CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercerisland.gov

STAFF REPORT & DECISION

CRITICAL AREA REVIEW 2 CAO23-029 (Exhibit 1)

Project No:	CAO23-029
Description:	The applicant proposes to construct a new single-family residence. A critical area review 2 (CAR2) application was submitted in conjunction with building permit application number 2210-120, due to the proposed development location within geologically hazardous areas, specifically potential slide and erosion hazard areas.
Applicant/ Owner:	Robert Young (Architectural Innovations) / Jamie Buchan
Location of Property:	3036 67th Avenue SE, Mercer Island WA 98040 King County Assessor tax parcel number: 217450-1025
Zoning District	R-8.4
Staff Contact:	Grace Manahan, Assistant Planner grace.manahan@mercerisland.gov | 206-275-7764
Exhibits:	1. Staff Report & Decision dated April 15, 2024 2. Development Application signed November 30, 2024 3. Geotechnical Evaluation prepared by Terra Associates, Inc, dated August 18, 2022 4. Site Plan prepared by Architectural Innovations, dated November 27, 2023 5. Letter of Completeness, dated December 18, 2023 6. Notice of Application, dated January 2, 2024 7. City of Mercer Island Third-Party Geotech Approval, dated December 18, 2023 8. Public comment by Ron and Patricia Malatesta, dated January 25, 2024 9. Response to public comment, dated March 26, 2024 10. Concurrent Review Request Form, signed November 30, 2024 11. Memorandum prepared by Terra Associates, Inc dated November 29, 2023 12. Hazard Report generated by the City of Mercer Island on April 9, 2024

INTRODUCTION

I. Project Description

The applicant proposes to build a new single-family residence (proposed development) at 3036 67th Avenue SE (subject property). A critical area review 2 (CAR2) application was submitted in conjunction with building permit application number 2210-120, due to the proposed development location within geologically hazardous areas, specifically potential slide and erosion hazard areas.

II. Site Description and Context

The subject property is located within the R-8.4 Zone and is developed with an existing single-family residence. The subject property is surrounded by single-family homes to the west, north, east, and south. The subject property contains mapped potential slide and erosion hazard areas (**Exhibit 12**).

Findings of Fact & Conclusions of Law

III. Application Procedure

1. The application for a CAR2 was received by the City of Mercer Island on November 30, 2023 **(Exhibit 2)**. The application was determined to be complete on December 18, 2023 **(Exhibit 5)**.

2. According to MICC 19.15.030, Table A, a CAR2 is a Type III land use review. Type III land use reviews require notice of application (discussed below). A notice of decision is issued once the project review is approved by the code official, followed by an appeal period.

3. A notice of application (NOA) was issued on December 11, 2023, and the public comment period ran from December 11, 2023, to January 11, 2024. The NOA was mailed to neighboring property owners within 300 feet (ft) of the subject property, the NOA was posted on the subject property, and posted in the City's weekly permit bulletin **(Exhibit 6)**.

4. One public comment was received **(Exhibit 8).**

5. The applicant responded to the public comment received **(Exhibit 9).**

IV. SEPA Compliance

The proposed development is exempt from SEPA Review pursuant to WAC 197-11-800(1)(b)(ii).

V. Consistently with the Critical Areas Code

1. MICC 19.07.070 lists requirements for disclosure and notice on title. The applicant shall disclose to the city the presence of critical areas on the development proposal site and any mapped or identifiable critical areas within the distance equal to the largest potential required buffer applicable to the development proposal on the development proposal site.

    a. The owner of any property containing critical areas and/or buffers on which a development proposal is submitted, except a public right-of-way or the site of a permanent public facility, shall file a notice approved by the city with the records and elections division of King County. The notice shall inform the public of the presence of critical areas, buffers and/or mitigation sites on the property, of the application of the city's critical areas code to the property and that limitations on actions in or affecting such critical areas and/or buffers may exist. The notice shall run with the land in perpetuity.

b. The applicant shall submit proof to the city that the notice has been recorded prior to approval of a development proposal for the property or, in the case of subdivisions, short subdivisions, and binding site plans, at or before recording of the final subdivision, short subdivision, or binding site plan.

Staff Analysis: A Critical Areas Notice on Title recorded with the King County Recorder's Office is included in the conditions of approval; therefore, this requirement is met.

1. MICC 19.07.090 describes the purpose and procedures by which the city will review and authorize development and verify consistency with this chapter.
   a. Critical Area Review 2. The purpose of a critical area review 2 is to review critical area studies and mitigation plans in support of proposed buffer averaging and reduction of wetland and watercourse buffers.

   b. Review timing and sequence.

      A. When development and/or activity within a wetland, watercourse, fish and wildlife habitat conservation area or buffer associated with these critical area types is proposed, a critical area review 2 is required to be reviewed and approved prior to construction authorization.

      B. When development and/or activity is proposed on a site containing only geologically hazardous areas, an application has the option of either:

         i. Applying for a critical area review 2 in advance of construction permits, using the procedures required for a Type III land use review; or

         ii. Requesting consolidation of the review of geologically hazardous areas together with construction permit review.

      C. When development and/or activity is proposed on a site containing geologically hazardous areas and on or more of the critical area types listed in subsection (B)(2)(a) of this section or the associated buffer of one of those critical areas, a critical area review 2 reviewing all critical areas is required to be reviewed and approved prior to construction authorization, using the procedures required for a Type III land use review.

   Staff Analysis: The applicant submitted a Concurrent Review Request Form (**Exhibit 10**) requesting consolidated review of the Critical Area Review 2 and associated building permit application; therefore, the application is consistent with the review timing and sequence requirements.

2. MICC 19.07.100 lists requirements for mitigation sequencing. An applicant for a development proposal or activity shall implement the following sequential measures, listed below in order of preference, to avoid, minimize, and mitigate impacts to environmentally critical areas and associated buffers. Applicants shall document how each measure has been addressed before considering and incorporating the next measure in the sequence:
   a. Avoiding the impact altogether by not taking a certain action or parts of an action. The applicant shall consider reasonable, affirmative steps and make best efforts to avoid critical area impacts. However, avoidance shall not be construed to mean mandatory withdrawal or denial of the development proposal or activity if the proposal or activity is an allowed, permitted, or conditional use in this title. In determining the extent to which the proposal should be redesigned to avoid the impact, the code official may consider the purpose, effectiveness, engineering feasibility, commercial availability of technology, best

management practices, safety and cost of the proposal and identified changes to the proposal. Development proposals should seek to avoid, minimize and mitigate overall impacts based on the functions and values of all of the relevant critical areas and based on the recommendations of a critical area study. If impacts cannot be avoided through redesign, use of a setback deviation pursuant to section 19.06.110(C), or because of site conditions or project requirements, the applicant shall then proceed with the sequence of steps in subsections B through E of this section;

b. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, using a setback deviation pursuant to section 19.06.110(C), using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;

c. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;

d. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;

e. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or

f. Monitoring the impact and taking appropriate corrective measures to maintain the integrity of compensating measures.

Staff Analysis: The applicant provided a Critical Area Study and supporting memorandum (**Exhibit 3, Exhibit 11**) which addresses mitigation sequencing for the proposed development determining that the impact could not be avoided as most of the property is located within geologically hazardous areas **(Exhibit 12)**. The applicant proposes to minimize the impact by following the recommendations of the Critical Area Study and supporting memorandum (**Exhibit 3, Exhibit 11**) to ensure the modification to the landslide hazard area will be mitigated and the development has been designed so that the risk to the site and adjacent property is determined to be safe.

3. MICC 19.07.110 lists requirements for a critical area study. A critical area study is required when a development proposal will result in an alteration to one or more critical area buffers or when required to determine the potential impact to a critical area. The critical area study may be waived or modified if the applicant demonstrates that the development proposal will not have an impact on the critical area or its buffer in a manner contrary to the purposes and requirements of this chapter.
Staff Analysis: The applicant submitted a geotechnical engineering study and critical area study (**Exhibit 4**) that addresses all of the requirements for a critical area study in MICC 19.07.110; therefore, this requirement is met.

4. MICC 19.07.160 lists standards for development on sites containing geologically hazardous areas.
A. Geologically hazardous areas are lands that are susceptible to erosion, landslides, seismic events, or other factors as identified by WAC 365-190-120. These areas may not be suited for development activities because they may pose a threat to public health and safety. Areas susceptible to one or more of the following types of hazards shall be designated as geologically hazardous areas: landslide hazard areas, seismic hazard areas, and erosion hazard areas.
Staff Analysis: The subject property contains potential landslide and erosion hazard areas. A geotechnical engineering study and critical area study was submitted showing that the proposed development has incorporated all geotechnical recommendations so that the risk to

the site and adjacent property is eliminated or mitigated such that the site is determined to be safe (**Exhibit 4**).

B. Alteration within geologically hazardous areas or associated buffers is required to meet the standards in this section, unless the scope of work is exempt pursuant to section 19.07.120, exemptions, or a critical area review 1 approval has been obtained pursuant to section 19.07.090(A).

1. 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.

   Staff Analysis: The applicant submitted a geotechnical engineering study (**Exhibit 3**) that states that the proposed development incorporates all recommendations to render the site safe and will not increase the risk of landslide or erosion. The geotechnical engineering study and critical area study were reviewed and approved by the City of Mercer Island's third-party geotechnical reviewer Michele Lorilla, PE (**Exhibits 7**); therefore, this requirement is met.

2. Alteration of landslide hazard areas and seismic hazard areas and associated buffers may occur if the critical area study documents find that the proposed alteration:

   c. Will not adversely impact other critical areas;

   d. Will not adversely impact the subject property or adjacent properties;

   e. Will mitigate impacts to the geologically hazardous area consistent with best available science to the maximum extent reasonably possible such that the site is determined to be safe; and

   f. Includes the landscaping of all disturbed areas outside of building footprints and installation of hardscape prior to final inspection.

   Staff Analysis: The applicant provided a Critical Area Study and supporting memorandum (**Exhibit 3, Exhibit 11**) stating that, provided the recommendations in the report are followed, the proposed development will not adversely impact the stability of the neighboring properties or result in a need for increased critical area buffers on those adjacent properties.

3. Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:

   a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;

b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;

c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or

d. The development is so minor as not to pose a threat to the public health, safety and welfare.

Staff Analysis: The geotechnical engineering study (**Exhibit 3**) states that the proposed development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe; therefore, this requirement is met.

C. Development is allowed within landslide hazard areas and associated buffers, when the following standards are met:

1. A critical area study shall be required for any alteration of a landslide hazard area or associated buffer;

2. Buffers shall be applied as follows. When more than one condition applies to a site, the largest buffer shall be applied:

a. Buffer widths shall be equal to the height of a steep slope, but not more than 75 feet, and applied to the top and toe of slopes;

b. Shallow landslide hazard areas shall have minimum 25-foot buffers applied in all directions; and

c. Deep-seated landslide hazard areas shall have 75-foot buffers applied in all directions.

Staff Analysis: The geotechnical engineering study (**Exhibit 3**) states that the proposed development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe. The geotechnical engineering study and critical area study were reviewed and approved by the City of Mercer Island's third-party geotechnical reviewer Michele Lorilla, PE (**Exhibits 7**); therefore, this requirement is met.

D. When development is proposed within an erosion hazard area:

1. All development proposals shall demonstrate compliance with chapter 15.09, storm water management program.

2. No development or activity within an erosion hazard area may create a net increase in geological instability on or off site.

Staff Analysis: The applicant provided a Critical Area Study and supporting memorandum (**Exhibit 3, Exhibit 11**) finds there to be a presence of relativity loose, saturated interbedded sand zones on the property and their analysis indicates that soil liquefaction could occur during an earthquake which would result in settlements. Total settlements of this magnitude are within acceptable limits for residential structures and would not result in significant adverse impacts to the proposed residence or subject property. The proposed development was reviewed and approved by Engineering under the associated Building Permit (2210-120) for compliance with chapter 15.09, storm

water management program and the City of Mercer Island's third-party geotechnical reviewer Michele Lorilla, PE (**Exhibits 7**); therefore, this requirement is met.

CONDITIONS OF APPROVAL

1. The proposed development shall be in substantial conformance with **Exhibit 4** and all applicable development standards contained within) Chapter 19.07 Mercer Island City Code (MICC).

2. The applicant is responsible for documenting any required changes in the project proposal due to conditions imposed by any applicable local, state and federal government agencies.

3. The applicant is responsible for recording a Critical Areas Notice on Title with the King County Recorder's Office.

4. Construction or substantial progress toward construction of a development for which a permit has been granted must be undertaken within three years after the approval of the permit or the permit shall terminate. The code official shall determine if substantial progress has been made.

DEVELOPMENT REGULATION COMPLIANCE – DISCLOSURE

1. Compliance with all applicable codes, including but not limited to zoning, critical areas (including Fish & Wildlife Habitat Conservation Areas), and building code, will be required as part of building permit review.

DECISION / RECOMMENDATION

Based upon the above noted Findings of Fact and Conclusions of Law, Critical Area Review 2 application CAO23-029, as depicted in **Exhibit 4**, is hereby **APPROVED as conditioned**. This decision is final, unless appealed in writing consistent with adopted appeal procedures, MICC 19.15.130(A), and all other applicable appeal regulations.

Approved this 15th day of April 2024.

Grace Manahan

_____

Grace Manahan
Assistant Planner
Community Planning & Development
City of Mercer Island

If you desire to file an appeal, you must submit the appropriate form, available from the department of Community Planning and Development, and file it with the City Clerk within fourteen (14) days from the date after the notice of decision is made available to the public and applicant pursuant to MICC 19.15.130. Upon receipt of a timely complete

appeal application and appeal fee, an appeal hearing will be scheduled. To reverse, modify or remand this decision, the appeal hearing body must find that there has been substantial error, the proceedings were materially affected by irregularities in procedure, the decision was unsupported by material and substantial evidence in view of the entire record, or the decision is in conflict with the city's applicable decision criteria.

Please note that the City will provide notice of this decision to the King County Department of Assessment, as required by State Law (RCW 36.70B.130). Pursuant to RCW 84.41.030(1), affected property owners may request a change in valuation for property tax purposes notwithstanding any program of revaluation by contacting the King County Department of Assessment at (206) 296-7300.

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercerisland.gov

CITY USE ONLY		
PROJECT#	RECEIPT #	FEE
Date Received:		
Received By:		

DEVELOPMENT APPLICATION

STREET ADDRESS/LOCATION	ZONE
3036 67th Ave SE	R-8.4
COUNTY ASSESSOR PARCEL #'S	**PARCEL SIZE (SQ. FT.)**
2174501025	12,500

PROPERTY OWNER *(required)*	ADDRESS *(required)*	CELL/OFFICE *(required)*
Buchan Homes-Jamie Buchan	2630 116th Ave NE Bellevue WA	206-890-9186 E-MAIL *(required)* jamieb@BuchanHomes.com
PROJECT CONTACT NAME	**ADDRESS**	**CELL/OFFICE**
Architectural Innovations-Robert Young	14311 SE 16th Street Bellevue WA	425-641-5320 E-MAIL roberty@kapplerhomeplans.com
TENANT NAME	**ADDRESS**	**CELL PHONE**
N/A	N/A	N/A E-MAIL N/A

DECLARATION: I HEREBY STATE THAT I AM THE OWNER OF THE SUBJECT PROPERTY OR I HAVE BEEN AUTHORIZED BY THE OWNER(S) OF THE SUBJECT PROPERTY TO REPRESENT THIS APPLICATION, AND THAT THE INFORMATION FURNISHED BY ME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE.

Robert Young — SIGNATURE

11.30.2023 — DATE

PROPOSED APPLICATION(S) AND CLEAR DESCRIPTION OF PROPOSAL (PLEASE USE ADDITIONAL PAPER IF NEEDED):

Critical Area Review 2 as it pertains to the removal of the existing single family residence to be replaced with propsed new single family residence.

ATTACH RESPONSE TO DECISION CRITERIA IF APPLICABLE

CHECK TYPE OF LAND USE APPROVAL REQUESTED:

CRITICAL AREAS
- ☐ Critical Area Review 1
- ☑ Critical Area Review 2

DESIGN REVIEW
- ☐ Design Review – Signs
- ☐ Design Review – Code Official
- ☐ Design Commission Study Session
- ☐ Design Commission Review – Exterior Alteration
- ☐ Design Commission Review – Major New Construction

DEVIATIONS
- ☐ Deviations to Antenna Standards – Code Official
- ☐ Deviations to Antenna Standards – Design Commission
- ☐ Public Agency Exception
- ☐ Reasonable Use Exception
- ☐ Variance
- ☐ Seasonal Development Limitation Waiver – Wet Season Construction Approval

ENVIRONMENTAL REVIEW (SEPA)
- ☐ SEPA Review
- ☐ Environmental Impact Statement

LEGISLATIVE
- ☐ Code Amendment
- ☐ Comprehensive Plan Docket Application
- ☐ Comprehensive Plan Application (If Docketed)
- ☐ Rezone

OTHER LAND USE
- ☐ Accessory Dwelling Unit
- ☐ Code Interpretation Request
- ☐ Conditional Use (CUP)
- ☐ Noise Exception Type I - IV
- ☐ Other Permit/Services Not Listed

SHORELINE MANAGEMENT
- ☐ Shoreline Exemption
- ☐ Shoreline Substantial Development Permit
- ☐ Shoreline Variance
- ☐ Shoreline Conditional Use Permit
- ☐ Shoreline Permit Revision

SUBDIVISION
- ☐ Short Plat- Preliminary
- ☐ Short Plat- Alteration
- ☐ Short Plat- Final Plat
- ☐ Long Plat- Preliminary
- ☐ Long Plat- Alteration
- ☐ Long Plat- Final Plat
- ☐ Lot Line Revision

WIRELESS COMMUNICATION FACILITIES
- ☐ New Wireless Communication Facility
- ☐ Wireless Communications Facilities-6409 Exemption
- ☐ Small Cell Deployment
- ☐ Height Variance

GEOTECHNICAL REPORT

3036 – 67th Avenue Southeast
Mercer Island, Washington

Project No. T-8718

Terra Associates, Inc.

Prepared for:

William E. Buchan, Inc.
Bellevue, Washington

August 18, 2022
5th Revision November 27, 2023

TERRA ASSOCIATES, Inc.
Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

August 18, 2022
5th Revision November 27, 2023
Project No. T-8718

Mr. Jamie Buchan
William E. Buchan, Inc.
2630 – 116th Avenue Northeast, Suite 100
Bellevue, Washington 98004

Subject: Geotechnical Report
3036 – 67th Avenue Southeast
Mercer Island, Washington

Dear Mr. Buchan:

As requested, we have conducted a geotechnical engineering study for the subject project. The attached report presents our findings and recommendations for the geotechnical aspects of project design and construction.

The site soils consist primarily of medium dense to very dense, moist to wet, interbedded sand to silty sand and sandy silt to silt with variable minor proportions of gravel. Wet soils indicative of perched groundwater were observed below depths of approximately 2.5 and 9.5 feet.

In our opinion, the native soils will generally be suitable for support of the proposed development provided the recommendations presented in this report are incorporated into project design and construction. We trust the information presented in this report is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours,
TERRA ASSOCIATES, INC.

Tyler A. Gilsdorf, L.G.
Staff Geologist

John C. Sadler, L.E.G., L.H.G.
Senior Engineering Geologist

Carolyn S. Decker, P.E.
President

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Geotechnical Report
3036 – 67th Ave Southeast
Mercer Island, Washington

1.0 PROJECT DESCRIPTION

The project is a new single-family residence. A preliminary site plan by Architectural Innovations, PS, dated January 5, 2022, indicates the proposed residence will be a two-story, wood-frame structure with a daylight basement/garage. Structural loading should be relatively light, with bearing walls carrying loads of 2 to 3 kips per foot and isolated columns carrying maximum loads of 30 to 40 kips.

The preliminary plan indicates the lower and main floor levels will be at Elev. 101.16 and Elev. 111.31, respectively. The existing surface elevations shown on the preliminary site plan indicate that excavations of about 9 to 13 feet below existing grade will be required for construction of the lower building level.

The recommendations in the following sections of this report are based on the design discussed above. If actual features vary or changes are made, we should review the plans in order to modify our recommendations as needed. We should review final design drawings and specifications as they become available to verify our recommendations have been properly interpreted and incorporated into the project design.

2.0 SCOPE OF WORK

On March 9, 2022, we explored subsurface conditions at the site in two 26.5-foot deep test borings drilled with a track-mounted drill rig using hollow-stem auger drilling methods. Using the information obtained from the subsurface explorations and laboratory testing, we performed analyses to develop geotechnical recommendations for project design and construction. Specifically, this report addresses the following:

- Soil and groundwater conditions.
- Seismic design parameters per the current International Building Code (IBC).
- Geologic Hazards per the City of Mercer Island Municipal Code.
- Site preparation and grading.
- Relative slope stability.
- Excavation.
- Foundations.
- Floor Slab-on-grade.
- Lateral earth pressures on below-grade walls.
- Drainage.
- Utilities.

It should be noted, recommendations outlined in this report regarding drainage are associated with soil strength, design earth pressures, erosion, and stability. Design and performance issues with respect to moisture as it relates to the structure environment are beyond Terra Associates, Inc.'s purview. A building envelope specialist or contactor should be consulted to address these issues, as needed.

3.0 SITE CONDITIONS

3.1 Surface

The site is a 0.29-acre residential lot located east of and adjacent to 67th Avenue Southeast approximately 400 feet north of the intersection with West Mercer Way in Mercer Island, Washington. The approximate site location is shown on Figure 1.

A single-family residence occupies the central portion of the site. Existing surface gradients generally slope down to the west at inclinations of about 26 to 30 percent in the upper eastern portion of the lot to about 13 to 16 percent in the central and western areas. Topographic relief across the site is about 18 feet.

We did not observe any indications of instability, significant erosion, surface water accumulation or flow, or groundwater seepage at the site; however, the presence of horsetail growth along the western site margin suggest that persistently-wet soil conditions may exist at that location. Site vegetation consists mainly of lawn and landscape trees and shrubs with scattered mature coniferous trees.

3.2 Soils

The soils observed in the test borings consist primarily of medium dense to very dense, moist to wet, interbedded sand to silty sand and sandy silt to silt with variable minor proportions of gravel. Cleaner sand layers encountered between depths of about 10 and 16.5 feet in both test borings were generally in a loose and saturated condition.

The *Geologic Map of Mercer Island, Washington* by K.G. Troost & A.P. Wisher (2006) shows surficial geology in the site location mapped as Vashon till (Qvt) and older (pre-Olympia age) deposits of glacial (Qpogf) and non-glacial (Qpon) origin. We did not observe till or till-like deposits in the test borings. The native soils observed in our subsurface explorations are generally consistent with the Qpon and Qpogf geologic map units. The overlying loose to medium dense soils are interpreted to be a glacial drift or a weathered zone of the underlying older deposits.

Detailed descriptions of the subsurface conditions observed in the test borings are presented on the Test Boring Logs in Appendix A. The approximate test boring locations are shown on Figure 2.

3.3 Groundwater

Wet soils indicative of perched groundwater were observed below depths of about 9.5 feet in Test Boring B-1 and below about 2.5 feet in Test Boring B-2. Based on our field observations, it appears that the perched groundwater resides primarily in the interbedded layers of cleaner sand within the soil column and is not indicative of a regional groundwater table. We expect that the perched groundwater conditions observed in the test borings persist year-round.

3.4 Geologic Hazards

We evaluated site conditions for the presence of geologic hazards. Mercer Island City Code (MICC) Section 19.07.160.A defines geologically hazardous areas as "…lands that are susceptible to erosion, landslides, seismic events, or other factors as identified by WAC 365-190-120." The City of Mercer Island Information & Geographic Services (IGS) map portal website shows the vast majority of the site mapped as a potential landslide hazard area and erosion hazard area. The mapped potential landslide and erosion hazard areas are shown on Figure 3.

3.4.1 Erosion Hazard Areas

Section 19.16.010 of the MICC defines erosion hazard areas as "those areas greater than 15 percent slope and subject to a severe risk of erosion due to wind, rain, water, slope and other natural agents including those soil types and/or areas identified by the U.S. Department of Agriculture's Natural Resources Conservation Service as having a "severe" or "very severe" rill and inter-rill erosion hazard."

The Natural Resources Conservation Service (NRCS) has mapped the site soils as *Kitsap Silt Loam, 2 to 8 percent slopes (KpB)*, which is described as having a moderate erosion hazard rating. However, with the existing surface gradients at the site typically ranging between about 13 and 30 percent, it is our opinion that the site soils would be better classified as *Kitsap Silt Loam, 15 to 30 percent slopes (KpD).* The NRCS rates the erosion hazard of KpD soils as severe, which meets the above criteria defining an erosion hazard area.

As discussed, we did not observe indications of significant erosion at the site; however, the site soils will be susceptible to erosion when exposed during construction. In our opinion, proper implementation and maintenance of Best Management Practices (BMPs) for erosion prevention and sedimentation control would adequately mitigate the erosion potential at the site. All BMPs for erosion prevention and sedimentation control should conform to City of Mercer Island requirements.

3.4.2 Landslide Hazard Areas

Section 19.16.010 of the MICC defines a landslide hazard area as "areas subject to landslides based on a combination of geologic, topographic, and hydrologic factors, including:

1. Areas of historic failures.
2. Areas with all three of the following characteristics:
    a. Slopes steeper than 15 percent.
    b. Hillsides intersecting geologic contacts with relatively permeable sediment overlying a relatively impermeable sediment or bedrock.
    c. Springs or groundwater seepage.
3. Areas that have shown evidence of past movement or that are underlain or covered by mass wastage debris from past movements.
4. Areas potentially unstable because of rapid stream incision and stream bank erosion.
5. Steep Slope. Any slope of 40 percent or greater calculated by measuring the vertical rise over any 30-foot horizontal run."

