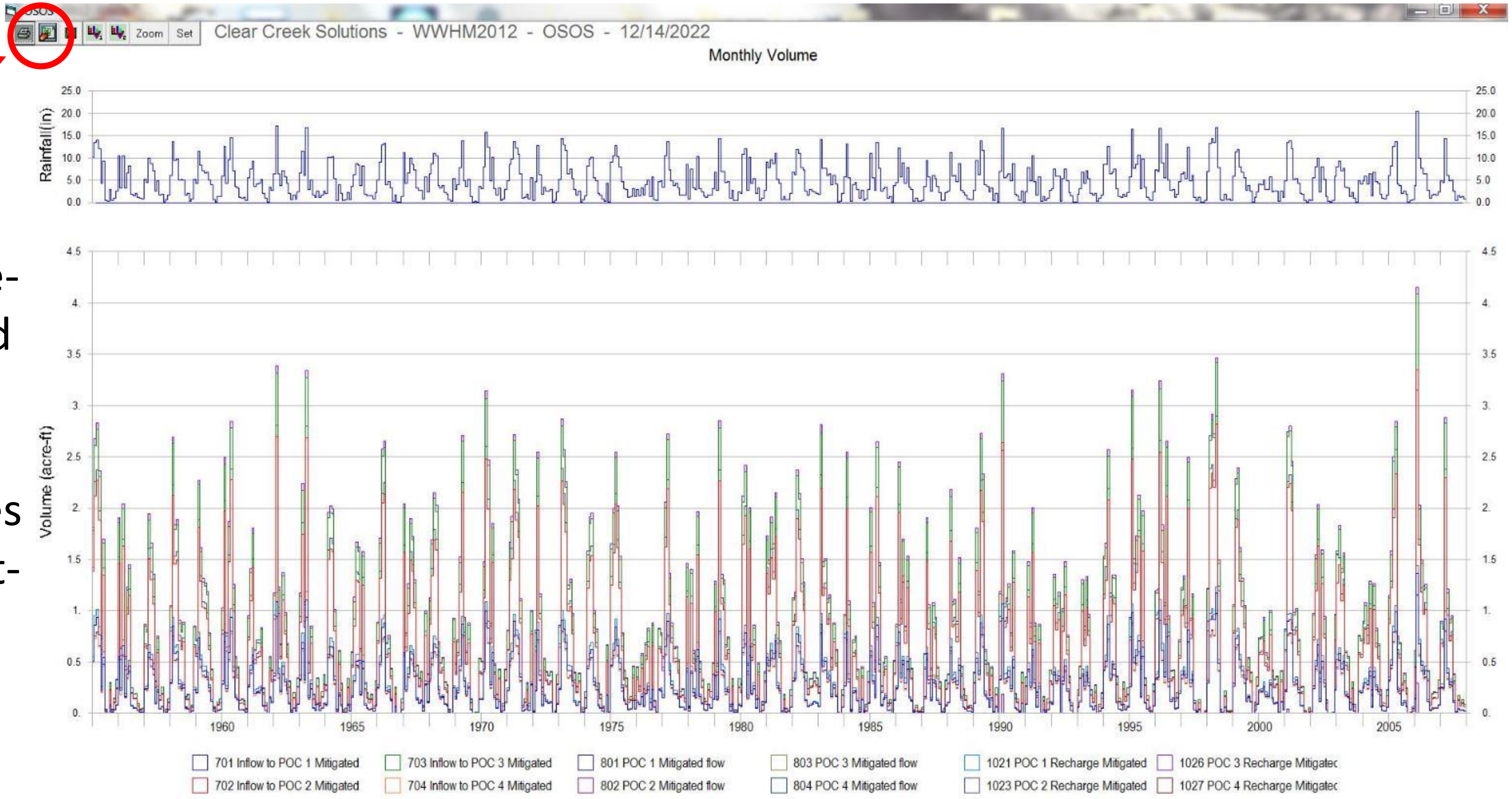
// Mounding Analysis Modeling

WWHM VOLUME OUTPUTS

Copy monthly (or daily) flow volume (in ‘acre-ft per time’) and precipitation (in ‘inches per time’) timeseries to Excel for post-processing



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