Conditions meeting the above criteria do not exist at the site. Therefore, potential landslide hazards do not exist at the site. Based on our study, it is our opinion that the site is relatively stable with regard to deep seated ground movement. Our opinion of site stability is supported by the results of stability analyses discussed below.

Stability Analysis

We performed stability analyses using the computer program Slide2 v.9.009, published by RocScience, Inc. to evaluate the relative stability of the site. Our analyses were performed for both static and pseudostatic (seismic) loading of the existing site condition, site conditions during construction, and a post-development condition with residential building loads applied. The analyses were performed on slope sections identified on Figures 2 and 3 as Section A-A' and Section B-B'. Soil parameters used for our analyses are estimates based on field data obtained from the onsite test borings, our experience with similar soil and slope conditions, and published data. The soil parameters are shown on the attached Slide 2 output in Appendix B and on the Test Boring Logs.

The slope models used in the stability analyses are conservative with respect to groundwater, which was applied as a water table below the depth where wet soils were first encountered in the test boring (9.5 feet in Boring B-1 and 2.5 feet in Boring B-2). As discussed, groundwater beneath the site exists as localized perched groundwater zones residing within cleaner sand layers of the interbedded deposits. The safety factors determined for the during and post-development phases are based on a water table that is lowered to Elev. 95.0 by means of an interceptor drain constructed on the upgradient side of the proposed building. The approximate location of the proposed interceptor drain is shown on Figure 2.

The pseudostatic analysis used a horizontal earthquake coefficient value of 0.33g to model ground motions expected from a severe earthquake. The seismic acceleration used is one-half of the site-modified peak ground acceleration (PGA_M) value for the ASCE 7-16 maximum considered earthquake (MCE) determined for the site (Latitude 47.58325392 and Longitude -122.24788895) using the Structural Engineers Association of California (SEAOC) U.S. Seismic Design Maps website (https://seismicmaps.org/) accessed on February 20, 2023. The lowest factors of safety determined by our analyses are presented in the following table:

Section Analyzed	Minimum Safety Factors		
	Static	**Pseudostatic**	**Static – No Cohesion**
A-A' Existing	2.6	1.1	2.1
A-A' During Construction [2]	1.5	NA	NA
A-A' Post-Development	2.0	1.1	1.7
A-A' Post Development – Over Excavation	2.1	1.1	NA
A-A' Post Development – Residual Strength [3]	1.0	NA	NA
B-B' Existing	3.3	1.0	2.6
B-B' During Construction [2]	1.4	NA	NA
B-B' Post-Development	2.0	1.2	1.8
B-B' Post Development – Over Excavation	2.0	1.2	NA
B-B' Post Development – Residual Strength [3]	1.0	NA	NA
Min. Acceptable Safety Factors [1]	*1.5*	*1.1*	*1.5*

NA Not applicable.

1 Minimum safety factor values considered acceptable for stable slopes by local geotechnical engineering practice.

2 Minimum safety factor of 1.3 considered acceptable for temporary slopes by local geotechnical engineering practice.

3 Minimum safety factor of 1.0 considered acceptable for post-earthquake conditions by local geotechnical engineering practice.

The results of the stability analyses indicate all conditions analyzed are stable under static and pseudostatic conditions. As indicated above, drainage improvements associated with the proposed development result in an improved safety factor for the pseudostatic analysis of Section B-B'.

3.4.3 Seismic Hazard Areas

Per WAC 365-190-120(7), seismic hazard areas include areas subject to severe risk of damage as a result of earthquake-induced ground shaking, slope failure, settlement or subsidence, soil liquefaction, surface faulting, or tsunamis. Our evaluation of site susceptibility to these earthquake-induced conditions are discussed below:

Surface Faulting

The Washington State Department of Natural Resources (DNR) Geologic Information Portal website (https://www.dnr.wa.gov/geologyportal) shows the nearest fault suspected of Quaternary activity (designated "Class B") as a northern strand of the Seattle Fault Zone. The inferred trace of this feature trends east-west about 2,600 feet south of the subject site. Accordingly, the risk of ground rupture (surface faulting) along a fault at the site is low.

Soil Liquefaction

Due to presence of relatively loose, saturated interbedded sand zones between depths of about 10 and 16.5 feet in the test borings, we completed a liquefaction analysis using the computer program LiquefyPro published by CivilTech Corporation. The analysis was completed for the post-development site conditions using a conservative water table established at Elev. 95.0, and a horizontal acceleration equal to the full PGA_M value for the site of 0.662g.

The results of our analysis indicate soil liquefaction could occur during the design earthquake event resulting in total settlements between about 0.5 and 1.0 inches, half of which could be differential in nature. Total settlements of this magnitude are within acceptable limits for residential structures and would not result in significant adverse impacts to the proposed residence or subject property. Accordingly, the site conditions are not subject to severe risk of damage resulting liquefaction-induced settlement, and the site is not a seismic hazard area with respect to soil liquefaction per the defining criteria given above. The liquefaction analysis results are presented in Appendix C.

As noted above, the subsurface model used in the liquefaction analysis did not consider post-development drainage improvements or potential subgrade improvements in the building excavation. In our opinion, these improvements will significantly reduce or eliminate the potential for soil liquefaction to occur in the planned development area.

Settlement or Subsidence

Settlement and subsidence during a severe seismic event is typically a result of soil liquefaction or landslide-related ground movement. As discussed above, the site conditions are not subject to landsliding or the severe risk of damage resulting from liquefaction-induced settlement. The site location is not susceptible to regional settlement resulting from large subduction zone earthquakes.

Tsunamis

The site location is not susceptible to tsunami inundation.

Ground Shaking

Based on the subsurface conditions observed at the site, it is our opinion that design in accordance with local building codes for determining seismic forces would adequately mitigate impacts associated with ground shaking. As discussed, localized soil zones at the site will be subject to the soil liquefaction phenomenon during a severe seismic event. Because of this condition, per the current International Building Code (IBC), subsurface conditions would be assigned site class "F" which would require performing a site-specific seismic analysis to determine seismic forces for structural design. However, the IBC allows for using code derived seismic values for the soil conditions indicated if the building's fundamental period is equal to or less than 0.5 seconds. The proposed residential structure falls into this category; therefore, based on soil conditions encountered and our knowledge of the area geology, site class "D" can be used to determine seismic design forces.

Slope Failure

The results of our stability analyses indicate the site is not susceptible to slope failure during a severe seismic event. The results of our study indicate that the site conditions are not subject to a severe risk of damage resulting from earthquake-induced ground shaking, settlement or subsidence, soil liquefaction, surface faulting, or tsunamis, or slope failure. Accordingly, the site conditions do not meet the criteria defining a seismic hazard area given in WAC 365-190-120(7) as referenced in MICC 19.07.160.A.

3.4.4 Summary of Geologic Hazard Evaluation and Statement of Risk

The results of our study indicate that site conditions are not susceptible to landslides, seismic events, or other factors identified by WAC 365-190-120 as referenced in MICC 19.07.160.A. In accordance with the requirements of MICC Section 19.07.160.3.a, we submit the following statement of risk for the subject site: *An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area*. Site conditions do meet the criteria defining an erosion hazard area; however, the potential for site erosion and sedimentation during construction will be adequately mitigated with proper implementation and maintenance of BMPs for erosion prevention and sedimentation control.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 General

Based on our study, there are no geotechnical conditions that would preclude the planned development. The structure can be supported on conventional spread footings bearing on pin piles. Floor slabs can be supported on competent soil.

We expect that perched groundwater seepage will be encountered in site excavations extending beyond depths of about 2.5 to 9.5 feet below existing ground surface. In our opinion, drainage measures will be necessary to intercept and control perched groundwater seepage to facilitate site excavation and construction.

The native soils are generally fine grained, and will be easily disturbed by normal construction activity, particularly when wet. If disturbed, the soil will not be suitable for support, and the affected material would need to be removed with the foundations lowered to obtain support on an undisturbed soil subgrade. Alternatively, the soils can be removed and grade restored with granular structural fill. To reduce the potential for subgrade disturbance, particularly during wet weather, consideration should be given to placing a six-inch layer of one- to two-inch sized crushed rock or a four-inch layer of lean concrete on completed subgrades to serve as a working surface.

A large portion of the site soils contain a sufficient amount of fines (silt- and clay-sized particles) such that they will be difficult to compact as structural fill when too wet or too dry. Accordingly, the ability to use the soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions at the time of construction. If grading activities take place during wet conditions, the owner should be prepared to import free-draining granular material for use as structural fill and backfill.

Detailed recommendations regarding these issues and other geotechnical design considerations are provided in the following sections of this report. These recommendations should be incorporated into the final design drawings and construction specifications. Terra Associates, Inc. should review proposed building and grading plans for the project when available to verify that our geotechnical recommendations have been properly interpreted and incorporated into the project design, and to provide additional or alternate recommendations, if needed.

4.2 Site Preparation and Excavation

To prepare the site for construction, all vegetation, organic surface soils, and other deleterious materials should be removed from areas of planned construction. Soils containing organic material will not be suitable for use as structural fill but may be used for limited depths in nonstructural areas. Demolition of the existing structure should include removal of existing foundations, floor slabs and abandoned buried utilities. Abandoned existing utilities that fall outside of the new building footprint can remain in place provided they are sealed to prevent groundwater and soil intrusion.

We recommend installing a permanent interceptor drain on the upgradient side of the planned building area during the initial stages of site excavation to facilitate site excavation and to maintain a relatively dry building area. The interceptor drain should be constructed at the approximate location shown on Figure 2, with the drain invert established at Elev. 95.0. Water intercepted by the drain should be conveyed via tightline pipe for discharge into the existing storm sewer system. A representative of Terra Associates, Inc. should observe drain construction to verify that subsurface conditions are as anticipated and to provide additional or alternate drainage recommendations, if necessary. A typical interceptor drain detail is shown on Figure 4.

Based on the Washington State Department of Labor and Industries current occupational safety and health regulations, the native soils would fall into the Type C category. Accordingly, for excavations deeper than 4 feet, and up to a maximum of 20 feet, excavation side slopes should be inclined at a gradient of 1.5:1 (Horizontal:Vertical) or flatter. We expect that the vast majority of perched groundwater seepage into the excavation will be controlled by the recommended interceptor drain; however, some degree of perched groundwater seepage may still occur. We expect that this perched seepage would be relatively minor, and would not be expected to impact the stability of the excavations when completed as described above. If necessary, a system of collection trenches and conventional sump pumping procedures would be suitable for maintaining a relatively dry excavation for construction purposes, if water from seepage or direct precipitation accumulates in the bottom of the completed excavation.

A representative of Terra Associates, Inc. should examine all bearing surfaces to verify that conditions encountered are as anticipated and are suitable for placement of structural fill or direct support of building elements. Our representative may request proofrolling exposed surfaces with a heavy rubber-tired vehicle to determine if any isolated soft and yielding areas are present. If unstable yielding areas are observed, they should be cut to firm bearing soil and filled to grade with structural fill.

Based on existing surface grades and the planned lower floor level at Elev. 101.16, there appears to be sufficient room to complete the western, northern, and eastern sides of the basement excavation using open cuts that are sloped as discussed above. Site constraints may require the use of temporary shoring to support a portion of the excavation on the southern side of the building. All exposed temporary cut faces that will remain open for an extended period of time should be covered with a durable reinforced plastic membrane during construction to prevent slope raveling and rutting during periods of precipitation.

This information is provided solely for the benefit of the owner and other design consultants and should not be construed to imply that Terra Associates, Inc. assumes responsibility for job site safety. It is understood that job site safety is the sole responsibility of the project contractor.

4.3 Structural Fill and Backfill

The site soils contain a sufficient amount of fines (silt and clay size particles) that will make them difficult to compact as structural fill if they are too wet or too dry. Accordingly, the ability to use these soils from site excavations as structural fill will depend on their moisture content and the prevailing weather conditions when site grading activities take place. Soils that are too wet to properly compact could be dried by aeration during dry weather conditions or mixed with an additive such as cement or lime to stabilize the soil and facilitate compaction. If an additive is used, additional Best Management Practices (BMPs) for its use will need to be incorporated into the Temporary Erosion and Sedimentation Control (TESC) plan for the project. Soils that are dry of optimum should be moisture conditioned by controlled addition of water and blending prior to material placement.

If grading or backfilling activities are planned during the wet winter months, or if they are initiated during the summer and extend into fall and winter, the owner should be prepared to import wet weather structural fill. For this purpose, we recommend importing a granular soil that meets the following grading requirements:

U.S. Sieve Size	Percent Passing
6 inches	100
No. 4	75 maximum
No. 200	5 maximum*

*Based on the 3/4-inch fraction.

Prior to use, Terra Associates, Inc. should examine and test all materials imported to the site for use as structural fill.

Structural fill should be placed in uniform loose layers no thicker than 12 inches and compacted to a minimum of 95 percent of the soil's maximum dry density, as determined by American Society for Testing and Materials (ASTM) Test Designation D-698 (Standard Proctor). The moisture content of the soil at the time of compaction should be within two percent of its optimum, as determined by this ASTM standard. In nonstructural areas, the degree of compaction can be reduced to 90 percent.

4.4 Foundations

The new residential building should be supported on conventional isolated or continuous footing foundations that are supported by two-inch or four-inch diameter pipe piles driven to refusal. Perimeter foundations exposed to the weather should be at a minimum depth of 18 inches below final exterior grades for frost protection. Interior foundations can be constructed at any convenient depth below the floor slab.

Pipe piles can consist of standard weight black pipe. Allowable axial capacities for a pipe pile diameter of two or four inches along with driving and refusal criteria are provided in the following table:

Pile Diameter (inches)	Allowable Axial Capacity (kips)	Driving Hammer	Refusal Criteria
2	4	650lb Hydraulic Hammer	One-inch or less of penetration in final 8 seconds of driving.
3	12	650lb Hydraulic Hammer	One-inch or less of penetration in final 12 seconds of driving.
4	20	650lb Hydraulic Hammer	One-inch or less of penetration in final 20 seconds of driving.

Pile settlement when loaded to the recommended allowable capacities would be negligible and nearly equivalent to the pile compression. Because of their small diameter, the piles will provide limited lateral resistance. If lateral capacity is required, the piles can be driven at a batter. Typical batter angles are in the 1H:4V to 1H:5V (Horizontal:Vertical) range.

4.5 Slab-on-Grade Floors

Slab-on-grade floors may be supported on a subgrade prepared as recommended in Section 4.2 of this report. Immediately below the floor slab, we recommend placing a 4-inch thick capillary break layer composed of clean, coarse sand or fine gravel that has less than 5 percent passing the No. 200 sieve. This material will reduce the potential for upward capillary movement of water through the underlying soil and subsequent wetting of the floor slab.

The capillary break layer will not prevent moisture intrusion through the slab caused by water vapor transmission. Where moisture by vapor transmission is undesirable, such as covered floor areas, a common practice is to place a durable plastic membrane on the capillary break layer and then cover the membrane with a layer of clean sand or fine gravel to protect it from damage during construction, and aid in uniform curing of the concrete slab. It should be noted that if the sand or gravel layer overlying the membrane is saturated prior to pouring the slab, it will be ineffective in assisting uniform curing of the slab and can actually serve as a water supply for moisture transmission through the slab that can subsequently affect floor coverings. Therefore, in our opinion, covering the membrane with a layer of sand or gravel should be avoided if floor slab construction occurs during the wet winter months and the layer cannot be effectively drained. We recommend floor designers and contractors refer to the current ACI Collection of Concrete Codes, Specifications, and Practices for further information regarding vapor barrier installation below slab-on-grade floors.

4.6 Lateral Earth Pressures

The magnitude of earth pressures developing on below-grade walls will depend upon the quality and compaction of the wall backfill. We recommend placing and compacting wall backfill as structural fill, as described in Section 4.3 of this report. To prevent overstressing the walls during backfilling, heavy construction machinery should not be operated within five feet of the wall. Wall backfill in this zone should be compacted with hand-operated equipment. To prevent hydrostatic pressure development, wall drainage must also be installed. A typical wall drainage detail is shown on Figure 5.

With wall backfill placed and compacted as recommended, and drainage properly installed, we recommend designing unrestrained walls for an active earth pressure equivalent to a fluid weighing 35 pounds per cubic foot (pcf). For restrained walls, an additional uniform load of 100 psf should be added to the 35 pcf. To account for typical traffic surcharge loading, the walls can be designed for an additional imaginary height of two feet (2-foot soil surcharge). For evaluation of wall performance under seismic loading, a uniform pressure equivalent to 8H psf, where H is the height of the below-grade portion of the wall should be applied in addition to the static lateral earth pressure. These values assume a horizontal backfill condition and that no other surcharge loading, sloping embankments, or adjacent buildings will act on the wall. If such conditions exist, then the imposed loading must be included in the wall design. Friction at the base of foundations and passive earth pressure will provide resistance to these lateral loads. Values for these parameters are provided in Section 4.4 of this report.

4.7 Infiltration Feasibility

Due to the relatively low hydraulic conductivities of the interbedded silt soils observed in the test borings and the presence of perched groundwater within approximately two and one-half feet of the ground surface in one test boring, it is our opinion that subsurface conditions at the site are not suitable for stormwater infiltration including the use of Low Impact Development (LID) natural drainage practices (NDPs).

4.8 Drainage

Surface

Final exterior grades should promote free and positive drainage away from the building perimeter. If a positive gradient cannot be provided, provisions for collection and disposal of surface water adjacent to the structure should be provided.

Subsurface

We recommend installing a continuous drain along the outside lower edge of the perimeter building foundation and the basement wall foundations. The drains can be laid to grade at an invert elevation equivalent to the bottom of footing grade. The drains can consist of 4-inch diameter perforated PVC pipe that is enveloped in washed ½- to ¾-inch gravel-sized drainage aggregate. The aggregate should extend six inches above and to the sides of the pipe. The foundation drains and roof downspouts should be tightlined separately to an approved point of controlled discharge. All drains should be provided with cleanouts at easily accessible locations. These cleanouts should be serviced at least once each year.

4.9 Utilities

Utility pipes should be bedded and backfilled in accordance with American Public Works Association (APWA) or local jurisdictional requirements. At minimum, trench backfill should be placed and compacted as structural fill as described in Section 4.3 of this report. Based on our field observations, native soils from onsite excavations would likely be wet of optimum when excavated, and would generally not be suitable for immediate reuse as trench backfill. If the soils cannot be dried back to a moisture content that facilitates proper compaction, or utility construction takes place during the winter, it may be necessary to import suitable wet weather fill for utility trench backfilling.

5.0 ADDITIONAL SERVICES

Terra Associates, Inc. should review the final design drawings and specifications in order to verify that earthwork and foundation recommendations have been properly interpreted and implemented in project design. We should also provide geotechnical service during construction to observe compliance with our design concepts, specifications, and recommendations. This will allow for design changes if subsurface conditions differ from those anticipated prior to the start of construction.

6.0 LIMITATIONS

We prepared this report in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made. This report is the copyrighted property of Terra Associates, Inc. and is intended for specific application to the 3036 – 67th Avenue Southeast project, and for the exclusive use of William E. Buchan, Inc., and their authorized representatives.

The analyses and recommendations present in this report are based on data obtained from the on-site borings. Variations in soil conditions can occur, the nature and extent of which may not become evident until construction. If variations appear evident, Terra Associates, Inc. should be requested to reevaluate the recommendations in this report prior to proceeding with construction.



REFERENCE: WSDOT GEOPORTAL

NOT TO SCALE

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Geology and
Environmental Earth Sciences

VICINITY MAP
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date NOV 2023	Figure 1



0 20 40

APPROXIMATE SCALE IN FEET

NOTE:

THIS SITE PLAN IS SCHEMATIC. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE. IT IS INTENDED FOR REFERENCE ONLY AND SHOULD NOT BE USED FOR DESIGN OR CONSTRUCTION PURPOSES.

REFERENCES:

SITE SURVEYING, INC.
ARCHITECTURAL INNOVATIONS, PS

LEGEND:

APPROXIMATE BORING LOCATION

APPROXIMATE FOOTPRINT OF PROPOSED RESIDENCE

GEOLOGIC SECTION

Terra Associates, Inc.
Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences

EXPLORATION LOCATION PLAN
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date NOV 2023	Figure 2



LEGEND:

- POTENTIAL LANDSLIDE HAZARD AREA PER MERCER ISLAND IGS MAPPING
- POTENTIAL EROSION HAZARD AREA PER MERCER ISLAND IGS MAPPING
- APPROXIMATE BORING LOCATION
- GEOLOGIC SECTION

0 25 50

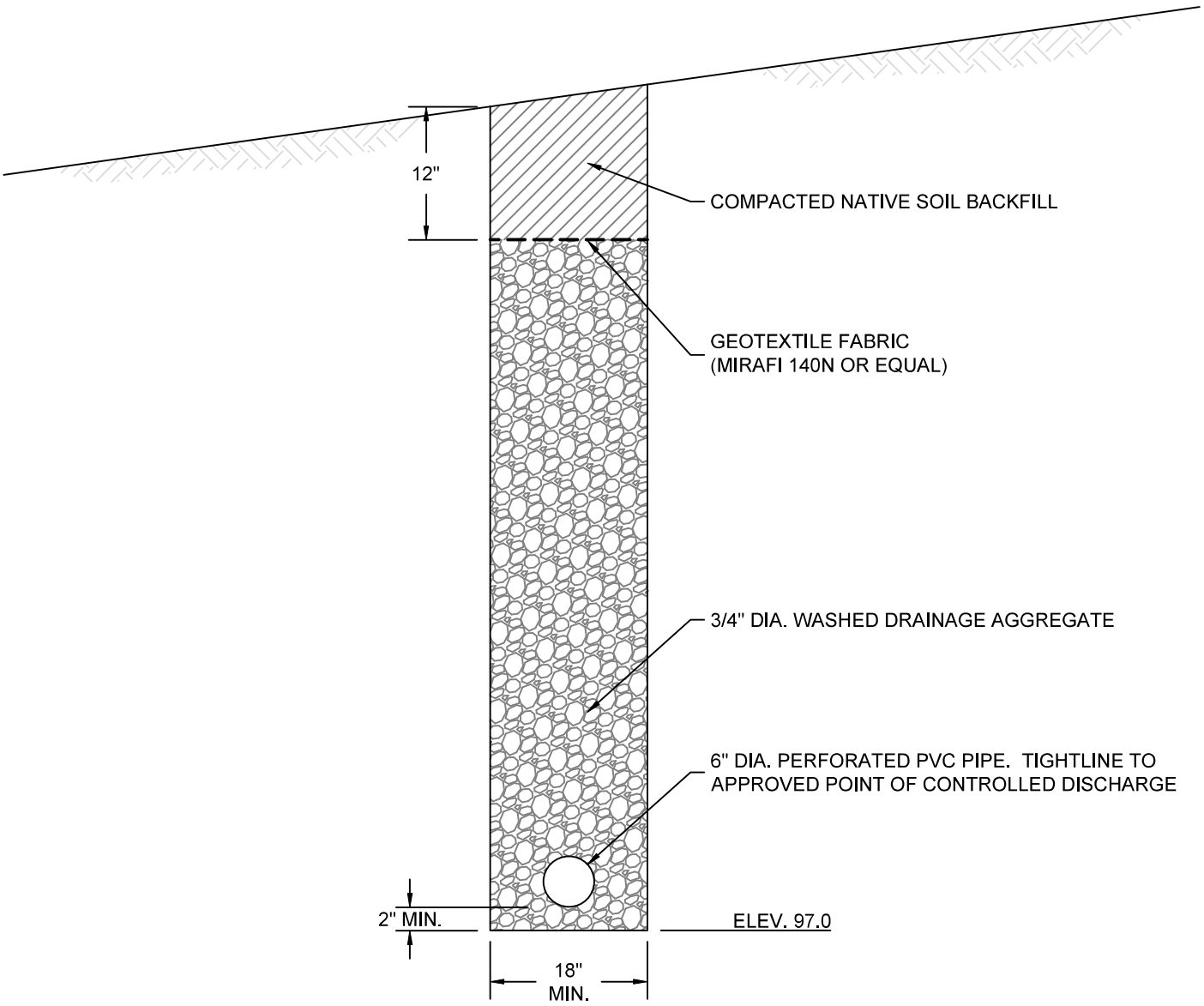
APPROXIMATE SCALE IN FEET

REFERENCES: MERCER ISLAND IGS, SITE SURVEYING, INC.

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MAPPED GEOLOGIC HAZARD AREAS
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date NOV 2023	Figure 3



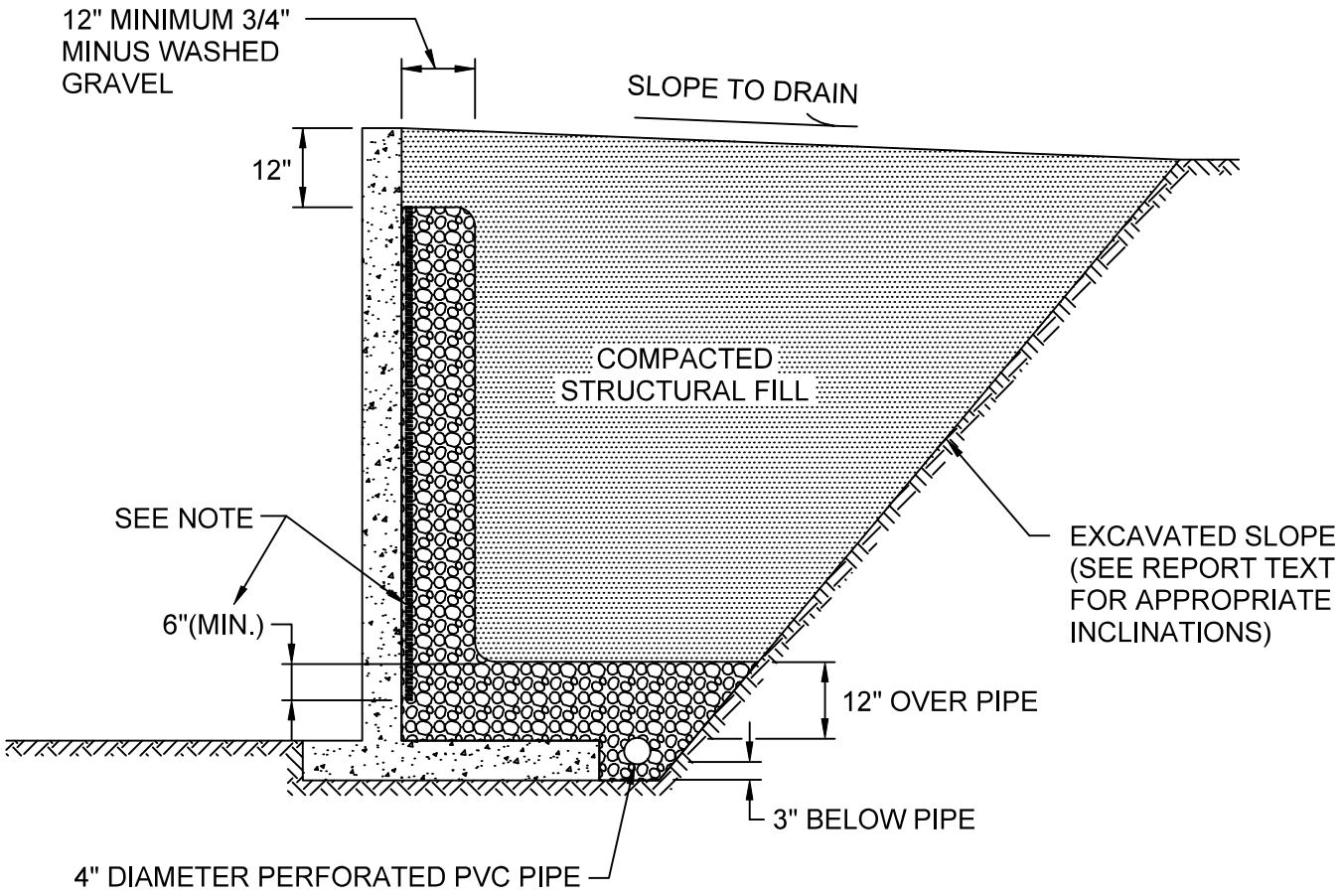
NOT TO SCALE

NOTE:
METHOD OF DRAIN INSTALLATION AND TRENCH SIDEWALL STABILITY SHOULD BE ASSESSED BY THE CONTRACTOR

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Geology and
Environmental Earth Sciences

INTERCEPTOR DRAIN DETAIL
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date NOV 2023	Figure 4



NOT TO SCALE

NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.

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TYPICAL WALL DRAINAGE DETAIL
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date NOV 2023	Figure 5

APPENDIX A
FIELD EXPLORATION AND LABORATORY TESTING

3036 – 67th Avenue Southeast
Mercer Island, Washington

On March 9, 2022, we investigated subsurface conditions at the site at 2 test borings drilled to a maximum depth of about 26.5 feet below existing grades. The test boring locations were approximately determined in the field using GPS tracking and by pacing and sighting from existing site features. The approximate test boring locations are shown on the attached Exploration Location Plan, Figure 2. The Test Boring Logs are presented as Figures A-2 and A-3.

A geologist from our office conducted the field exploration. Our representative classified the soil conditions encountered, maintained a log of each test boring, obtained representative soil samples, and recorded water levels observed during excavation. During drilling, soil samples were obtained in general accordance with ASTM Test Designation D-1586. Using this procedure, a 2-inch (outside diameter) split barrel sampler is driven into the ground 18 inches using a 140-pound hammer free falling from a height of 30 inches. The number of blows required to drive the sampler 12 inches after an initial 6-inch set is referred to as the Standard Penetration Resistance value or N value. This is an index related to the consistency of cohesive soils and relative density of cohesionless materials. N values obtained for each sampling interval are recorded on the Test Boring Logs. All soil samples were visually classified in accordance with the Unified Soil Classification System (USCS) described on Figure A-1.

Representative soil samples obtained from the test borings were placed in sealed plastic bags and taken to our laboratory for further examination and testing. The moisture content of each sample was measured and is reported on the Test Boring Logs. Grain size analyses were performed on four select soil samples. The grain size analysis results are presented on Figures A-4 and A-5.

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTION
COARSE GRAINED SOILS More than 50% material larger than No. 200 sieve size	**GRAVELS** More than 50% of coarse fraction is larger than No. 4 sieve	Clean Gravels (less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines.
			GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines.
		Gravels with fines	GM	Silty gravels, gravel-sand-silt mixtures, non-plastic fines.
			GC	Clayey gravels, gravel-sand-clay mixtures, plastic fines.
	SANDS More than 50% of coarse fraction is smaller than No. 4 sieve	Clean Sands (less than 5% fines)	SW	Well-graded sands, sands with gravel, little or no fines.
			SP	Poorly-graded sands, sands with gravel, little or no fines.
		Sands with fines	SM	Silty sands, sand-silt mixtures, non-plastic fines.
			SC	Clayey sands, sand-clay mixtures, plastic fines.
FINE GRAINED SOILS More than 50% material smaller than No. 200 sieve size	**SILTS AND CLAYS** Liquid Limit is less than 50%		ML	Inorganic silts, rock flour, clayey silts with slight plasticity.
			CL	Inorganic clays of low to medium plasticity. (Lean clay)
			OL	Organic silts and organic clays of low plasticity.
	SILTS AND CLAYS Liquid Limit is greater than 50%		MH	Inorganic silts, elastic.
			CH	Inorganic clays of high plasticity. (Fat clay)
			OH	Organic clays of high plasticity.
HIGHLY ORGANIC SOILS			PT	Peat.

DEFINITION OF TERMS AND SYMBOLS

COHESIONLESS

Density	Standard Penetration Resistance in Blows/Foot
Very Loose	0-4
Loose	4-10
Medium Dense	10-30
Dense	30-50
Very Dense	>50

COHESIVE

Consistancy	Standard Penetration Resistance in Blows/Foot
Very Soft	0-2
Soft	2-4
Medium Stiff	4-8
Stiff	8-16
Very Stiff	16-32
Hard	>32

I	2" OUTSIDE DIAMETER SPILT SPOON SAMPLER
‖	2.4" INSIDE DIAMETER RING SAMPLER OR SHELBY TUBE SAMPLER
▼	WATER LEVEL (Date)
Tr	TORVANE READINGS, tsf
Pp	PENETROMETER READING, tsf
DD	DRY DENSITY, pounds per cubic foot
LL	LIQUID LIMIT, percent
PI	PLASTIC INDEX
N	STANDARD PENETRATION, blows per foot

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UNIFIED SOIL CLASSIFICATION SYSTEM
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date FEB 2023	Figure A-1

LOG OF BORING NO. B-1

Figure No. A-2

Project: 3036 67th Ave SE **Project No:** T-8718 **Date Drilled:** 3/9/22

Client: William E. Buchan, Inc. **Driller:** Boretec **Logged By:** TG

Location: Mercer Island, Washington **Depth to Groundwater:** 9.5 feet **Approx. Elev:** 112'

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	SPT (N) Blows/foot	Moisture Content (%)
0		(9 inches Grass Sod & Topsoil)			
		Brownish gray, silty SAND, fine to coarse sand, moist to wet, mottled, small rootlets to 5' (SM) [Est. Parameters: 125 pcf, 100 psf, 30 deg]	Medium Dense	11	15.3
5				10	19.1
		- Becomes wet with increasing gravel content below about 7.5 feet.		13	21.7
10		Gray to brownish gray, silty SAND with gravel to SAND with silt and gravel, fine to coarse sand, fine gravel, wet to saturated, stratified, water within cleaner sands (SM/SP-SM) [Est. Parameters: 120 pcf, 50 psf, 28 deg]	Loose	6	29.9
			Medium Dense	15	48.9
		Interbedded, light brown to dark brownish gray, SAND with silt and gravel, silty SAND with gravel, and SILT with sand, fine to coarse sand, fine to coarse gravel, wet to saturated, faint mottling, water within cleaner sands (SP-SM, SM, and ML) [Est. Parameters: 115 pcf, 75 psf, 32 deg]	Loose	6	14.9
15		Gray to dark gray, silty SAND with gravel, fine to coarse sand, fine to coarse gravel, wet. (SM) [Est. Parameters: 125 pcf, 100 psf, 28 deg]	Medium Dense	20	25.5
20		Interbedded, gray to brownish gray, silty SAND with gravel and sandy SILT, fine to coarse sand, fine gravel, wet. (SM and ML) [Est. Parameters: 115 pcf, 150 psf, 39 deg]			
		- Drills harder below about 22.5 feet.	Dense	44	30.9
25					
		Boring terminated at approximately 26.5 feet. Groundwater encountered below approximately 10 feet.			
30					

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site

Terra Associates, Inc.
Consultants in Geotechnical Engineering
Geology and
Environmental Earth Sciences

LOG OF BORING NO. B-2

Figure No. A-3

Project: 3036 67th Ave SE **Project No:** T-8718 **Date Drilled:** 3/9/22

Client: William E. Buchan, Inc. **Driller:** Boretec **Logged By:** TG

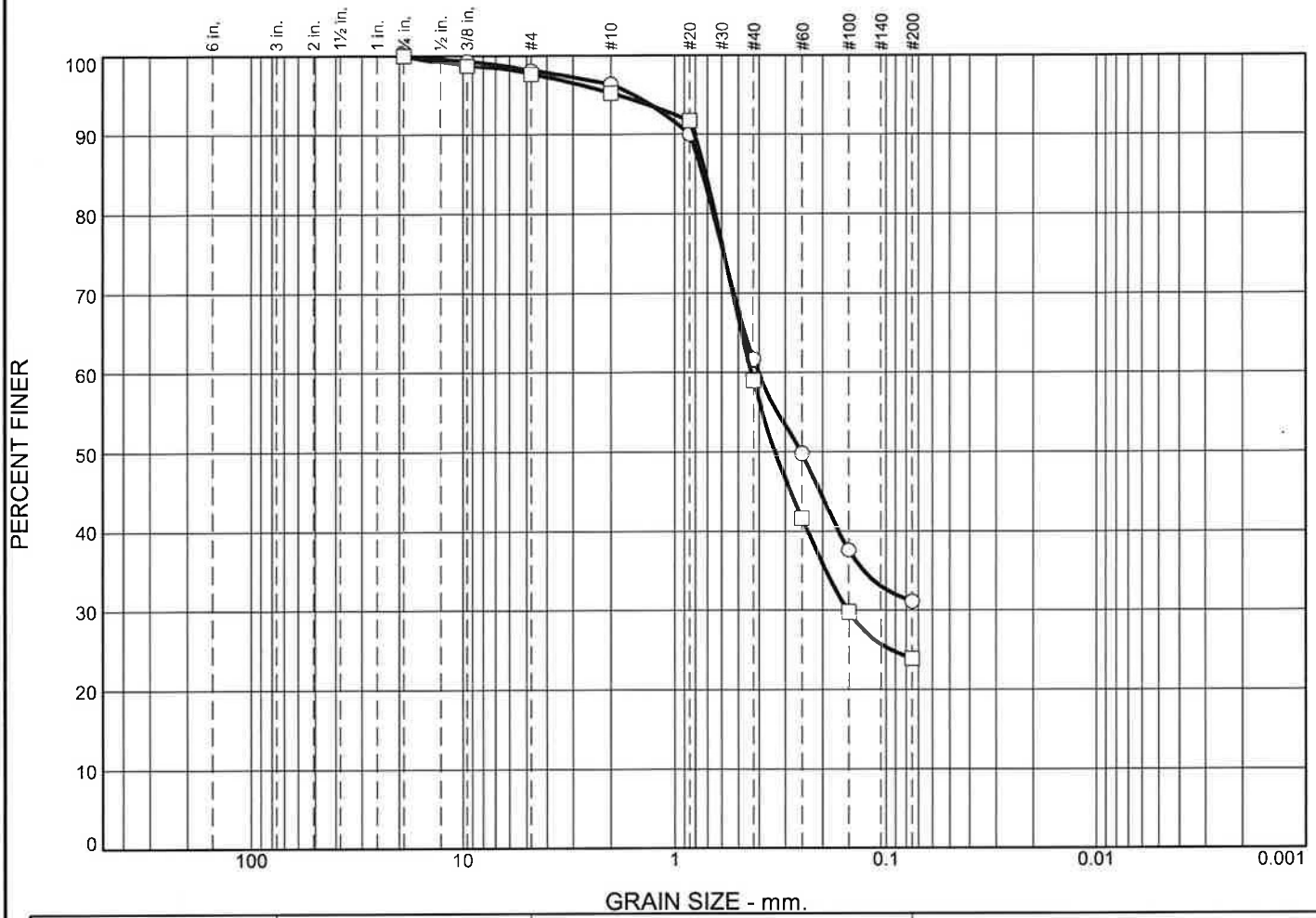
Location: Mercer Island, Washington **Depth to Groundwater:** > 2.5 ft **Approx. Elev:** 105'

Depth (ft)	Sample Interval	Soil Description	Consistency/ Relative Density	SPT (N) Blows/foot	Moisture Content (%)
0		(9 inches of Grass Sod & Topsoil)			
▼		Interbedded, gray to brownish gray, sandy SILT and SILT, fine to medium sand, wet, mottled. (ML) [Est. Parameters: 105 pcf, 150 psf, 32 deg]		12	28.2
5		- Becomes light brown below 5 feet.	Medium Dense	11	38.3
		Interbedded, brownish gray to gray, SAND with silt and gravel, silty SAND with gravel, and sandy SILT, fine to coarse sand, fine gravel, wet to saturated, mottled above 10 feet, water within cleaner sands (SP-SM, SM, and ML) [Est. Parameters: 115 pcf, 75 psf, 32 deg]		23	38.9
10		- Grades dark gray with fine to coarse gravel below 10 feet.		10	19.3
		12 - 14.5 feet - [Est. Parameters 115 pcf, 75 psf, 28 deg]		7	22.9
15		Interbedded, gray to dark gray, silty SAND and sandy SILT, fine to medium sand, moist to wet. (SM and ML) 14.5 - 18 feet - [Est. Parameters 115 pcf, 150 psf, 28 deg]	Loose	9	25.3
		18 - 26.5 feet - [Est. Parameters 115 pcf, 150 psf, 40 deg]			
20		- Becomes wet below 20 feet.	Very Dense	58	28.6
		Gray to dark gray, sandy SILT to SILT with sand, fine sand, moist to wet, laminated (ML)	Dense	38	23.3
25		Boring terminated at approximately 26.5 feet. Wet soils encountered below 2.5 feet.			
30					

NOTE: This borehole log has been prepared for geotechnical purposes. This information pertains only to this boring location and should not be interpeted as being indicative of other areas of the site

Terra Associates, Inc.
Consultants in Geotechnical Engineering
Geology and
Environmental Earth Sciences

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	1.9	1.8	34.6	30.6	31.1	
□	0.0	0.0	2.4	2.4	36.2	35.1	23.9	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.7375	0.4023	0.2523					
□			0.7137	0.4346	0.3345	0.1518				

Material Description	USCS	AASHTO
○ silty SAND	SM	
□ silty SAND	SM	

Project No. T-8718 **Client:** William E. Buchan, Inc.

Project: 3036 67th Ave SE

○ **Location:** B-1 **Depth:** 2.5'

□ **Location:** B-1 **Depth:** 5'

Remarks:

○ Tested on 3/23/22

□ Tested on 3/23/22

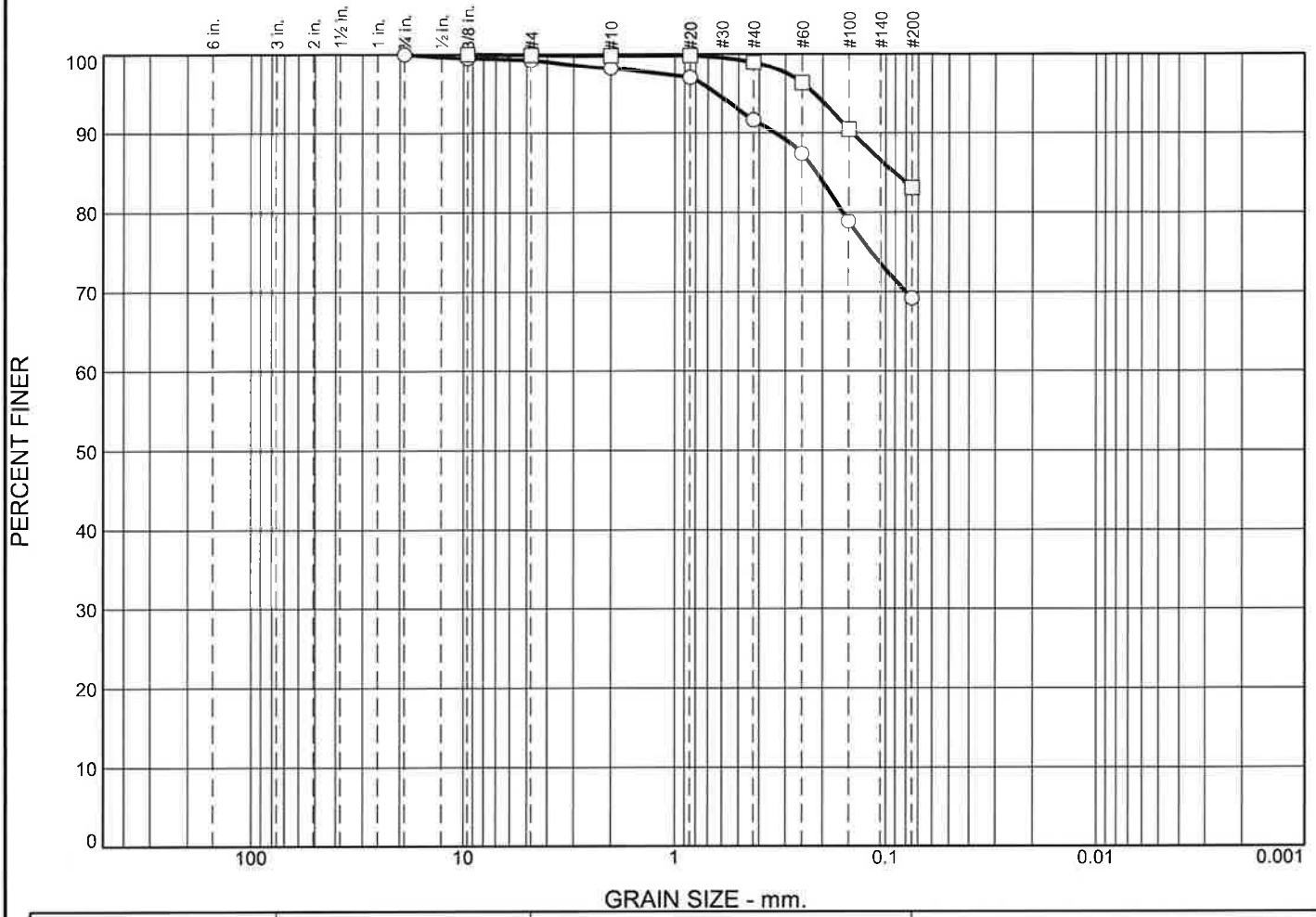
Terra Associates, Inc.

Kirkland, WA

Figure A-4

Tested By: KJ

Particle Size Distribution Report



	% +3"	% Gravel		% Sand			% Fines	
		Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
○	0.0	0.0	0.8	1.0	6.6	22.4	69.2	
□	0.0	0.0	0.1	0.1	0.9	15.8	83.1	

	LL	PL	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
○			0.2136							
□			0.0910							

	Material Description	USCS	AASHTO
○	sandy SILT	ML	
□	sandy SILT	ML	

Project No. T-8718 **Client:** William E. Buchan, Inc.

Project: 3036 67th Ave SE

○ **Location:** B-2 **Depth:** 2.5'

□ **Location:** B-2 **Depth:** 5'

Remarks:

○ Tested on 3/23/22

□ Tested on 3/23/22

Terra Associates, Inc.

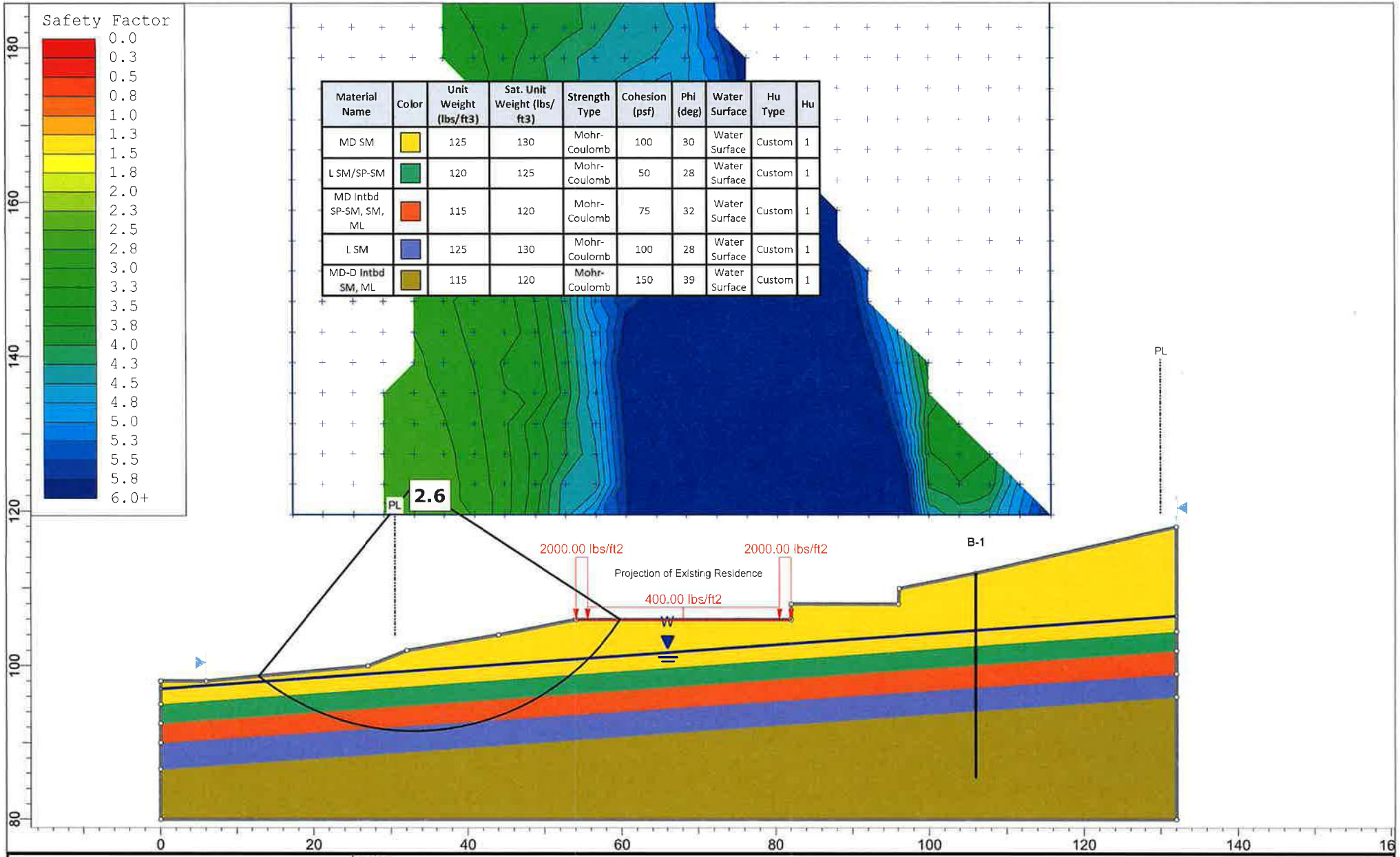
Kirkland, WA

Figure A-5

Tested By: KJ

APPENDIX B

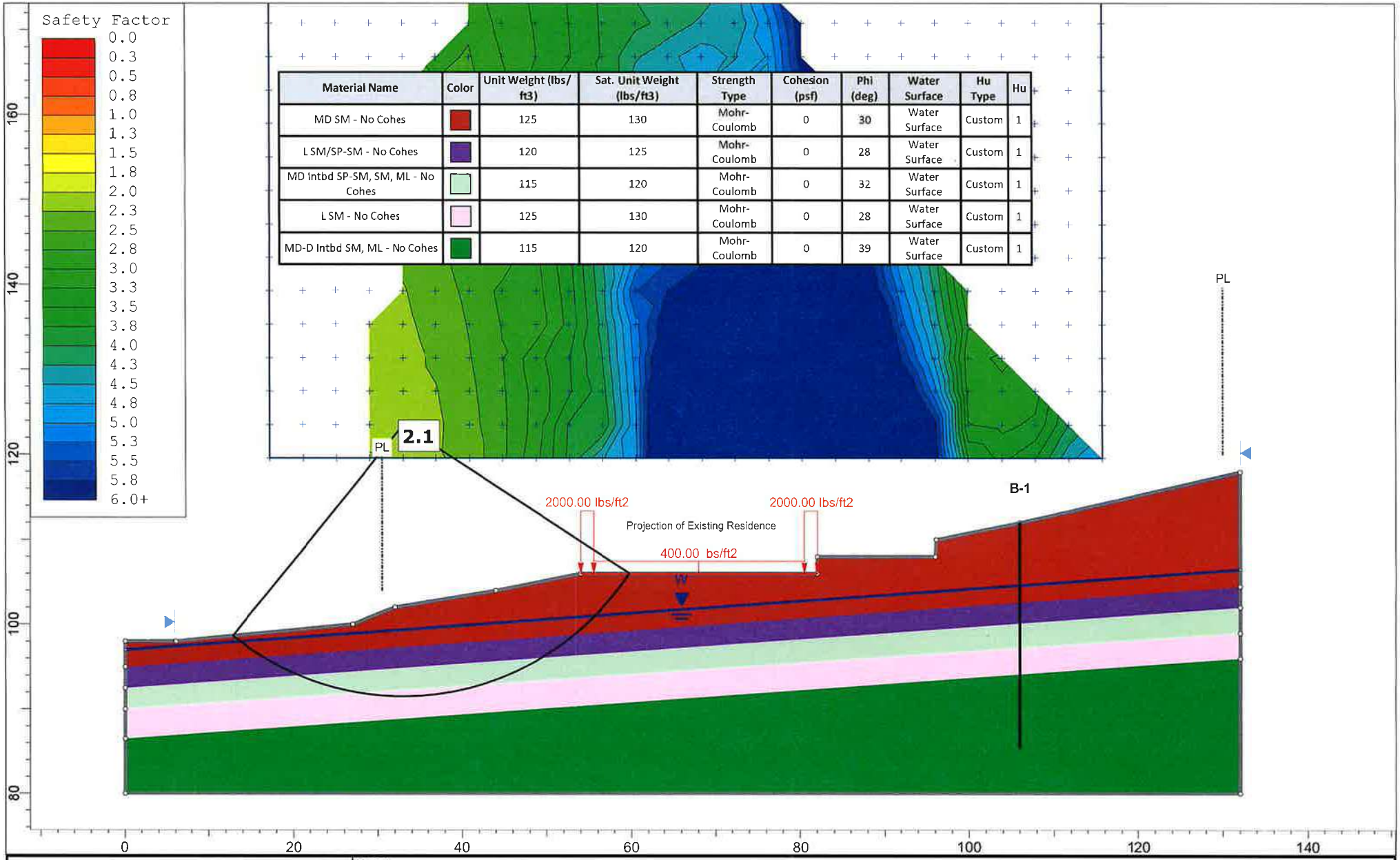
SLIDE2 OUTPUT PLOTS AND REPORT



rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' Existing Static		
Drawn By	JCS	*Company*	Terra Associates, Inc.
Date	2/25/2023	*File Name*	3036 67th Ave SE.slmd

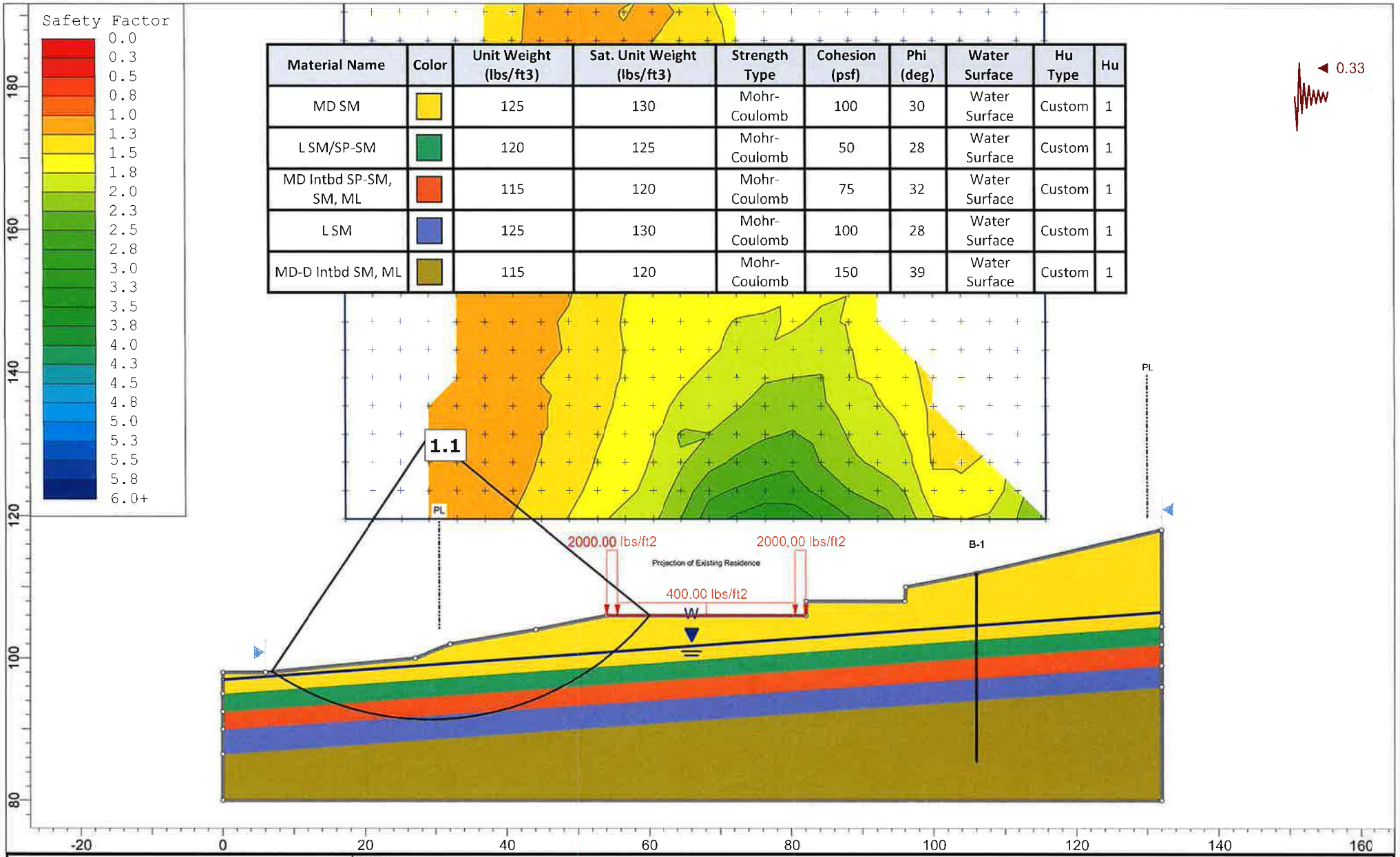


Material Name	Color	Unit Weight (lbs/ ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM - No Cohes		125	130	Mohr-Coulomb	0	30	Water Surface	Custom	1
L SM/SP-SM - No Cohes		120	125	Mohr-Coulomb	0	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32	Water Surface	Custom	1
L SM - No Cohes		125	130	Mohr-Coulomb	0	28	Water Surface	Custom	1
MD-D Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	39	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' Existing Static - No Cohes		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/25/2023	File Name	3036 67th Ave SE.slmd

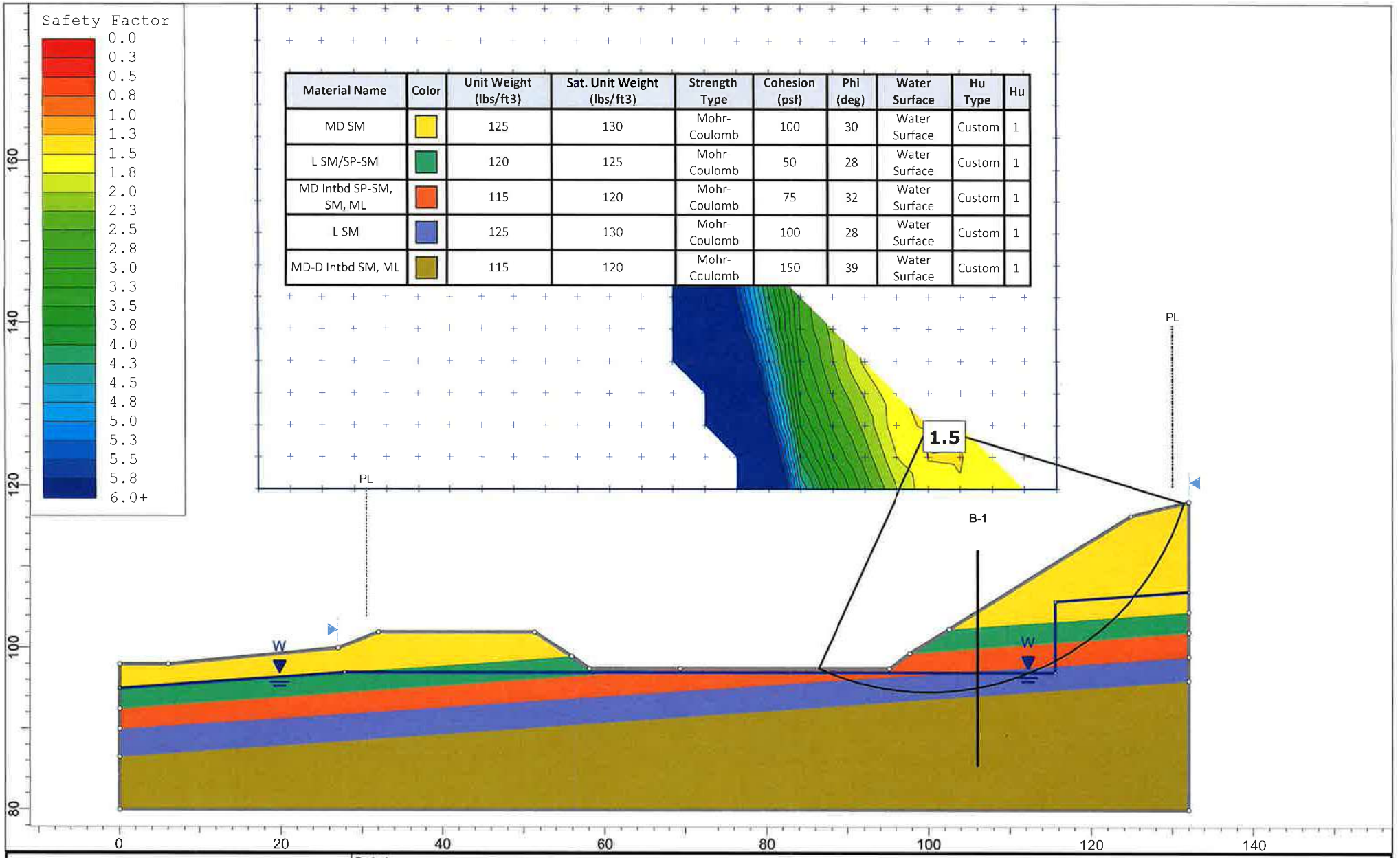


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM		125	130	Mohr-Coulomb	100	30	Water Surface	Custom	1
L SM/SP-SM		120	125	Mohr-Coulomb	50	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
L SM		125	130	Mohr-Coulomb	100	28	Water Surface	Custom	1
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' Existing Pseudostatic		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/25/2023	File Name	3036 67th Ave SE.slmd

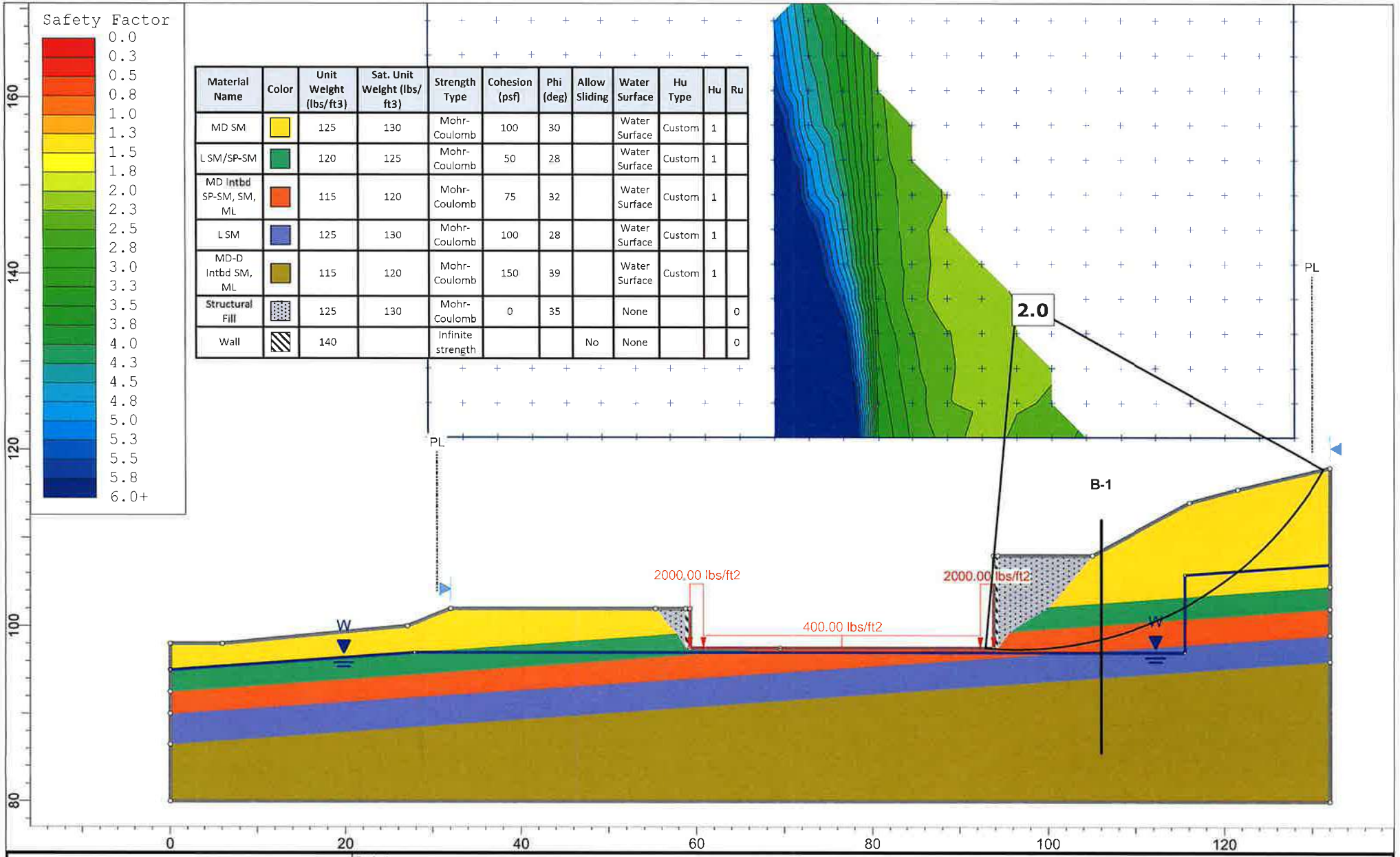


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM		125	130	Mohr-Coulomb	100	30	Water Surface	Custom	1
L SM/SP-SM		120	125	Mohr-Coulomb	50	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
L SM		125	130	Mohr-Coulomb	100	28	Water Surface	Custom	1
MD-D Intbd SM, ML		115	120	Mohr-Cculomb	150	39	Water Surface	Custom	1

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SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' During Const Static		
Drawn By	JCS	*Company*	Terra Associates, Inc.
Date	2/24/2023	*File Name*	3036 67th Ave SE.slmd

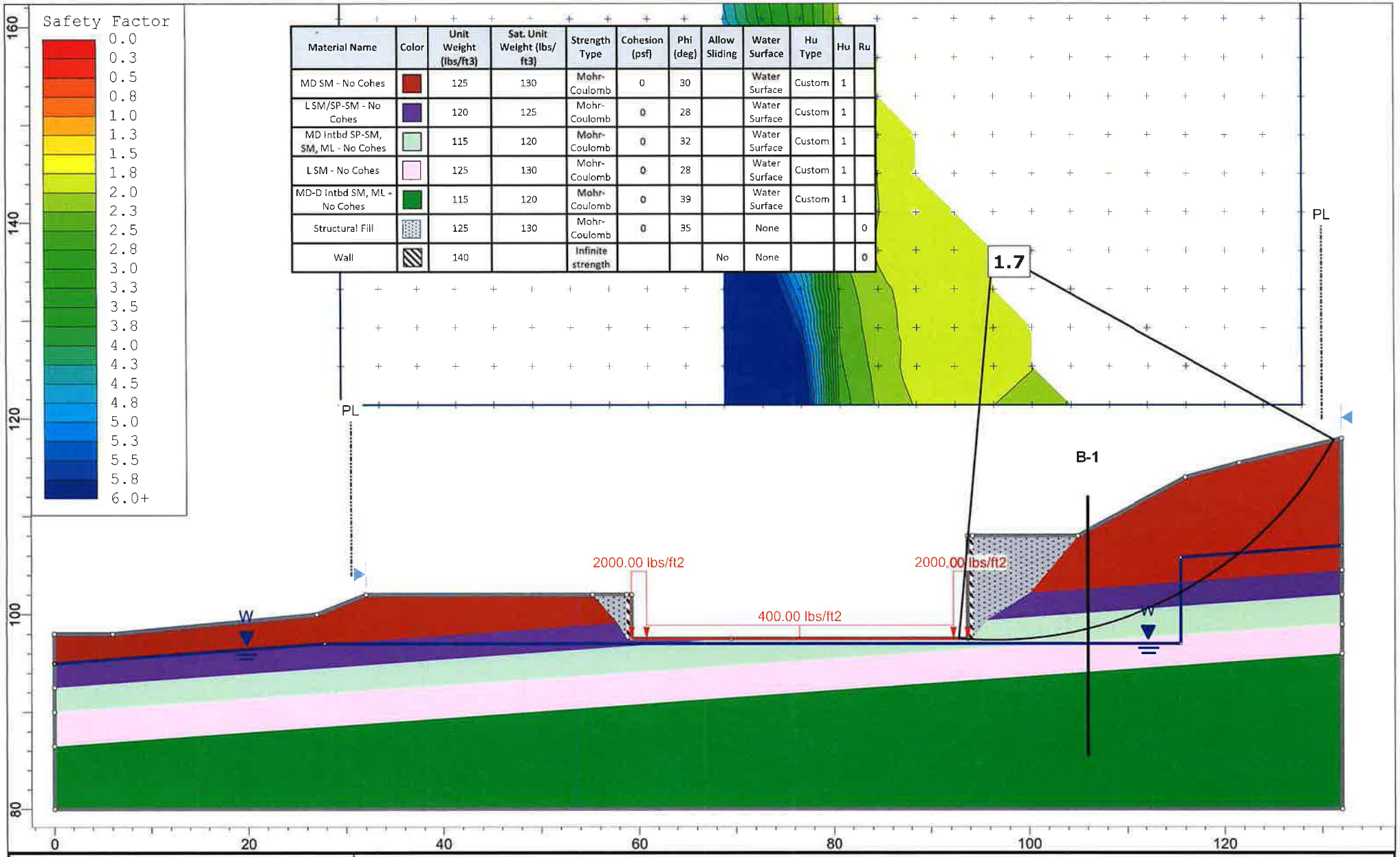


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM		125	130	Mohr-Coulomb	100	30		Water Surface	Custom	1	
L SM/SP-SM		120	125	Mohr-Coulomb	50	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
L SM		125	130	Mohr-Coulomb	100	28		Water Surface	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0

rocscience

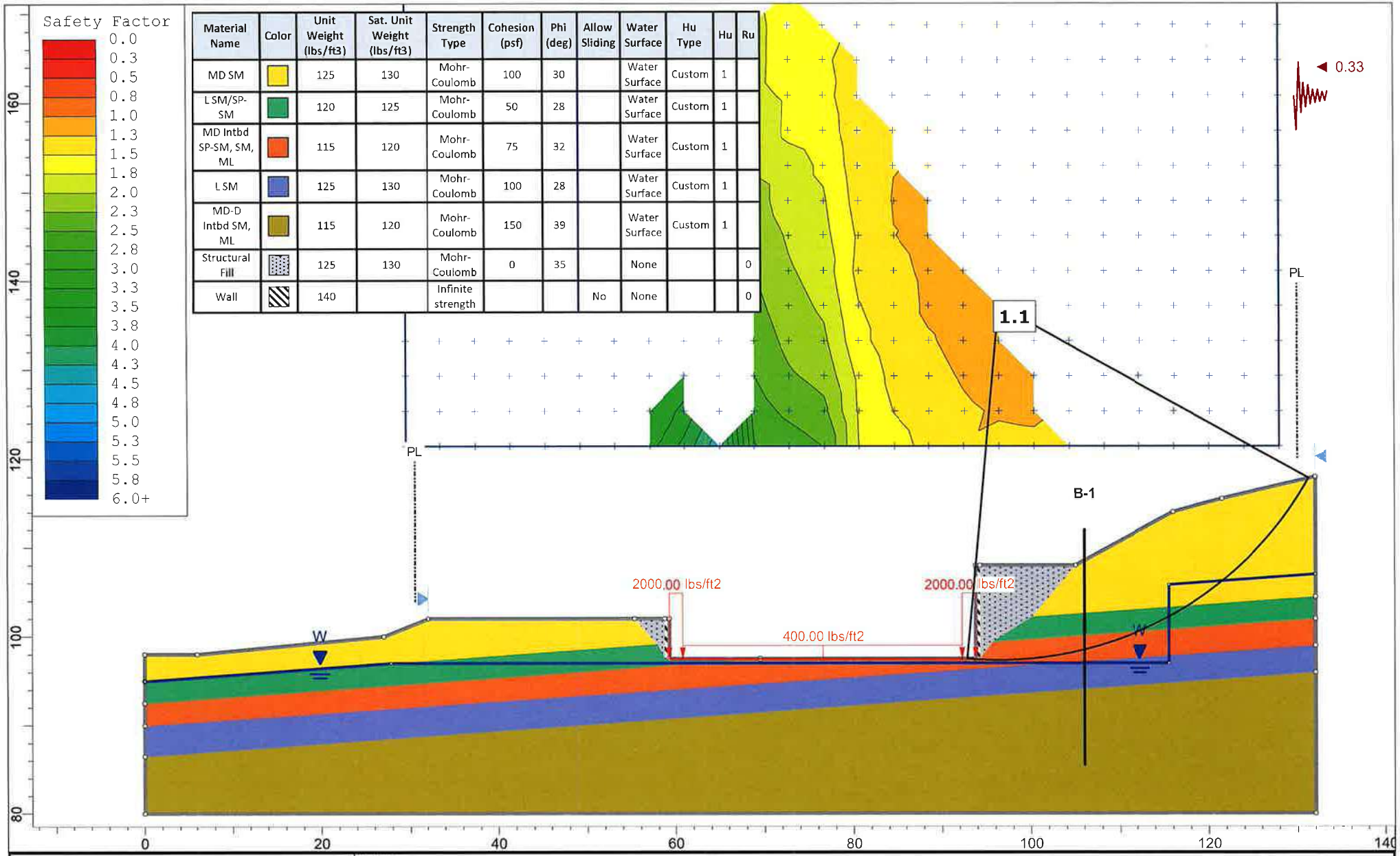
SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' Post-Development Static		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd



rocscience	Project	3036 67th Ave SE.slmd	
	Analysis Description	A-A' Post-Development Static - No Cohes	
	Drawn By	JCS	Company: Terra Associates, Inc.
	Date	2/24/2023	File Name: 3036 67th Ave SE.slmd

SLIDEINTERPRET 9.009

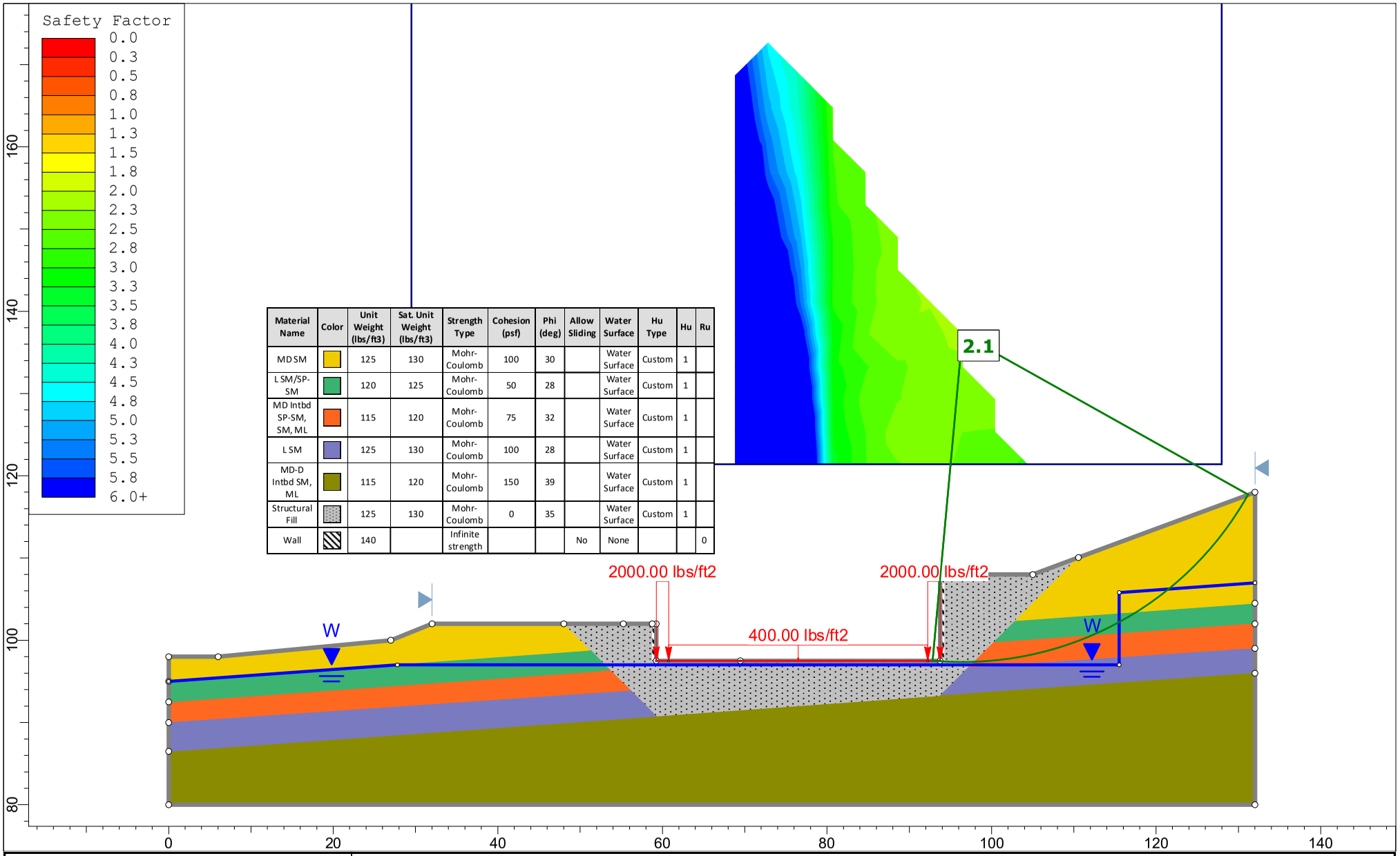


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM		125	130	Mohr-Coulomb	100	30		Water Surface	Custom	1	
L SM/SP-SM		120	125	Mohr-Coulomb	50	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
L SM		125	130	Mohr-Coulomb	100	28		Water Surface	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	A-A' Post-Development Pseudostatic		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

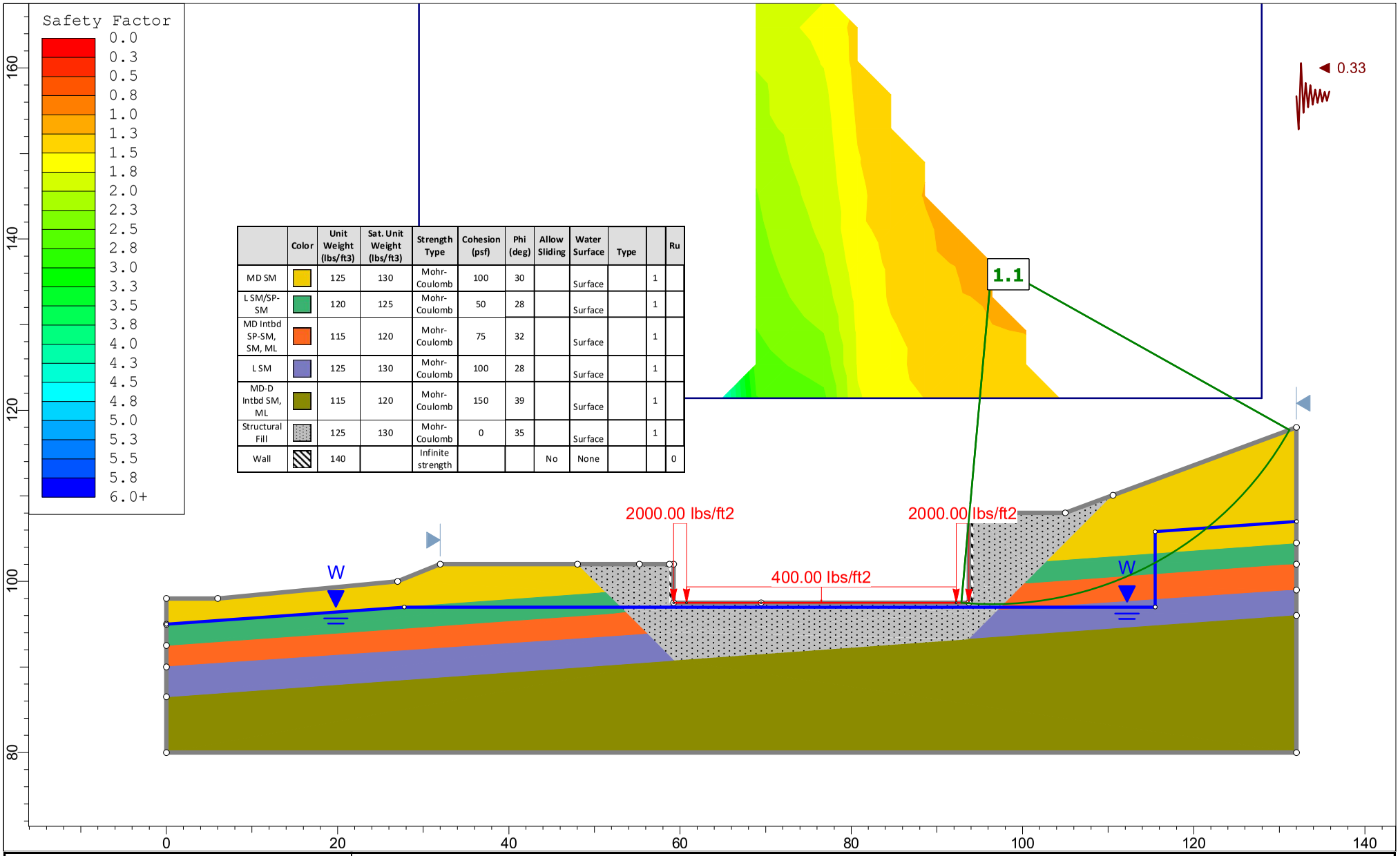


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM		125	130	Mohr-Coulomb	100	30		Water Surface	Custom	1	
L SM/SP-SM		120	125	Mohr-Coulomb	50	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
L SM		125	130	Mohr-Coulomb	100	28		Water Surface	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		Water Surface	Custom	1	
Wall		140		Infinite strength			No	None			0

rocscience

SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Post-Development	*Scenario*	Over Excavation - Static
Drawn By	JCS/CSD	*Company*	Terra Associates, Inc.
Date	September 2023	*File Name*	3036 67th Ave SE.slmd

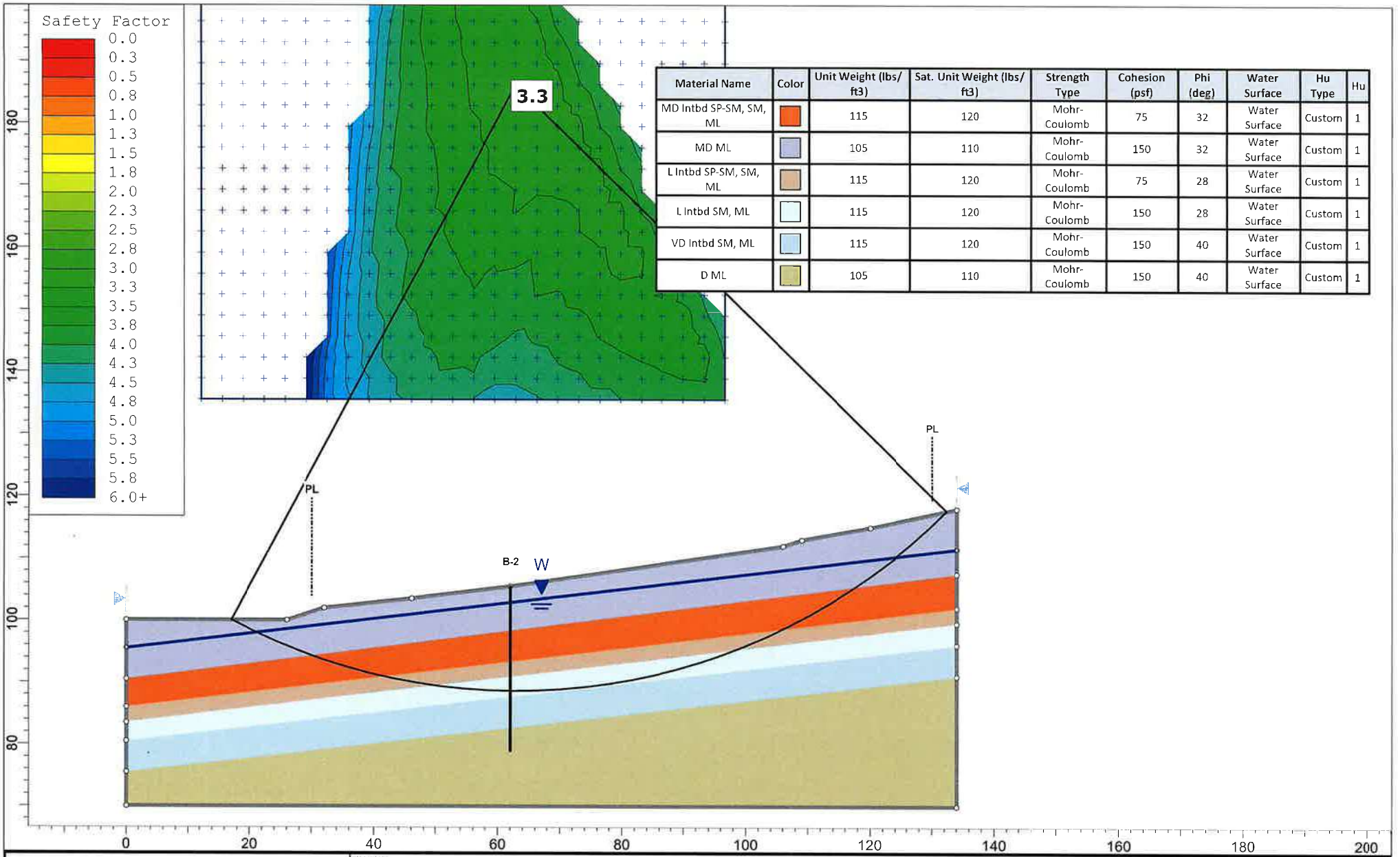


	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Type		Ru
MD SM		125	130	Mohr-Coulomb	100	30		Surface		1	
L SM/SP-SM		120	125	Mohr-Coulomb	50	28		Surface		1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Surface		1	
L SM		125	130	Mohr-Coulomb	100	28		Surface		1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Surface		1	
Structural Fill		125	130	Mohr-Coulomb	0	35		Surface		1	
Wall		140		Infinite strength			No	None			0

rocscience

SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Post-Development	*Scenario*	Over Excavation - Psuedostatic
Drawn By	JCS/CSD	*Company*	Terra Associates, Inc.
Date	September 2023	*File Name*	3036 67th Ave SE.slmd

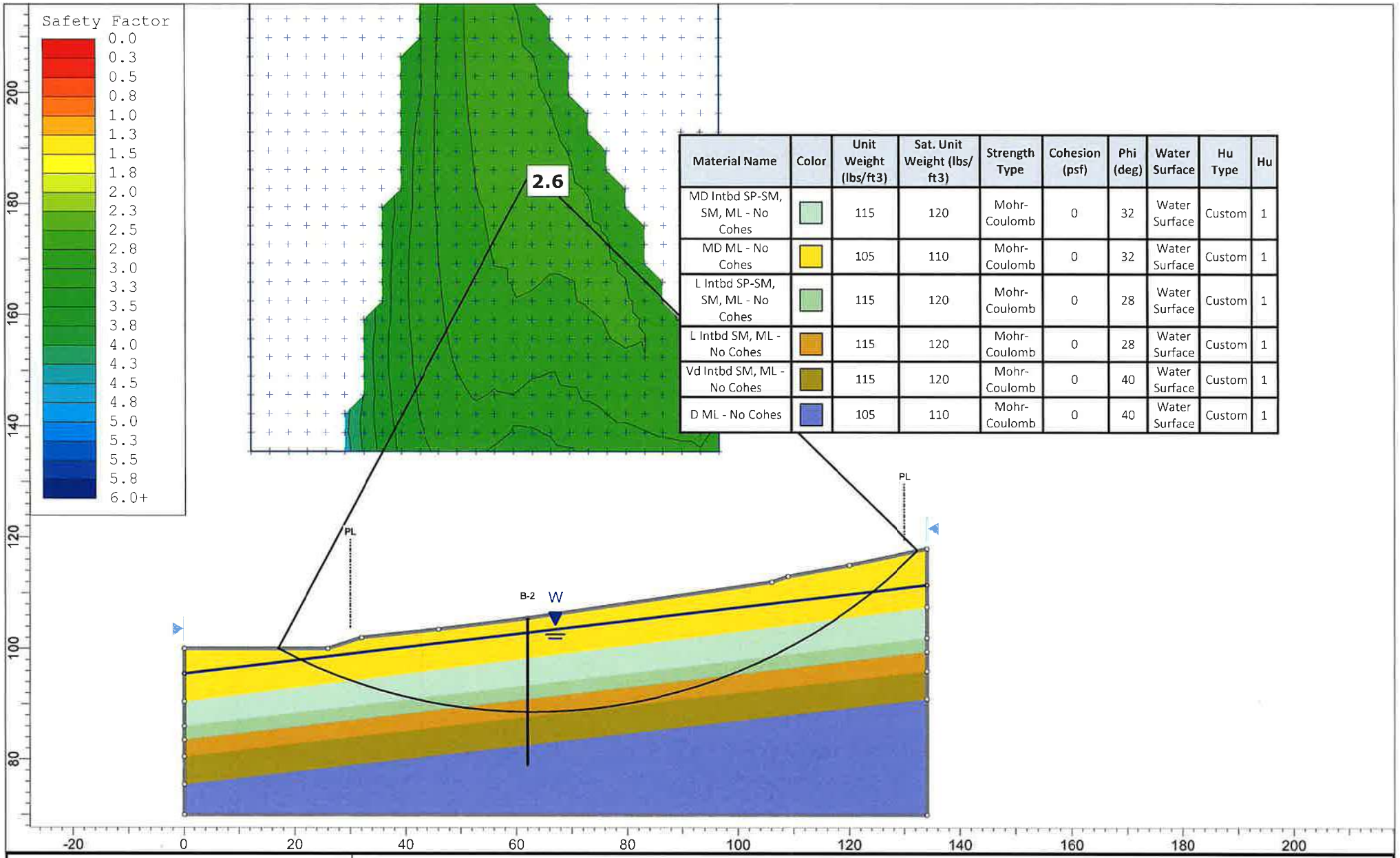


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Existing Static		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

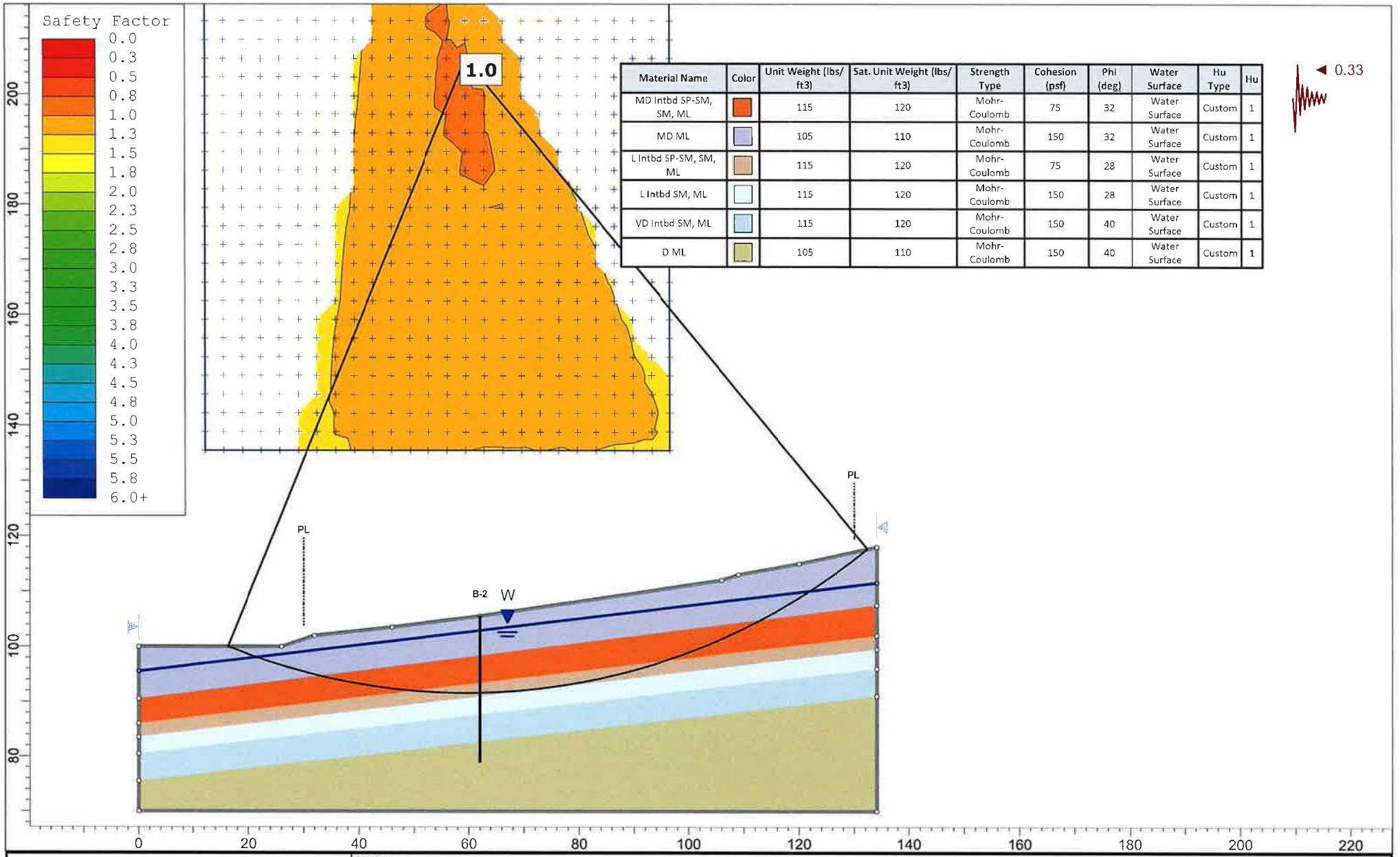


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32	Water Surface	Custom	1
MD ML - No Cohes		105	110	Mohr-Coulomb	0	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28	Water Surface	Custom	1
L Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28	Water Surface	Custom	1
Vd Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	40	Water Surface	Custom	1
D ML - No Cohes		105	110	Mohr-Coulomb	0	40	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Existing Static - No Cohes		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

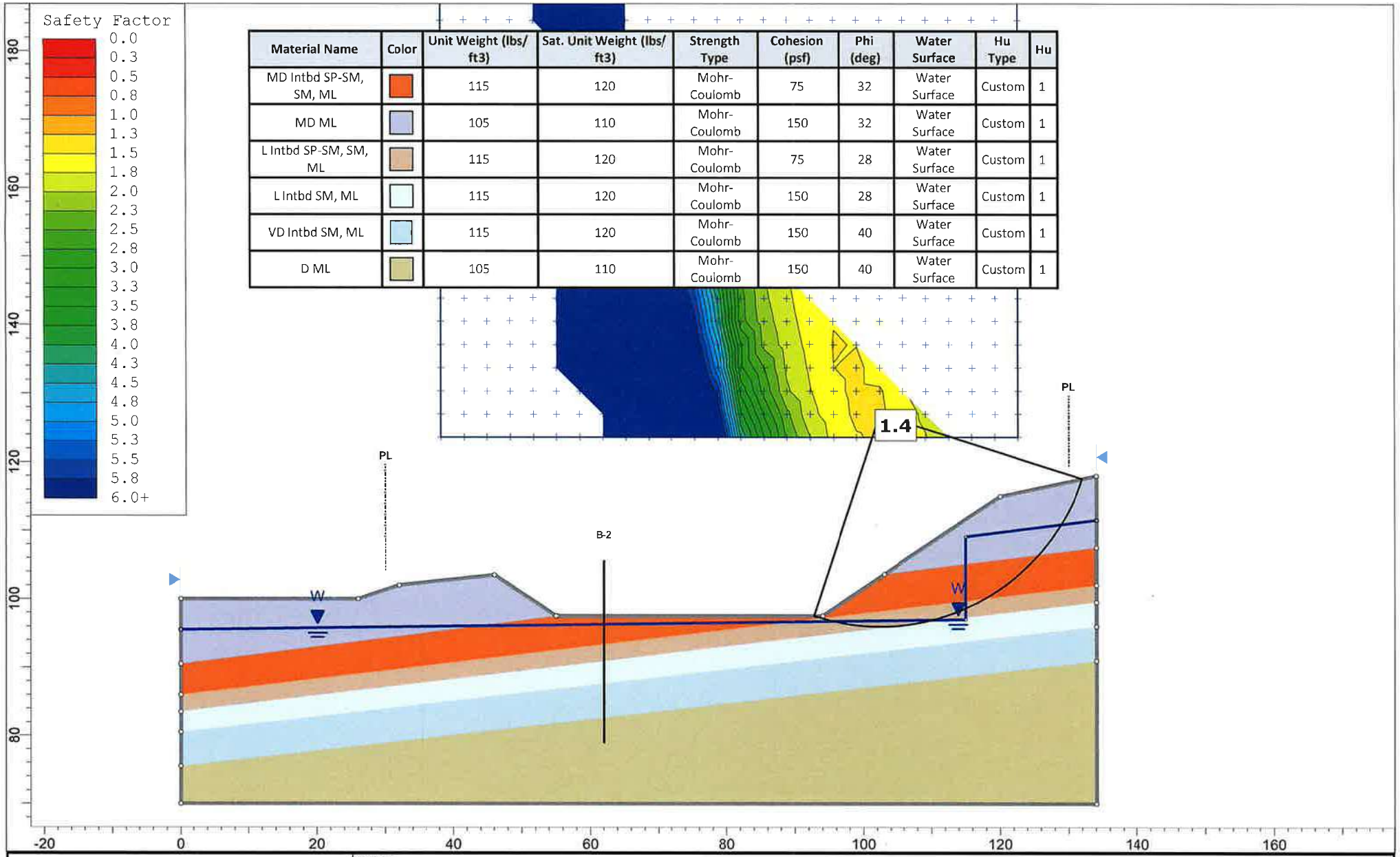


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Existing Pseudostatic		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

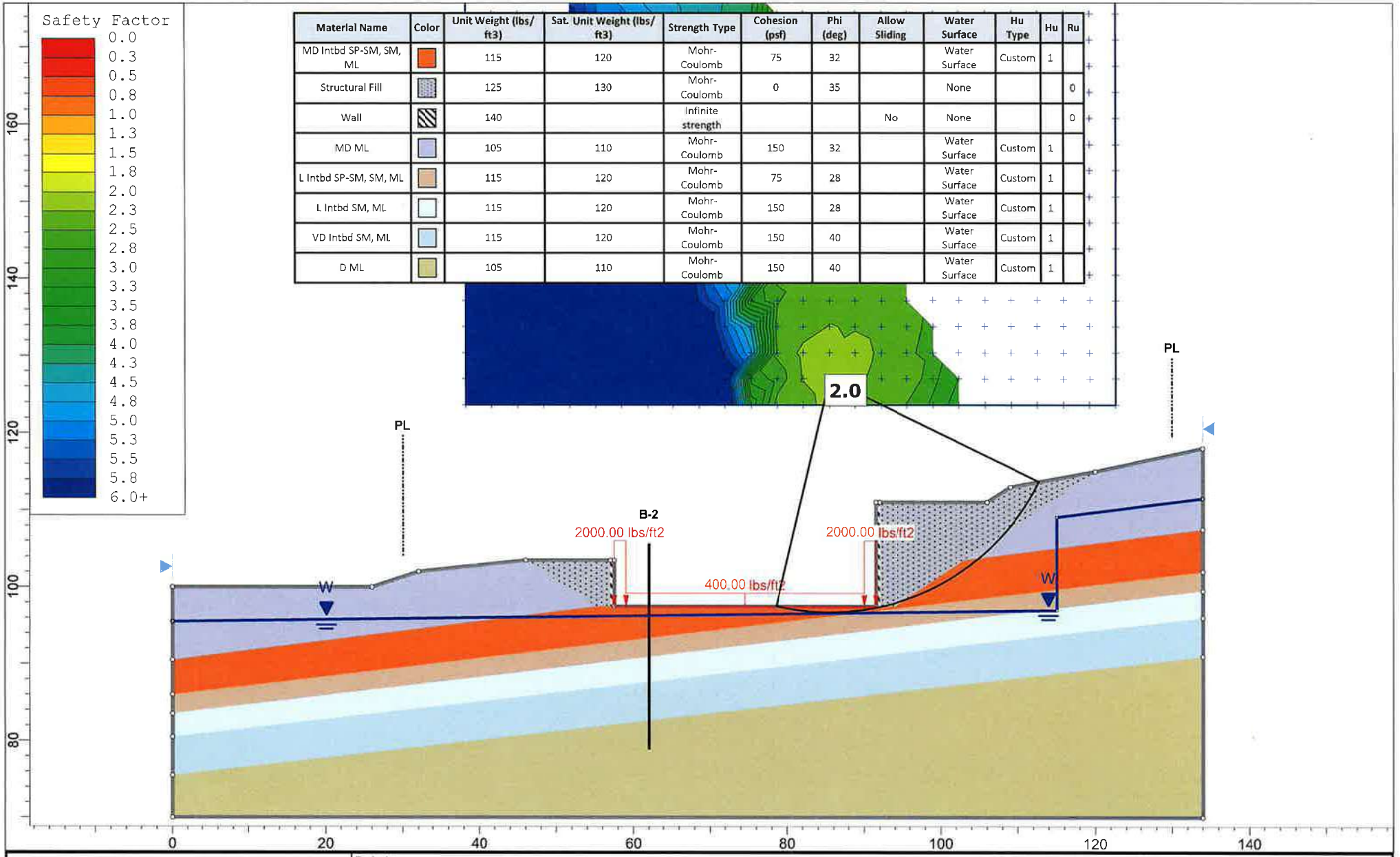


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' During Const Static		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

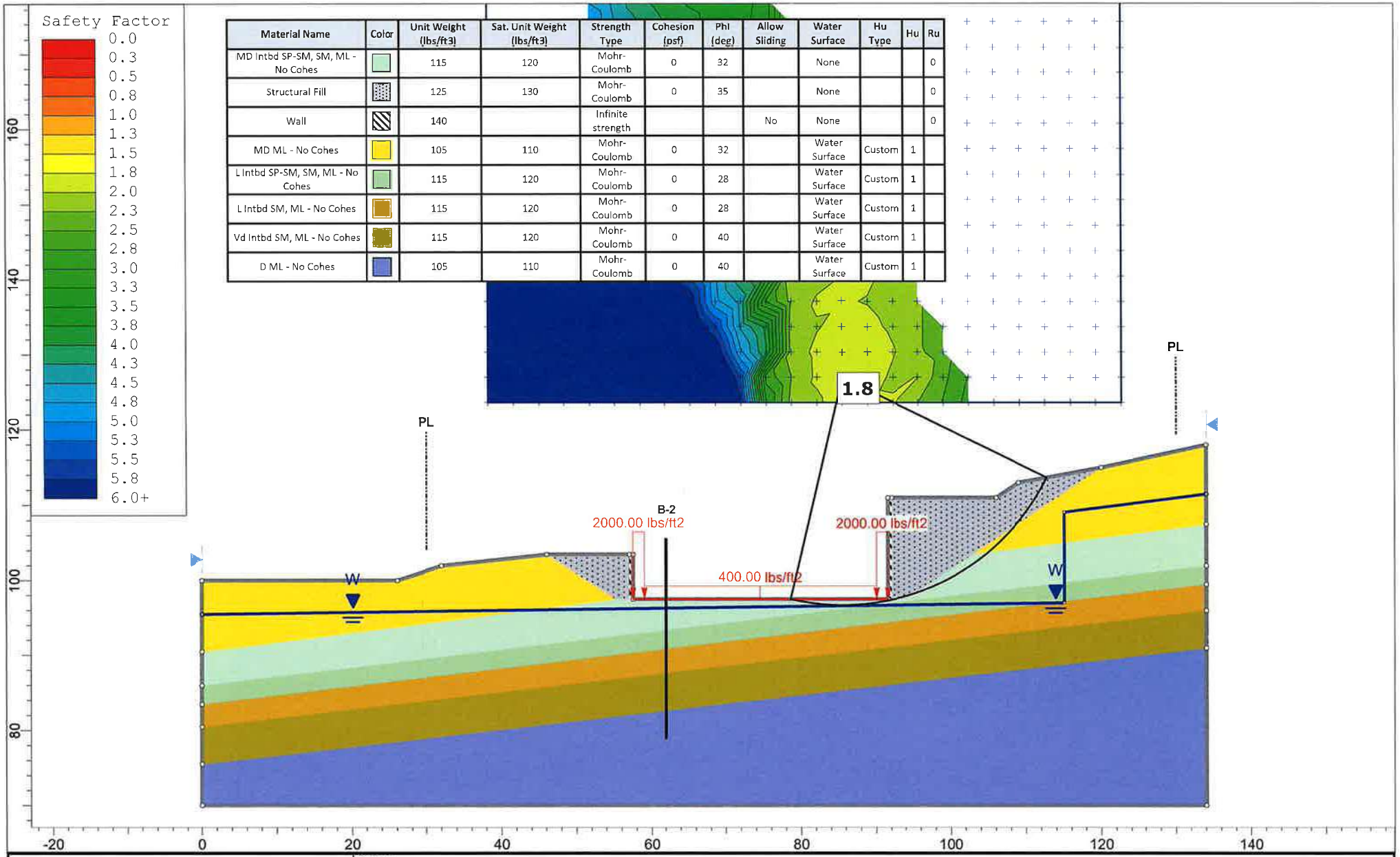


Material Name	Color	Unit Weight (lbs/ ft3)	Sat. Unit Weight (lbs/ ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

rocscience

SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Post Development Static		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

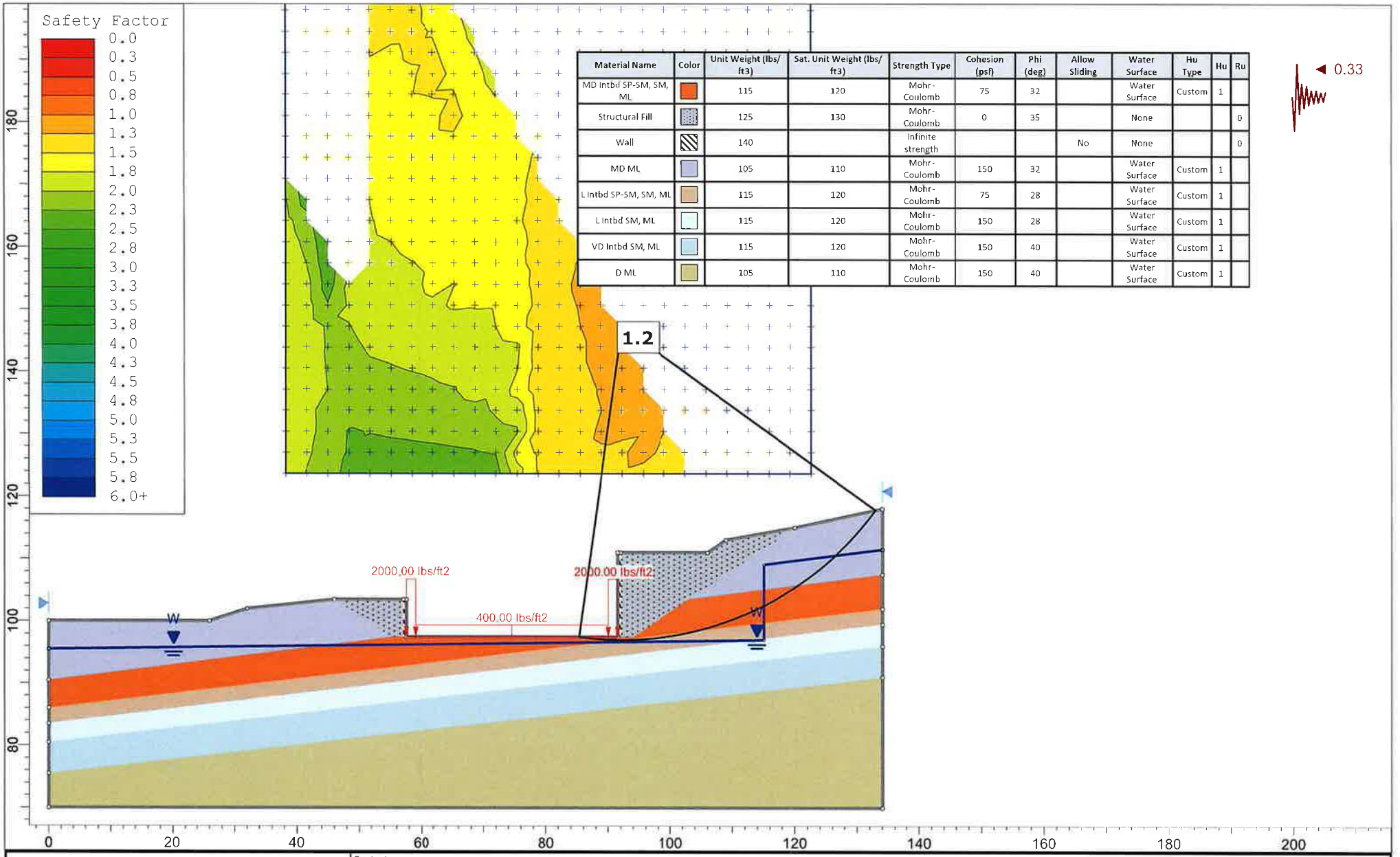


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32		None			0
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML - No Cohes		105	110	Mohr-Coulomb	0	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28		Water Surface	Custom	1	
L Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28		Water Surface	Custom	1	
Vd Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	40		Water Surface	Custom	1	
D ML - No Cohes		105	110	Mohr-Coulomb	0	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Post Development Static - No Cohes		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

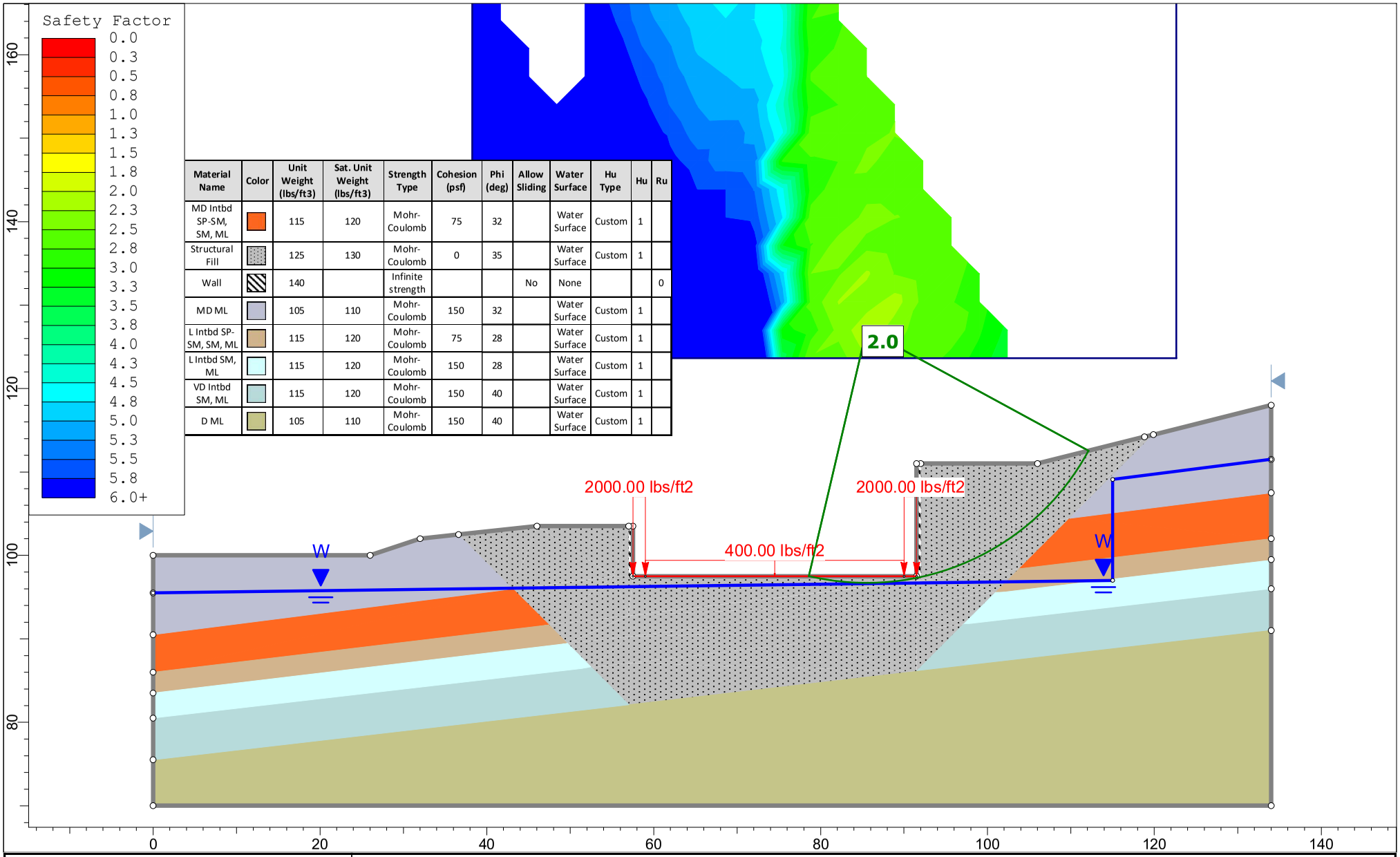


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.009

Project	3036 67th Ave SE.slmd		
Analysis Description	B-B' Post Development Pseudostatic		
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/24/2023	File Name	3036 67th Ave SE.slmd

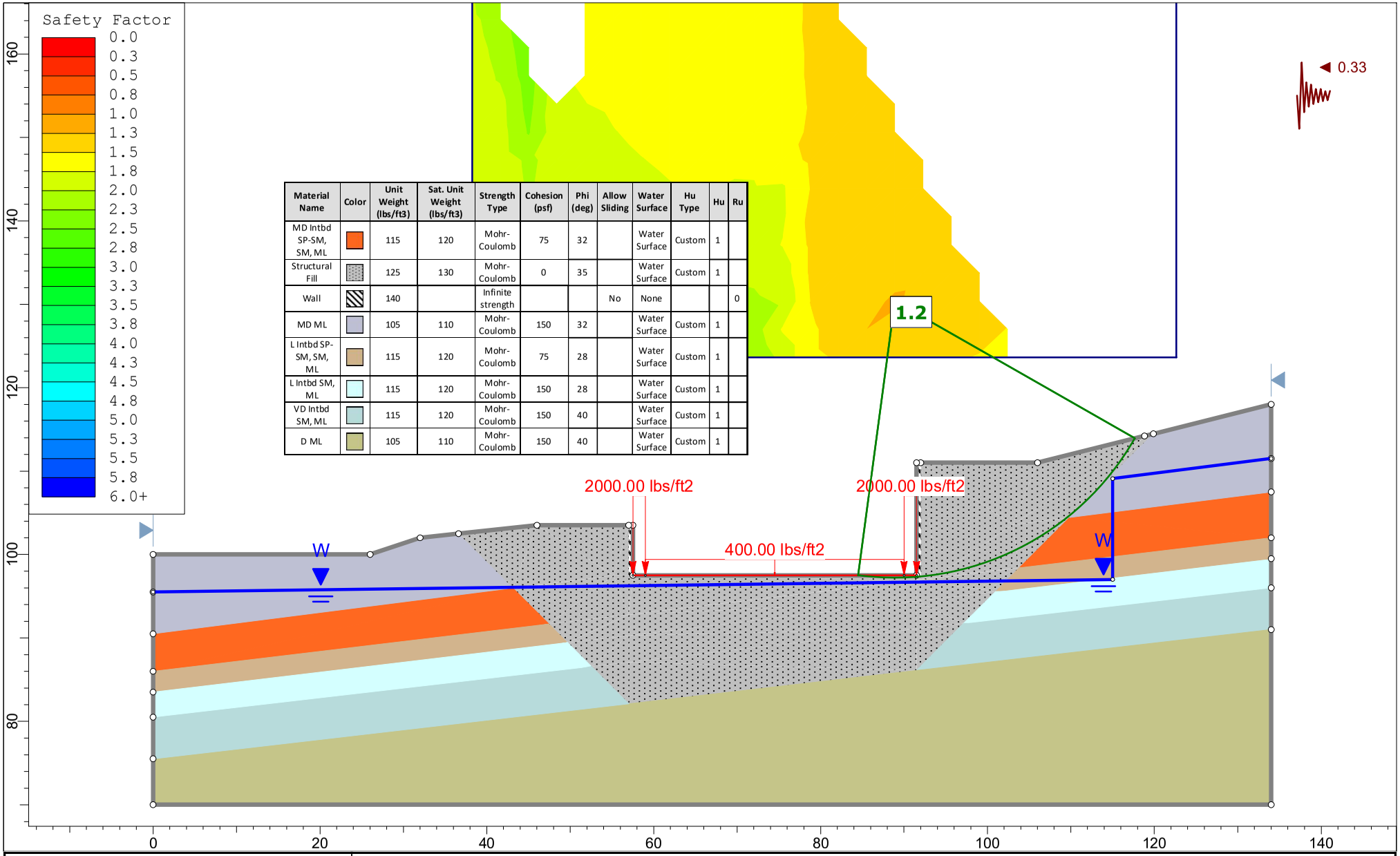


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		Water Surface	Custom	1	
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Post Development	Scenario	Over Excavation - Static
Drawn By	JCS/CSD	Company	Terra Associates, Inc.
Date	September 2023	File Name	3036 67th Ave SE.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD lntbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		Water Surface	Custom	1	
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L lntbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L lntbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD lntbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Post Development	Scenario	Over Excavation - Pseudostatic
Drawn By	JCS/CSD	Company	Terra Associates, Inc.
Date	September 2023	File Name	3036 67th Ave SE.slmd

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3036 67th Ave SE
SLIDE - An Interactive Slope Stability Program
Date Created: 2/16/2023, 3:58:02 PM
Software Version: 9.009

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Slide Analysis Information

3036 67th Ave SE

Project Summary

File Name:	3036 67th Ave SE.slmd
Slide Modeler Version:	9.009
Project Title:	SLIDE - An Interactive Slope Stability Program
Date Created:	2/16/2023, 3:58:02 PM

Currently Open Scenarios

Group Name	Scenario Name	Global Minimum	Compute Time
A-A' Existing	Master Scenario	Bishop Simplified: 2.600440	00h:00m:00.167s
	Static	Bishop Simplified: 2.600440	00h:00m:00.158s
	Static - No Cohes	Bishop Simplified: 2.131470	00h:00m:00.154s
	Pseudostatic	Bishop Simplified: 1.087100	00h:00m:00.158s
A-A' During Const	Master Scenario	Bishop Simplified: 1.464640	00h:00m:00.124s
	Static	Bishop Simplified: 1.464640	00h:00m:00.131s
A-A' Post-Development	Master Scenario	Bishop Simplified: 1.984170	00h:00m:00.133s
	Static	Bishop Simplified: 1.984170	00h:00m:00.127s
	Static - No Cohes	Bishop Simplified: 1.746800	00h:00m:00.126s
	Pseudostatic	Bishop Simplified: 1.053790	00h:00m:00.129s
B-B' Existing	Master Scenario	Bishop Simplified: 3.297380	00h:00m:00.168s
	Static	Bishop Simplified: 3.297380	00h:00m:00.163s
	Static - No Cohes	Bishop Simplified: 2.558350	00h:00m:00.163s
	Pseudostatic	Bishop Simplified: 0.983231	00h:00m:00.169s
B-B' During Const	Master Scenario	Bishop Simplified: 1.435670	00h:00m:00.175s
	Static	Bishop Simplified: 1.435670	00h:00m:00.177s
B-B' Post Development	Master Scenario	Bishop Simplified: 2.043240	00h:00m:00.166s
	Static	Bishop Simplified: 2.043240	00h:00m:00.171s
	Static - No Cohes	Bishop Simplified: 1.802570	00h:00m:00.169s
	Pseudostatic	Bishop Simplified: 1.158060	00h:00m:00.168s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Right to Left

Analysis Options

All Open Scenarios

Slices Type:	Vertical
Analysis Methods Used	
	Bishop simplified
Number of slices:	50
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

All Open Scenarios

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

All Open Scenarios

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

A-A' Existing

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' During Const

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Post-Development

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Existing

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' During Const

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Post Development

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth [ft]:	10
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

A-A' Existing - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

A-A' During Const

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

B-B' Existing - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

B-B' During Const

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

Loading

A-A' Existing

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

A-A' Post-Development

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

B-B' Post Development

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

Materials

MD SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	100
Friction Angle [deg]	30
Water Surface	Assigned per scenario
Ru Value	0
L SM/SP-SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	120
Saturated Unit Weight [lbs/ft3]	125
Cohesion [psf]	50
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
MD Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	75
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Hu Value	1
L SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	100
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
MD-D Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	39
Water Surface	Assigned per scenario
Ru Value	0
MD SM - No Cohes	

Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0
Friction Angle [deg]	30
Water Surface	Assigned per scenario
Ru Value	0
L SM/SP-SM - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	120
Saturated Unit Weight [lbs/ft3]	125
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
MD Intbd SP-SM, SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Ru Value	0
L SM - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
MD-D Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	39
Water Surface	Assigned per scenario
Ru Value	0
Structural Fill	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0

Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0
Wall	
Color	
Strength Type	Infinite strength
Unit Weight [lbs/ft3]	140
Allow Sliding Along Boundary	No
Water Surface	Assigned per scenario
Ru Value	0
MD ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	150
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Hu Value	1
L Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	75
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
L Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
VD Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Hu Value	1
D ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105

Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	150
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Hu Value	1
MD ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	0
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Hu Value	1
L Intbd SP-SM, SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
L Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
Vd Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Hu Value	1
D ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	0
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Hu Value	1

Materials In Use

Material	A-A' Existing	Static	Static - No Coh es	Pseudo static	A-A' During Const	Static	A-A' Post-Development	Static	Static - No Coh es	Pseudo static	B-B' Existing	Static	Static - No Coh es	Pseudo static	B-B' During Const	Static	B-B' Post Development	Static	Static - No Coh es	Pseudo static
MD S	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
L SM	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD I SM, S	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L SM	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD-D SM, I	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD S Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
L SM No C	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD I SM, S No C	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L SM Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD-D SM, I Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Struc	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓
Wall	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓
MD M	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L Int SM, I	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L Int	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
VD I ML	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
D ML	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
MD M Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L Int SM, I Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L Int - No	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
Vd Ir ML -	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
D ML Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗

Global Minimums

A-A' Existing - Master Scenario

Method: bishop simplified

FS	2.600440
Center:	32.996, 123.509
Radius:	31.993
Left Slip Surface Endpoint:	12.854, 98.653
Right Slip Surface Endpoint:	59.773, 106.000
Resisting Moment:	816582 lb-ft
Driving Moment:	314017 lb-ft
Total Slice Area:	353.726 ft2
Surface Horizontal Width:	46.9196 ft
Surface Average Height:	7.53899 ft

A-A' Existing - Static

Method: bishop simplified

FS	2.600440
Center:	32.996, 123.509
Radius:	31.993
Left Slip Surface Endpoint:	12.854, 98.653
Right Slip Surface Endpoint:	59.773, 106.000
Resisting Moment:	816582 lb-ft
Driving Moment:	314017 lb-ft
Total Slice Area:	353.726 ft2
Surface Horizontal Width:	46.9196 ft
Surface Average Height:	7.53899 ft

A-A' Existing - Static - No Cohes

Method: bishop simplified

FS	2.131470
Center:	32.996, 123.509
Radius:	31.993
Left Slip Surface Endpoint:	12.854, 98.653
Right Slip Surface Endpoint:	59.773, 106.000
Resisting Moment:	669317 lb-ft
Driving Moment:	314017 lb-ft
Total Slice Area:	353.726 ft2
Surface Horizontal Width:	46.9196 ft
Surface Average Height:	7.53899 ft

A-A' Existing - Pseudostatic

Method: bishop simplified

FS	1.087100
Center:	29.058, 131.385
Radius:	40.019
Left Slip Surface Endpoint:	6.867, 98.083
Right Slip Surface Endpoint:	59.995, 106.000
Resisting Moment:	1.01428e+06 lb-ft
Driving Moment:	933017 lb-ft
Total Slice Area:	380.492 ft2
Surface Horizontal Width:	53.1279 ft
Surface Average Height:	7.16181 ft

A-A' During Const

Method: bishop simplified

FS	1.464640
Center:	99.944, 127.447
Radius:	32.879
Left Slip Surface Endpoint:	86.373, 97.500
Right Slip Surface Endpoint:	131.391, 117.852
Resisting Moment:	807729 lb-ft
Driving Moment:	551485 lb-ft
Total Slice Area:	336.456 ft2
Surface Horizontal Width:	45.0186 ft
Surface Average Height:	7.47371 ft

A-A' Post-Development - Master Scenario

Method: bishop simplified

FS	1.984170
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.18315e+06 lb-ft
Driving Moment:	596295 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

A-A' Post-Development - Static

Method: bishop simplified

FS	1.984170
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.18315e+06 lb-ft
Driving Moment:	596295 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

A-A' Post-Development - Static - No Cohes

Method: bishop simplified

FS	1.746800
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.04161e+06 lb-ft
Driving Moment:	596295 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

A-A' Post-Development - Pseudostatic

Method: bishop simplified

FS	1.053790
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.08917e+06 lb-ft
Driving Moment:	1.03357e+06 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

B-B' Existing - Master Scenario

Method: bishop simplified

FS	3.297380
Center:	62.862, 186.142
Radius:	97.566
Left Slip Surface Endpoint:	17.051, 100.000
Right Slip Surface Endpoint:	132.339, 117.644
Resisting Moment:	6.77182e+06 lb-ft
Driving Moment:	2.0537e+06 lb-ft
Total Slice Area:	1413.41 ft2
Surface Horizontal Width:	115.289 ft
Surface Average Height:	12.2598 ft

B-B' Existing - Static

Method: bishop simplified

FS	3.297380
Center:	62.862, 186.142
Radius:	97.566
Left Slip Surface Endpoint:	17.051, 100.000
Right Slip Surface Endpoint:	132.339, 117.644
Resisting Moment:	6.77182e+06 lb-ft
Driving Moment:	2.0537e+06 lb-ft
Total Slice Area:	1413.41 ft2
Surface Horizontal Width:	115.289 ft
Surface Average Height:	12.2598 ft

B-B' Existing - Static - No Cohes

Method: bishop simplified

FS	2.558350
Center:	62.862, 186.142
Radius:	97.566
Left Slip Surface Endpoint:	17.051, 100.000
Right Slip Surface Endpoint:	132.339, 117.644
Resisting Moment:	5.25407e+06 lb-ft
Driving Moment:	2.0537e+06 lb-ft
Total Slice Area:	1413.41 ft2
Surface Horizontal Width:	115.289 ft
Surface Average Height:	12.2598 ft

B-B' Existing - Pseudostatic

Method: bishop simplified

FS	0.983231
Center:	59.486, 206.399
Radius:	114.843
Left Slip Surface Endpoint:	16.263, 100.000
Right Slip Surface Endpoint:	132.375, 117.652
Resisting Moment:	6.38107e+06 lb-ft
Driving Moment:	6.4899e+06 lb-ft
Total Slice Area:	1153.03 ft2
Surface Horizontal Width:	116.112 ft
Surface Average Height:	9.93032 ft

B-B' During Const

Method: bishop simplified

FS	1.435670
Center:	102.388, 126.997
Radius:	31.036
Left Slip Surface Endpoint:	92.734, 97.500
Right Slip Surface Endpoint:	131.955, 117.562
Resisting Moment:	648136 lb-ft
Driving Moment:	451451 lb-ft
Total Slice Area:	336.913 ft2
Surface Horizontal Width:	39.2207 ft
Surface Average Height:	8.59019 ft

B-B' Post Development - Master Scenario

Method: bishop simplified

FS	2.043240
Center:	85.507, 126.997
Radius:	30.300
Left Slip Surface Endpoint:	78.577, 97.500
Right Slip Surface Endpoint:	112.722, 113.677
Resisting Moment:	679751 lb-ft
Driving Moment:	332684 lb-ft
Total Slice Area:	192.456 ft2
Surface Horizontal Width:	34.1455 ft
Surface Average Height:	5.63635 ft

B-B' Post Development - Static

Method: bishop simplified

FS	2.043240
Center:	85.507, 126.997
Radius:	30.300
Left Slip Surface Endpoint:	78.577, 97.500
Right Slip Surface Endpoint:	112.722, 113.677
Resisting Moment:	679751 lb-ft
Driving Moment:	332684 lb-ft
Total Slice Area:	192.456 ft2
Surface Horizontal Width:	34.1455 ft
Surface Average Height:	5.63635 ft

B-B' Post Development - Static - No Cohes

Method: bishop simplified

FS	1.802570
Center:	85.507, 126.997
Radius:	30.300
Left Slip Surface Endpoint:	78.577, 97.500
Right Slip Surface Endpoint:	112.722, 113.677
Resisting Moment:	599685 lb-ft
Driving Moment:	332684 lb-ft
Total Slice Area:	192.456 ft2
Surface Horizontal Width:	34.1455 ft
Surface Average Height:	5.63635 ft

B-B' Post Development - Pseudostatic

Method: bishop simplified

FS	1.158060
Center:	92.259, 147.254
Radius:	50.235
Left Slip Surface Endpoint:	85.320, 97.500
Right Slip Surface Endpoint:	132.933, 117.771
Resisting Moment:	1.67043e+06 lb-ft
Driving Moment:	1.44244e+06 lb-ft
Total Slice Area:	433.638 ft2
Surface Horizontal Width:	47.6138 ft
Surface Average Height:	9.10741 ft

Global Minimum Support Data

All Open Scenarios

No Supports Present

Valid and Invalid Surfaces

A-A' Existing - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	2794
Number of Invalid Surfaces:	11402

Error Codes

Error Code -106 reported for 162 surfaces
Error Code -107 reported for 8 surfaces
Error Code -108 reported for 4 surfaces
Error Code -112 reported for 2 surfaces
Error Code -115 reported for 10974 surfaces
Error Code -1000 reported for 252 surfaces

A-A' Existing - Static

Method: bishop simplified

Number of Valid Surfaces:	2794
Number of Invalid Surfaces:	11402

Error Codes

Error Code -106 reported for 162 surfaces
Error Code -107 reported for 8 surfaces
Error Code -108 reported for 4 surfaces
Error Code -112 reported for 2 surfaces
Error Code -115 reported for 10974 surfaces
Error Code -1000 reported for 252 surfaces

A-A' Existing - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	2796
Number of Invalid Surfaces:	11400

Error Codes

Error Code -106 reported for 162 surfaces
Error Code -107 reported for 8 surfaces
Error Code -108 reported for 4 surfaces
Error Code -115 reported for 10974 surfaces
Error Code -1000 reported for 252 surfaces

A-A' Existing - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	2808
Number of Invalid Surfaces:	11388

Error Codes

Error Code -106 reported for 162 surfaces
Error Code -115 reported for 10974 surfaces
Error Code -1000 reported for 252 surfaces

A-A' During Const

Method: bishop simplified

Number of Valid Surfaces:	394
Number of Invalid Surfaces:	13802

Error Codes

Error Code -106 reported for 39 surfaces
Error Code -107 reported for 306 surfaces
Error Code -108 reported for 2 surfaces
Error Code -115 reported for 13098 surfaces
Error Code -1000 reported for 357 surfaces

A-A' Post-Development - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	623
Number of Invalid Surfaces:	13573

Error Codes

Error Code -99 reported for 4812 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 155 surfaces
Error Code -107 reported for 24 surfaces
Error Code -115 reported for 6572 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Static

Method: bishop simplified

Number of Valid Surfaces:	623
Number of Invalid Surfaces:	13573

Error Codes

Error Code -99 reported for 4812 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 155 surfaces
Error Code -107 reported for 24 surfaces
Error Code -115 reported for 6572 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	623
Number of Invalid Surfaces:	13573

Error Codes

Error Code -99 reported for 4812 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 155 surfaces
Error Code -107 reported for 24 surfaces
Error Code -115 reported for 6572 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	641
Number of Invalid Surfaces:	13555

Error Codes

Error Code -99 reported for 4818 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 155 surfaces
Error Code -115 reported for 6572 surfaces
Error Code -1000 reported for 1995 surfaces

B-B' Existing

Method: bishop simplified

Number of Valid Surfaces:	3108
Number of Invalid Surfaces:	11088

Error Codes

Error Code -106 reported for 3 surfaces
Error Code -115 reported for 11085 surfaces

B-B' During Const

Method: bishop simplified

Number of Valid Surfaces:	1328
Number of Invalid Surfaces:	12868

Error Codes

Error Code -102 reported for 21 surfaces
Error Code -106 reported for 36 surfaces
Error Code -107 reported for 1680 surfaces
Error Code -115 reported for 10711 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	2222
Number of Invalid Surfaces:	11974

Error Codes

Error Code -99 reported for 7315 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 113 surfaces
Error Code -107 reported for 48 surfaces
Error Code -108 reported for 2 surfaces
Error Code -115 reported for 4055 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Static

Method: bishop simplified

Number of Valid Surfaces:	2222
Number of Invalid Surfaces:	11974

Error Codes

Error Code -99 reported for 7315 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 113 surfaces
Error Code -107 reported for 48 surfaces
Error Code -108 reported for 2 surfaces
Error Code -115 reported for 4055 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	2222
Number of Invalid Surfaces:	11974

Error Codes

Error Code -99 reported for 7315 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 113 surfaces
Error Code -107 reported for 48 surfaces
Error Code -108 reported for 2 surfaces
Error Code -115 reported for 4055 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	2270
Number of Invalid Surfaces:	11926

Error Codes

Error Code -99 reported for 7315 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 113 surfaces
Error Code -112 reported for 2 surfaces
Error Code -115 reported for 4055 surfaces
Error Code -1000 reported for 420 surfaces

Error Code Descriptions

The following errors were encountered during the computation:

-99 = Slip surface intersects an infinite strength material. If infinite strength regions are defined for a model, a large number of potential slip surfaces may show this error code. This is Normal.

-102 = Two surface / slope intersections, but resulting arc is actually outside soil region.

-106 = Average slice width is less than 0.0001 * (maximum horizontal extent of soil region). This limitation is imposed to avoid numerical errors which may result from too many slices, or too small a slip region.

-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction.

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-112 = The coefficient M-Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.

-115 = Surface too shallow, below the minimum depth.

-1000 = No valid slip surface is generated

Slice Data

A-A' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.60044

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.851338	39.7714	-38.052	MD SM	100	30	59.0959	153.675	92.9685	0	92.9685	46.7114	46.7114
2	0.886982	124.989	-36.1008	MD SM	100	30	77.3388	201.115	197.306	22.1711	175.135	140.908	118.737
3	0.886982	206.628	-34.1579	MD SM	100	30	89.148	231.824	293.439	65.1126	228.326	232.949	167.837
4	0.886982	283.252	-32.2588	MD SM	100	30	99.9765	259.983	382.439	105.34	277.099	319.337	213.997
5	0.860045	342.179	-30.4264	L SM/SP-SM	50	28	81.1924	211.136	445.542	142.49	303.052	397.856	255.366
6	0.860045	403.4	-28.6556	L SM/SP-SM	50	28	88.9223	231.237	517.633	176.776	340.857	469.039	292.263
7	0.860045	460.937	-26.9143	L SM/SP-SM	50	28	96.0634	249.807	584.705	208.924	375.781	535.939	327.015
8	0.860045	514.964	-25.1994	L SM/SP-SM	50	28	102.657	266.954	647.065	239.034	408.031	598.759	359.725
9	0.860045	565.633	-23.5084	L SM/SP-SM	50	28	108.74	282.771	704.974	267.195	437.779	657.674	390.479
10	0.916342	653.758	-21.7849	MD Intbd SP-SM, SM, ML	75	32	143.326	372.711	770.719	294.283	476.436	713.436	419.153
11	0.916342	701.953	-20.0279	MD Intbd SP-SM, SM, ML	75	32	149.013	387.5	820.35	320.246	500.104	766.031	445.785
12	0.916342	746.664	-18.2903	MD Intbd SP-SM, SM, ML	75	32	154.166	400.9	865.782	344.233	521.549	814.826	470.593
13	0.916342	788.001	-16.57	MD Intbd SP-SM, SM, ML	75	32	158.813	412.983	907.19	366.304	540.886	859.936	493.632
14	0.916342	826.058	-14.8649	MD Intbd SP-SM, SM, ML	75	32	162.976	423.809	944.726	386.515	558.211	901.468	514.953
15	0.916342	860.916	-13.1732	MD Intbd SP-SM, SM, ML	75	32	166.676	433.432	978.521	404.91	573.611	939.51	534.6
16	0.916342	892.769	-11.4931	MD Intbd SP-SM, SM, ML	75	32	169.966	441.986	1008.83	421.53	587.3	974.271	552.741
17	0.916342	940.109	-9.82303	MD Intbd SP-SM, SM, ML	75	32	177.902	462.624	1056.74	436.408	620.328	1025.93	589.525
18	0.949458	1035.77	-8.13142	L SM	100	28	174.647	454.16	1115.86	449.781	666.077	1090.9	641.123
19	0.949458	1096.1	-6.417	L SM	100	28	184.358	479.411	1175.18	461.609	713.572	1154.45	692.838
20	0.949458	1152.88	-4.70835	L SM	100	28	193.553	503.324	1230.19	471.644	758.547	1214.25	742.606
21	0.949458	1206.14	-3.00388	L SM	100	28	202.246	525.929	1280.96	479.903	801.056	1270.35	790.443
22	0.949458	1247.84	-1.30207	L SM	100	28	208.699	542.708	1319	486.394	832.607	1314.26	827.864
23	0.949458	1268.45	0.398589	L SM	100	28	210.9	548.432	1334.51	491.125	843.383	1335.97	844.85
24	0.949458	1284.96	2.0996	L SM	100	28	212.556	552.738	1345.57	494.097	851.472	1353.36	859.265
25	0.949458	1297.99	3.80247	L SM	100	28	213.802	555.979	1352.88	495.306	857.577	1367.09	871.787
26	0.949458	1307.52	5.5087	L SM	100	28	214.641	558.161	1356.42	494.744	861.676	1377.12	882.377
27	0.949458	1313.51	7.21986	L SM	100	28	215.074	559.287	1356.19	492.399	863.794	1383.44	891.04
28	0.949458	1315.95	8.93753	L SM	100	28	215.1	559.355	1352.17	488.251	863.921	1386	897.749
29	0.949458	1314.77	10.6633	L SM	100	28	214.718	558.362	1344.34	482.279	862.057	1384.77	902.487
30	0.949458	1309.93	12.399	L SM	100	28	213.926	556.301	1332.63	474.452	858.175	1379.66	905.206
31	0.949458	1301.35	14.1463	L SM	100	28	212.719	553.162	1317.01	464.738	852.27	1370.62	905.884
32	0.949458	1288.95	15.9072	L SM	100	28	211.092	548.931	1297.4	453.093	844.311	1357.56	904.471
33	1.02689	1376.85	17.7568	MD Intbd SP-SM, SM, ML	75	32	228.034	592.988	1267.78	438.828	828.953	1340.81	901.977
34	1.02689	1355.7	19.6991	MD Intbd SP-SM, SM, ML	75	32	225.358	586.03	1239.53	421.709	817.822	1320.22	898.508

35	1.02689	1332.77	21.6652	MD Intbd SP-SM, SM, ML	75	32	222.819	579.427	1209.38	402.123	807.253	1297.89	895.766
36	1.02689	1305.9	23.6586	MD Intbd SP-SM, SM, ML	75	32	219.967	572.011	1175.35	379.97	795.381	1271.72	891.75
37	1.02689	1273.74	25.6829	MD Intbd SP-SM, SM, ML	75	32	216.542	563.105	1136.27	355.138	781.132	1240.4	885.267
38	1.02689	1236.02	27.7423	MD Intbd SP-SM, SM, ML	75	32	212.522	552.652	1091.9	327.491	764.406	1203.67	876.182
39	1.02689	1192.43	29.8414	MD Intbd SP-SM, SM, ML	75	32	207.883	540.588	1041.97	296.873	745.093	1161.22	864.349
40	0.985558	1096.37	31.9415	L SM/SP-SM	50	28	170.949	444.542	1005.86	263.841	742.024	1112.44	848.602
41	0.985558	1041.78	34.0467	L SM/SP-SM	50	28	165.776	431.091	945.049	228.319	716.73	1057.06	828.744
42	0.985558	980.605	36.2056	L SM/SP-SM	50	28	159.987	416.036	877.872	189.458	688.414	994.988	805.53
43	0.985558	912.286	38.4259	L SM/SP-SM	50	28	153.539	399.27	803.859	146.98	656.879	925.666	778.686
44	0.791517	676.604	40.4844	MD SM	100	30	247.936	644.742	1049.01	105.496	943.519	1260.66	1155.16
45	0.791517	609.891	42.3757	MD SM	100	30	531.41	1381.9	2285.75	65.4396	2220.31	2770.59	2705.15
46	0.791517	533.188	44.326	MD SM	100	30	425.49	1106.46	1765.58	22.3425	1743.24	2181.17	2158.83
47	1.00737	560.974	46.6304	MD SM	100	30	203.157	528.297	741.833	0	741.833	956.894	956.894
48	1.00737	420.02	49.3284	MD SM	100	30	174.7	454.296	613.658	0	613.658	816.969	816.969
49	1.00737	264.488	52.1839	MD SM	100	30	144.285	375.205	476.669	0	476.669	662.573	662.573
50	1.00737	91.3843	55.2375	MD SM	100	30	111.682	290.422	329.82	0	329.82	490.734	490.734

A-A' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.60044

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.851338	39.7714	-38.052	MD SM	100	30	59.0959	153.675	92.9685	0	92.9685	46.7114	46.7114
2	0.886982	124.989	-36.1008	MD SM	100	30	77.3388	201.115	197.306	22.1711	175.135	140.908	118.737
3	0.886982	206.628	-34.1579	MD SM	100	30	89.148	231.824	293.439	65.1126	228.326	232.949	167.837
4	0.886982	283.252	-32.2588	MD SM	100	30	99.9765	259.983	382.439	105.34	277.099	319.337	213.997
5	0.860045	342.179	-30.4264	L SM/SP-SM	50	28	81.1924	211.136	445.542	142.49	303.052	397.856	255.366
6	0.860045	403.4	-28.6556	L SM/SP-SM	50	28	88.9223	231.237	517.633	176.776	340.857	469.039	292.263
7	0.860045	460.937	-26.9143	L SM/SP-SM	50	28	96.0634	249.807	584.705	208.924	375.781	535.939	327.015
8	0.860045	514.964	-25.1994	L SM/SP-SM	50	28	102.657	266.954	647.065	239.034	408.031	598.759	359.725
9	0.860045	565.633	-23.5084	L SM/SP-SM	50	28	108.74	282.771	704.974	267.195	437.779	657.674	390.479
10	0.916342	653.758	-21.7849	MD Intbd SP-SM, SM, ML	75	32	143.326	372.711	770.719	294.283	476.436	713.436	419.153
11	0.916342	701.953	-20.0279	MD Intbd SP-SM, SM, ML	75	32	149.013	387.5	820.35	320.246	500.104	766.031	445.785
12	0.916342	746.664	-18.2903	MD Intbd SP-SM, SM, ML	75	32	154.166	400.9	865.782	344.233	521.549	814.826	470.593
13	0.916342	788.001	-16.57	MD Intbd SP-SM, SM, ML	75	32	158.813	412.983	907.19	366.304	540.886	859.936	493.632
14	0.916342	826.058	-14.8649	MD Intbd SP-SM, SM, ML	75	32	162.976	423.809	944.726	386.515	558.211	901.468	514.953
15	0.916342	860.916	-13.1732	MD Intbd SP-SM, SM, ML	75	32	166.676	433.432	978.521	404.91	573.611	939.51	534.6
16	0.916342	892.769	-11.4931	MD Intbd SP-SM, SM, ML	75	32	169.966	441.986	1008.83	421.53	587.3	974.271	552.741
17	0.916342	940.109	-9.82303	MD Intbd SP-SM, SM, ML	75	32	177.902	462.624	1056.74	436.408	620.328	1025.93	589.525
18	0.949458	1035.77	-8.13142	L SM	100	28	174.647	454.16	1115.86	449.781	666.077	1090.9	641.123
19	0.949458	1096.1	-6.417	L SM	100	28	184.358	479.411	1175.18	461.609	713.572	1154.45	692.838
20	0.949458	1152.88	-4.70835	L SM	100	28	193.553	503.324	1230.19	471.644	758.547	1214.25	742.606
21	0.949458	1206.14	-3.00388	L SM	100	28	202.246	525.929	1280.96	479.903	801.056	1270.35	790.443
22	0.949458	1247.84	-1.30207	L SM	100	28	208.699	542.708	1319	486.394	832.607	1314.26	827.864
23	0.949458	1268.45	0.398589	L SM	100	28	210.9	548.432	1334.51	491.125	843.383	1335.97	844.85
24	0.949458	1284.96	2.0996	L SM	100	28	212.556	552.738	1345.57	494.097	851.472	1353.36	859.265
25	0.949458	1297.99	3.80247	L SM	100	28	213.802	555.979	1352.88	495.306	857.577	1367.09	871.787
26	0.949458	1307.52	5.5087	L SM	100	28	214.641	558.161	1356.42	494.744	861.676	1377.12	882.377
27	0.949458	1313.51	7.21986	L SM	100	28	215.074	559.287	1356.19	492.399	863.794	1383.44	891.04
28	0.949458	1315.95	8.93753	L SM	100	28	215.1	559.355	1352.17	488.251	863.921	1386	897.749
29	0.949458	1314.77	10.6633	L SM	100	28	214.718	558.362	1344.34	482.279	862.057	1384.77	902.487
30	0.949458	1309.93	12.399	L SM	100	28	213.926	556.301	1332.63	474.452	858.175	1379.66	905.206
31	0.949458	1301.35	14.1463	L SM	100	28	212.719	553.162	1317.01	464.738	852.27	1370.62	905.884
32	0.949458	1288.95	15.9072	L SM	100	28	211.092	548.931	1297.4	453.093	844.311	1357.56	904.471
33	1.02689	1376.85	17.7568	MD Intbd SP-SM, SM, ML	75	32	228.034	592.988	1267.78	438.828	828.953	1340.81	901.977
34	1.02689	1355.7	19.6991	MD Intbd SP-SM, SM, ML	75	32	225.358	586.03	1239.53	421.709	817.822	1320.22	898.508
35	1.02689	1332.77	21.6652	MD Intbd SP-SM, SM, ML	75	32	222.819	579.427	1209.38	402.123	807.253	1297.89	895.766
36	1.02689	1305.9	23.6586	MD Intbd SP-SM, SM, ML	75	32	219.967	572.011	1175.35	379.97	795.381	1271.72	891.75

37	1.02689	1273.74	25.6829	MD Intbd SP-SM, SM, ML	75	32	216.542	563.105	1136.27	355.138	781.132	1240.4	885.267
38	1.02689	1236.02	27.7423	MD Intbd SP-SM, SM, ML	75	32	212.522	552.652	1091.9	327.491	764.406	1203.67	876.182
39	1.02689	1192.43	29.8414	MD Intbd SP-SM, SM, ML	75	32	207.883	540.588	1041.97	296.873	745.093	1161.22	864.349
40	0.985558	1096.37	31.9415	L SM/SP-SM	50	28	170.949	444.542	1005.86	263.841	742.024	1112.44	848.602
41	0.985558	1041.78	34.0467	L SM/SP-SM	50	28	165.776	431.091	945.049	228.319	716.73	1057.06	828.744
42	0.985558	980.605	36.2056	L SM/SP-SM	50	28	159.987	416.036	877.872	189.458	688.414	994.988	805.53
43	0.985558	912.286	38.4259	L SM/SP-SM	50	28	153.539	399.27	803.859	146.98	656.879	925.666	778.686
44	0.791517	676.604	40.4844	MD SM	100	30	247.936	644.742	1049.01	105.496	943.519	1260.66	1155.16
45	0.791517	609.891	42.3757	MD SM	100	30	531.41	1381.9	2285.75	65.4396	2220.31	2770.59	2705.15
46	0.791517	533.188	44.326	MD SM	100	30	425.49	1106.46	1765.58	22.3425	1743.24	2181.17	2158.83
47	1.00737	560.974	46.6304	MD SM	100	30	203.157	528.297	741.833	0	741.833	956.894	956.894
48	1.00737	420.02	49.3284	MD SM	100	30	174.7	454.296	613.658	0	613.658	816.969	816.969
49	1.00737	264.488	52.1839	MD SM	100	30	144.285	375.205	476.669	0	476.669	662.573	662.573
50	1.00737	91.3843	55.2375	MD SM	100	30	111.682	290.422	329.82	0	329.82	490.734	490.734

A-A' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 2.13147

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.851338	39.7714	-38.052	MD SM - No Cohes	0	30	16.0493	34.2085	59.2508	0	59.2508	46.6883	46.6883
2	0.886982	124.989	-36.1008	MD SM - No Cohes	0	30	40.0592	85.385	170.062	22.1711	147.891	140.85	118.679
3	0.886982	206.628	-34.1579	MD SM - No Cohes	0	30	55.6733	118.666	270.648	65.1126	205.535	232.872	167.76
4	0.886982	283.252	-32.2588	MD SM - No Cohes	0	30	69.8889	148.966	363.357	105.34	258.017	319.245	213.905
5	0.860045	342.179	-30.4264	L SM/SP-SM - No Cohes	0	28	74.6109	159.031	441.584	142.49	299.094	397.764	255.274
6	0.860045	403.4	-28.6556	L SM/SP-SM - No Cohes	0	28	84.3864	179.867	515.057	176.776	338.281	468.941	292.165
7	0.860045	460.937	-26.9143	L SM/SP-SM - No Cohes	0	28	93.3759	199.028	583.241	208.924	374.317	535.84	326.916
8	0.860045	514.964	-25.1994	L SM/SP-SM - No Cohes	0	28	101.642	216.646	646.485	239.034	407.451	598.657	359.623
9	0.860045	565.633	-23.5084	L SM/SP-SM - No Cohes	0	28	109.235	232.832	705.088	267.195	437.893	657.572	390.377
10	0.916342	653.758	-21.7849	MD Intbd SP-SM, SM, ML - No Cohes	0	32	139.15	296.594	768.933	294.283	474.65	713.319	419.036
11	0.916342	701.953	-20.0279	MD Intbd SP-SM, SM, ML - No Cohes	0	32	146.288	311.808	819.244	320.246	498.998	765.919	445.673
12	0.916342	746.664	-18.2903	MD Intbd SP-SM, SM, ML - No Cohes	0	32	152.728	325.536	865.2	344.233	520.967	814.719	470.486
13	0.916342	788.001	-16.57	MD Intbd SP-SM, SM, ML - No Cohes	0	32	158.513	337.865	907	366.304	540.696	859.836	493.532
14	0.916342	826.058	-14.8649	MD Intbd SP-SM, SM, ML - No Cohes	0	32	163.674	348.867	944.82	386.515	558.305	901.377	514.862
15	0.916342	860.916	-13.1732	MD Intbd SP-SM, SM, ML - No Cohes	0	32	168.245	358.609	978.805	404.91	573.895	939.426	534.516
16	0.916342	892.769	-11.4931	MD Intbd SP-SM, SM, ML - No Cohes	0	32	172.292	367.235	1009.23	421.53	587.699	974.197	552.667
17	0.916342	940.109	-9.82303	MD Intbd SP-SM, SM, ML - No Cohes	0	32	182.048	388.03	1057.39	436.408	620.979	1025.87	589.459
18	0.949458	1035.77	-8.13142	L SM - No Cohes	0	28	165.831	353.463	1114.54	449.781	664.763	1090.85	641.069
19	0.949458	1096.1	-6.417	L SM - No Cohes	0	28	177.81	378.997	1174.4	461.609	712.787	1154.4	692.789
20	0.949458	1152.88	-4.70835	L SM - No Cohes	0	28	189.124	403.113	1229.79	471.644	758.148	1214.22	742.572
21	0.949458	1206.14	-3.00388	L SM - No Cohes	0	28	199.791	425.849	1280.81	479.903	800.908	1270.33	790.424
22	0.949458	1247.84	-1.30207	L SM - No Cohes	0	28	207.692	442.69	1318.97	486.394	832.576	1314.25	827.855
23	0.949458	1268.45	0.398589	L SM - No Cohes	0	28	210.388	448.436	1334.51	491.125	843.383	1335.97	844.846

24	0.949458	1284.96	2.0996	L SM - No Cohes	0	28	212.412	452.749	1345.59	494.097	851.493	1353.38	859.281
25	0.949458	1297.99	3.80247	L SM - No Cohes	0	28	213.932	455.99	1352.9	495.306	857.598	1367.12	871.817
26	0.949458	1307.52	5.5087	L SM - No Cohes	0	28	214.954	458.169	1356.43	494.744	861.687	1377.16	882.418
27	0.949458	1313.51	7.21986	L SM - No Cohes	0	28	215.48	459.29	1356.19	492.399	863.794	1383.49	891.092
28	0.949458	1315.95	8.93753	L SM - No Cohes	0	28	215.513	459.359	1352.18	488.251	863.931	1386.08	897.824
29	0.949458	1314.77	10.6633	L SM - No Cohes	0	28	215.051	458.375	1344.36	482.279	862.078	1384.85	902.57
30	0.949458	1309.93	12.399	L SM - No Cohes	0	28	214.094	456.335	1332.69	474.452	858.237	1379.76	905.305
31	0.949458	1301.35	14.1463	L SM - No Cohes	0	28	212.639	453.233	1317.14	464.738	852.403	1370.73	905.997
32	0.949458	1288.95	15.9072	L SM - No Cohes	0	28	210.681	449.061	1297.66	453.093	844.565	1357.7	904.607
33	1.02689	1376.85	17.7568	MD Intbd SP-SM, SM, ML - No Cohes	0	32	241.777	515.341	1263.54	438.828	824.715	1340.97	902.14
34	1.02689	1355.7	19.6991	MD Intbd SP-SM, SM, ML - No Cohes	0	32	238.435	508.218	1235.03	421.709	813.321	1320.4	898.689
35	1.02689	1332.77	21.6652	MD Intbd SP-SM, SM, ML - No Cohes	0	32	235.266	501.462	1204.63	402.123	802.51	1298.09	895.968
36	1.02689	1305.9	23.6586	MD Intbd SP-SM, SM, ML - No Cohes	0	32	231.73	493.926	1170.42	379.97	790.448	1271.94	891.971
37	1.02689	1273.74	25.6829	MD Intbd SP-SM, SM, ML - No Cohes	0	32	227.52	484.951	1131.22	355.138	776.085	1240.64	885.5
38	1.02689	1236.02	27.7423	MD Intbd SP-SM, SM, ML - No Cohes	0	32	222.613	474.492	1086.84	327.491	759.346	1203.92	876.43
39	1.02689	1192.43	29.8414	MD Intbd SP-SM, SM, ML - No Cohes	0	32	216.983	462.492	1037.02	296.873	740.144	1161.49	864.619
40	0.985558	1096.37	31.9415	L SM/SP-SM - No Cohes	0	28	183.251	390.594	998.443	263.841	734.602	1112.69	848.85
41	0.985558	1041.78	34.0467	L SM/SP-SM - No Cohes	0	28	176.969	377.205	937.735	228.319	709.416	1057.31	828.993
42	0.985558	980.605	36.2056	L SM/SP-SM - No Cohes	0	28	169.972	362.29	870.822	189.458	681.364	995.249	805.791
43	0.985558	912.286	38.4259	L SM/SP-SM - No Cohes	0	28	162.215	345.756	797.253	146.98	650.273	925.943	778.963
44	0.791517	676.604	40.4844	MD SM - No Cohes	0	30	254.239	541.902	1044.09	105.496	938.599	1261.12	1155.62
45	0.791517	609.891	42.3757	MD SM - No Cohes	0	30	587.792	1252.86	2235.46	65.4396	2170.02	2771.73	2706.29
46	0.791517	533.188	44.326	MD SM - No Cohes	0	30	462.626	986.073	1730.27	22.3425	1707.93	2182.14	2159.79
47	1.00737	560.974	46.6304	MD SM - No Cohes	0	30	201.529	429.553	744.008	0	744.008	957.346	957.346
48	1.00737	420.02	49.3284	MD SM - No Cohes	0	30	168.339	358.809	621.476	0	621.476	817.384	817.384
49	1.00737	264.488	52.1839	MD SM - No Cohes	0	30	133.113	283.726	491.427	0	491.427	662.936	662.936
50	1.00737	91.3843	55.2375	MD SM - No Cohes	0	30	95.6668	203.911	353.184	0	353.184	491.024	491.024

A-A' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.0871

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.816151	30.9807	-32.9806	MD SM	100	30	171.124	186.029	149.006	0	149.006	37.959	37.959
2	1.03715	128.038	-31.4141	MD SM	100	30	215.825	234.623	255.264	22.0906	233.173	123.451	101.36
3	1.03715	223.796	-29.6894	MD SM	100	30	246.826	268.325	356.507	64.9606	291.547	215.78	150.82
4	1.03715	314.02	-27.9939	MD SM	100	30	274.327	298.221	448.598	105.269	343.329	302.773	197.504
5	0.996007	380.216	-26.3573	L SM/SP-SM	50	28	215.191	233.934	488.363	142.432	345.931	381.741	239.309
6	0.996007	451.364	-24.7762	L SM/SP-SM	50	28	234.093	254.483	561.222	176.646	384.576	453.174	276.528
7	0.996007	518.385	-23.2151	L SM/SP-SM	50	28	251.116	272.988	628.17	208.79	419.38	520.463	311.673
8	0.996007	581.427	-21.672	L SM/SP-SM	50	28	266.431	289.637	689.633	238.941	450.692	583.758	344.817
9	0.996007	640.62	-20.1452	L SM/SP-SM	50	28	280.183	304.587	745.972	267.162	478.81	643.188	376.026
10	1.06134	742.395	-18.5842	MD Intbd SP-SM, SM, ML	75	32	374.208	406.802	825.311	294.316	530.995	699.491	405.175
11	1.06134	798.772	-16.9881	MD Intbd SP-SM, SM, ML	75	32	385.089	418.63	870.256	320.332	549.924	752.609	432.277
12	1.06134	851.048	-15.4055	MD Intbd SP-SM, SM, ML	75	32	394.454	428.811	910.553	344.339	566.214	801.861	457.522
13	1.06134	899.32	-13.8349	MD Intbd SP-SM, SM, ML	75	32	402.414	437.464	946.446	366.385	580.061	847.343	480.958
14	1.06134	943.674	-12.2749	MD Intbd SP-SM, SM, ML	75	32	409.061	444.69	978.137	386.511	591.626	889.135	502.624
15	1.06134	984.184	-10.724	MD Intbd SP-SM, SM, ML	75	32	414.476	450.577	1005.8	404.754	601.049	927.306	522.552
16	1.06134	1020.91	-9.18107	MD Intbd SP-SM, SM, ML	75	32	418.728	455.199	1029.59	421.143	608.445	961.911	540.768
17	1.06134	1053.91	-7.64482	MD Intbd SP-SM, SM, ML	75	32	421.877	458.623	1049.63	435.706	613.923	993.003	557.297
18	1.14874	1174.73	-6.05124	L SM	100	28	392.966	427.193	1064.27	448.913	615.362	1022.62	573.704
19	1.14874	1206.55	-4.39946	L SM	100	28	395.287	429.716	1080.74	460.629	620.109	1050.33	589.697
20	1.14874	1243.06	-2.75134	L SM	100	28	400.658	435.555	1101.36	470.268	631.091	1082.1	611.837
21	1.14874	1311.6	-1.10551	L SM	100	28	420.693	457.335	1149.89	477.841	672.053	1141.78	663.935
22	1.14874	1378.86	0.539421	L SM	100	28	440.631	479.01	1196.17	483.354	712.812	1200.31	716.961
23	1.14874	1441.18	2.18479	L SM	100	28	458.944	498.918	1237.06	486.808	750.253	1254.57	767.761
24	1.14874	1497.2	3.83197	L SM	100	28	475.113	516.495	1271.51	488.199	783.309	1303.33	815.132
25	1.14874	1521.48	5.48233	L SM	100	28	478.868	520.577	1278.51	487.517	790.993	1324.47	836.954
26	1.14874	1530.42	7.13727	L SM	100	28	477.279	518.85	1272.49	484.748	787.741	1332.25	847.505
27	1.14874	1534.32	8.79822	L SM	100	28	474.626	515.966	1262.19	479.872	782.32	1335.65	855.781
28	1.14874	1533.12	10.4667	L SM	100	28	470.921	511.938	1247.61	472.862	774.743	1334.6	861.74
29	1.14874	1526.73	12.1441	L SM	100	28	466.175	506.779	1228.72	463.688	765.036	1329.04	865.351
30	1.14874	1515.07	13.8323	L SM	100	28	460.396	500.496	1205.53	452.309	753.224	1318.89	866.583
31	1.05139	1373.08	15.4601	MD Intbd SP-SM, SM, ML	75	32	489.335	531.956	1170.64	439.352	731.287	1305.98	866.625
32	1.05139	1357.06	17.0282	MD Intbd SP-SM, SM, ML	75	32	481.82	523.787	1143.16	424.955	718.206	1290.73	865.773
33	1.05139	1337.04	18.6096	MD Intbd SP-SM, SM, ML	75	32	473.47	514.709	1112.27	408.584	703.685	1271.7	863.113
34	1.05139	1312.93	20.2058	MD Intbd SP-SM, SM, ML	75	32	464.282	504.721	1077.88	390.187	687.697	1248.76	858.574

35	1.05139	1285.03	21.8186	MD Intbd SP-SM, SM, ML	75	32	454.447	494.029	1040.29	369.703	670.585	1222.23	852.522
36	1.05139	1256.21	23.4498	MD Intbd SP-SM, SM, ML	75	32	445.262	484.044	1001.67	347.063	654.605	1194.81	847.747
37	1.05139	1223.6	25.1014	MD Intbd SP-SM, SM, ML	75	32	435.488	473.419	959.79	322.189	637.601	1163.8	841.611
38	1.05139	1186.3	26.7756	MD Intbd SP-SM, SM, ML	75	32	424.786	461.785	913.976	294.991	618.985	1128.32	833.333
39	1.15551	1253.24	28.5605	L SM/SP-SM	50	28	353.378	384.157	892.231	263.769	628.462	1084.58	820.814
40	1.15551	1192.12	30.462	L SM/SP-SM	50	28	340.938	370.634	831.157	228.131	603.026	1031.68	803.55
41	1.15551	1123.45	32.4015	L SM/SP-SM	50	28	327.359	355.872	764.494	189.236	575.258	972.255	783.019
42	1.15551	1046.77	34.3836	L SM/SP-SM	50	28	312.608	339.836	691.975	146.874	545.101	905.891	759.017
43	0.941681	789.149	36.2216	MD SM	100	30	346.349	376.516	584.333	105.393	478.94	838.022	732.629
44	0.941681	724.361	37.9117	MD SM	100	30	421.885	458.631	686.386	65.2201	621.166	1014.95	949.733
45	0.941681	640.564	39.6416	MD SM	100	30	1044.19	1135.14	1815.13	22.2258	1792.9	2680.24	2658.01
46	0.987546	567.999	41.4604	MD SM	100	30	674.336	733.071	1096.51	0	1096.51	1692.29	1692.29
47	0.987546	456.554	43.3765	MD SM	100	30	366.194	398.089	516.306	0	516.306	862.313	862.313
48	0.987546	337.248	45.3552	MD SM	100	30	315.918	343.435	421.642	0	421.642	741.501	741.501
49	0.987546	209.235	47.4059	MD SM	100	30	264.28	287.299	324.412	0	324.412	611.873	611.873
50	0.987546	71.4676	49.5399	MD SM	100	30	211.289	229.692	224.633	0	224.633	472.369	472.369

A-A' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.46464

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.16232	33.4168	-23.276	MD Intbd SP-SM, SM, ML	75	32	77.7306	113.847	62.1687	0	62.1687	28.7311	28.7311
2	0.79741	60.8234	-21.4271	MD Intbd SP-SM, SM, ML	75	32	95.578	139.987	113.764	9.76239	104.001	76.2551	66.4927
3	0.79741	89.6378	-19.9415	MD Intbd SP-SM, SM, ML	75	32	102.904	150.717	149.726	28.5526	121.173	112.391	83.8379
4	0.79741	116.223	-18.4698	MD Intbd SP-SM, SM, ML	75	32	109.391	160.219	182.267	45.889	136.378	145.73	99.8406
5	0.934394	168.646	-16.8864	L SM	100	28	124.637	182.549	218.301	63.0488	155.252	180.465	117.416
6	0.934394	201.879	-15.1919	L SM	100	28	130.602	191.285	251.497	79.8149	171.682	216.033	136.218
7	0.934394	231.52	-13.5109	L SM	100	28	135.661	198.695	280.354	94.736	185.618	247.757	153.021
8	0.934394	257.651	-11.8416	L SM	100	28	139.864	204.851	305.049	107.853	197.196	275.724	167.871
9	0.934394	280.338	-10.1825	L SM	100	28	143.255	209.817	325.738	119.202	206.536	300.007	180.805
10	0.934394	311.13	-8.532	L SM	100	28	150.591	220.561	355.554	128.812	226.742	332.962	204.15
11	0.934394	391.06	-6.8886	L SM	100	28	178.402	261.294	440.058	136.708	303.35	418.505	281.797
12	0.934394	474.169	-5.25088	L SM	100	28	207.54	303.972	526.524	142.909	383.615	507.451	364.542
13	0.934394	552.835	-3.61746	L SM	100	28	234.93	344.088	606.495	147.431	459.064	591.642	444.211
14	0.934394	625.076	-1.98698	L SM	100	28	259.843	380.577	677.973	150.286	527.687	668.958	518.672
15	0.934394	693.906	-0.358107	L SM	100	28	283.524	415.26	744.398	151.479	592.919	742.626	591.147
16	0.934394	759.509	1.27048	L SM	100	28	306.075	448.289	806.052	151.015	655.037	812.84	661.825
17	0.934394	821.882	2.90009	L SM	100	28	327.521	479.701	863.006	148.892	714.114	879.598	730.706
18	0.934394	881.208	4.53205	L SM	100	28	347.959	509.635	915.516	145.104	770.412	943.096	797.992
19	0.934394	938.122	6.16771	L SM	100	28	367.646	538.469	964.283	139.643	824.64	1004.01	864.37
20	0.934394	991.851	7.80844	L SM	100	28	386.31	565.805	1008.55	132.494	876.051	1061.52	929.027
21	0.934394	1042.26	9.45564	L SM	100	28	403.922	591.6	1048.21	123.641	924.566	1115.48	991.838
22	0.934394	1089.31	11.1108	L SM	100	28	420.488	615.864	1083.25	113.061	970.193	1165.83	1052.77
23	0.934394	1132.94	12.7754	L SM	100	28	436.01	638.597	1113.68	100.725	1012.95	1212.54	1111.82
24	0.934394	1173.09	14.451	L SM	100	28	450.485	659.798	1139.43	86.602	1052.83	1255.52	1168.92
25	0.934394	1209.69	16.1394	L SM	100	28	463.907	679.457	1160.45	70.6527	1089.8	1294.7	1224.05
26	0.934394	1242.64	17.8423	L SM	100	28	476.266	697.558	1176.67	52.8327	1123.84	1329.97	1277.14
27	0.934394	1271.85	19.5617	L SM	100	28	487.548	714.082	1188	33.0899	1154.92	1361.25	1328.16
28	0.934394	1297.21	21.2996	L SM	100	28	497.733	729	1194.34	11.3648	1182.97	1388.39	1377.03
29	0.882822	1246.17	23.0092	L SM	100	28	503.188	736.99	1198	0	1198	1411.69	1411.69
30	0.882822	1263.47	24.6916	L SM	100	28	503.793	737.875	1199.67	0	1199.67	1431.3	1431.3
31	0.690799	999.565	26.2092	MD Intbd SP-SM, SM, ML	75	32	552.558	809.298	1175.12	0	1175.12	1447.12	1447.12
32	0.690799	1008.38	27.559	MD Intbd SP-SM, SM, ML	75	32	551.305	807.463	1172.19	0	1172.19	1459.9	1459.9
33	1.00959	1521.67	29.2462	MD Intbd SP-SM, SM, ML	75	32	408.165	597.815	1278.8	442.121	836.682	1507.35	1065.23
34	1.00959	1528.91	31.2839	MD Intbd SP-SM, SM, ML	75	32	414.929	607.722	1262.41	409.876	852.537	1514.53	1104.66
35	1.00959	1530.11	33.3666	MD Intbd SP-SM, SM, ML	75	32	420.069	615.25	1239.1	374.525	864.578	1515.74	1141.21
36	1.00959	1524.86	35.5005	MD Intbd SP-SM, SM, ML	75	32	423.498	620.272	1208.46	335.845	872.619	1510.55	1174.7
37	0.825126	1236.49	37.4872	L SM/SP-SM	50	28	367.734	538.598	1216.67	297.75	918.92	1498.71	1200.96
38	0.825126	1221.79	39.3227	L SM/SP-SM	50	28	367.771	538.652	1179.64	260.62	919.021	1480.9	1220.28
39	0.825126	1202.46	41.2078	L SM/SP-SM	50	28	366.594	536.928	1136.47	220.693	915.782	1457.49	1236.8
40	0.825126	1178.1	43.149	L SM/SP-SM	50	28	364.112	533.293	1086.67	177.721	908.945	1427.98	1250.26

41	0.820726	1140.62	45.1485	MD SM	100	30	404.193	591.997	983.706	131.544	852.162	1390	1258.45
42	0.820726	1101.77	47.2154	MD SM	100	30	396.443	580.647	914.323	81.8207	832.503	1342.67	1260.85
43	0.820726	1049.37	49.3664	MD SM	100	30	384.651	563.375	830.585	27.997	802.588	1278.83	1250.84
44	0.870048	1023.11	51.6875	MD SM	100	30	354.869	519.755	727.033	0	727.033	1176.17	1176.17
45	0.870048	920.635	54.2067	MD SM	100	30	313.885	459.729	623.068	0	623.068	1058.39	1058.39
46	0.870048	805.49	56.891	MD SM	100	30	270.063	395.545	511.899	0	511.899	926.033	926.033
47	0.870048	674.717	59.7856	MD SM	100	30	223.064	326.708	392.67	0	392.67	775.71	775.71
48	0.870048	523.802	62.96	MD SM	100	30	172.47	252.606	264.322	0	264.322	602.229	602.229
49	0.870048	345.155	66.5317	MD SM	100	30	117.778	172.503	125.579	0	125.579	396.861	396.861
50	0.870048	123.846	70.7338	MD SM	100	30	58.4763	85.6468	-24.8604	0	-24.8604	142.438	142.438

A-A' Post-Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	686.247	1361.63	2059.04	0	2059.04	2003.55	2003.55
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	533.02	1057.6	1572.49	0	1572.49	1539.81	1539.81
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	459.452	911.631	1338.89	0	1338.89	1319.67	1319.67
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	454.368	901.543	1322.75	0	1322.75	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	450.679	894.224	1311.03	0	1311.03	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	446.913	886.751	1299.08	0	1299.08	1306.42	1306.42
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	442.652	878.297	1285.54	0	1285.54	1301.41	1301.41
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	437.902	868.872	1270.46	0	1270.46	1294.68	1294.68
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	432.667	858.485	1253.84	0	1253.84	1286.22	1286.22
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	427.05	847.339	1236	0	1236	1276.34	1276.34
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	421.437	836.203	1218.18	0	1218.18	1266.3	1266.3
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	415.409	824.243	1199.04	0	1199.04	1254.72	1254.72
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	408.901	811.33	1178.37	0	1178.37	1241.36	1241.36
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	401.916	797.47	1156.19	0	1156.19	1226.22	1226.22
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	394.455	782.665	1132.5	0	1132.5	1209.28	1209.28
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	387.11	768.093	1109.18	0	1109.18	1192.52	1192.52
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	390.097	774.019	1118.66	0	1118.66	1210.8	1210.8
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	396.489	786.701	1138.96	0	1138.96	1241.02	1241.02
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	402.214	798.061	1157.14	0	1157.14	1269.33	1269.33
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	407.27	808.092	1173.19	0	1173.19	1295.71	1295.71
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	411.653	816.79	1187.11	0	1187.11	1320.13	1320.13
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	415.36	824.144	1198.88	0	1198.88	1342.55	1342.55

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	418.384	830.144	1208.48	0	1208.48	1362.92	1362.92
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	420.719	834.779	1215.9	0	1215.9	1381.21	1381.21
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	422.358	838.031	1221.11	0	1221.11	1397.35	1397.35
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	360.478	715.25	1251.15	0	1251.15	1410.95	1410.95
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	360.664	715.619	1251.84	0	1251.84	1421.75	1421.75
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	360.102	714.503	1249.75	0	1249.75	1429.73	1429.73
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	358.775	711.871	1244.8	0	1244.8	1434.78	1434.78
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	310.467	616.019	1279.51	214.982	1064.53	1452.87	1237.89
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	308.774	612.66	1250.51	192.303	1058.21	1431.54	1239.24
32	0.7263	1018	31.601	L SM/SP-SM	50	28	305.382	605.929	1213.89	168.337	1045.55	1401.77	1233.43
33	0.775081	1059.43	32.878	MD SM	100	30	342.414	679.408	1145.7	142.134	1003.57	1367.03	1224.9
34	0.775081	1028.33	34.2159	MD SM	100	30	336.82	668.308	1097.87	113.538	984.334	1326.91	1213.37
35	0.775081	994.541	35.5753	MD SM	100	30	330.749	656.262	1046.75	83.2762	963.474	1283.33	1200.05
36	0.775081	957.925	36.9583	MD SM	100	30	324.183	643.235	992.173	51.2631	940.91	1236.09	1184.83
37	0.775081	918.321	38.3668	MD SM	100	30	317.1	629.18	933.97	17.4031	916.567	1185	1167.6
38	0.746929	844.254	39.7768	MD SM	100	30	305.377	605.919	876.277	0	876.277	1130.5	1130.5
39	0.746929	801.316	41.1896	MD SM	100	30	289.025	573.474	820.081	0	820.081	1073.01	1073.01
40	0.746929	755.305	42.6336	MD SM	100	30	271.868	539.432	761.118	0	761.118	1011.41	1011.41
41	0.746929	706.003	44.112	MD SM	100	30	253.873	503.727	699.276	0	699.276	945.399	945.399
42	0.746929	653.161	45.6284	MD SM	100	30	235.005	466.289	634.431	0	634.431	874.647	874.647
43	0.746929	596.485	47.187	MD SM	100	30	215.223	427.04	566.449	0	566.449	798.763	798.763
44	0.746929	535.631	48.7929	MD SM	100	30	194.485	385.892	495.18	0	495.18	717.283	717.283
45	0.746929	470.187	50.452	MD SM	100	30	172.743	342.752	420.459	0	420.459	629.656	629.656
46	0.746929	399.658	52.1716	MD SM	100	30	149.945	297.516	342.108	0	342.108	535.218	535.218
47	0.746929	323.432	53.9606	MD SM	100	30	126.033	250.071	259.931	0	259.931	433.15	433.15
48	0.746929	240.746	55.8301	MD SM	100	30	100.948	200.298	173.722	0	173.722	322.43	322.43
49	0.746929	150.625	57.7945	MD SM	100	30	74.6283	148.075	83.2684	0	83.2684	201.751	201.751
50	0.746929	51.7842	59.8728	MD SM	100	30	47.016	93.2877	-11.6261	0	-11.6261	69.3922	69.3922

A-A' Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	686.247	1361.63	2059.04	0	2059.04	2003.55	2003.55
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	533.02	1057.6	1572.49	0	1572.49	1539.81	1539.81
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	459.452	911.631	1338.89	0	1338.89	1319.67	1319.67
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	454.368	901.543	1322.75	0	1322.75	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	450.679	894.224	1311.03	0	1311.03	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	446.913	886.751	1299.08	0	1299.08	1306.42	1306.42
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	442.652	878.297	1285.54	0	1285.54	1301.41	1301.41
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	437.902	868.872	1270.46	0	1270.46	1294.68	1294.68
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	432.667	858.485	1253.84	0	1253.84	1286.22	1286.22
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	427.05	847.339	1236	0	1236	1276.34	1276.34
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	421.437	836.203	1218.18	0	1218.18	1266.3	1266.3
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	415.409	824.243	1199.04	0	1199.04	1254.72	1254.72
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	408.901	811.33	1178.37	0	1178.37	1241.36	1241.36
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	401.916	797.47	1156.19	0	1156.19	1226.22	1226.22
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	394.455	782.665	1132.5	0	1132.5	1209.28	1209.28
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	387.11	768.093	1109.18	0	1109.18	1192.52	1192.52
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	390.097	774.019	1118.66	0	1118.66	1210.8	1210.8
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	396.489	786.701	1138.96	0	1138.96	1241.02	1241.02
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	402.214	798.061	1157.14	0	1157.14	1269.33	1269.33
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	407.27	808.092	1173.19	0	1173.19	1295.71	1295.71
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	411.653	816.79	1187.11	0	1187.11	1320.13	1320.13
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	415.36	824.144	1198.88	0	1198.88	1342.55	1342.55

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	418.384	830.144	1208.48	0	1208.48	1362.92	1362.92
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	420.719	834.779	1215.9	0	1215.9	1381.21	1381.21
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	422.358	838.031	1221.11	0	1221.11	1397.35	1397.35
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	360.478	715.25	1251.15	0	1251.15	1410.95	1410.95
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	360.664	715.619	1251.84	0	1251.84	1421.75	1421.75
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	360.102	714.503	1249.75	0	1249.75	1429.73	1429.73
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	358.775	711.871	1244.8	0	1244.8	1434.78	1434.78
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	310.467	616.019	1279.51	214.982	1064.53	1452.87	1237.89
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	308.774	612.66	1250.51	192.303	1058.21	1431.54	1239.24
32	0.7263	1018	31.601	L SM/SP-SM	50	28	305.382	605.929	1213.89	168.337	1045.55	1401.77	1233.43
33	0.775081	1059.43	32.878	MD SM	100	30	342.414	679.408	1145.7	142.134	1003.57	1367.03	1224.9
34	0.775081	1028.33	34.2159	MD SM	100	30	336.82	668.308	1097.87	113.538	984.334	1326.91	1213.37
35	0.775081	994.541	35.5753	MD SM	100	30	330.749	656.262	1046.75	83.2762	963.474	1283.33	1200.05
36	0.775081	957.925	36.9583	MD SM	100	30	324.183	643.235	992.173	51.2631	940.91	1236.09	1184.83
37	0.775081	918.321	38.3668	MD SM	100	30	317.1	629.18	933.97	17.4031	916.567	1185	1167.6
38	0.746929	844.254	39.7768	MD SM	100	30	305.377	605.919	876.277	0	876.277	1130.5	1130.5
39	0.746929	801.316	41.1896	MD SM	100	30	289.025	573.474	820.081	0	820.081	1073.01	1073.01
40	0.746929	755.305	42.6336	MD SM	100	30	271.868	539.432	761.118	0	761.118	1011.41	1011.41
41	0.746929	706.003	44.112	MD SM	100	30	253.873	503.727	699.276	0	699.276	945.399	945.399
42	0.746929	653.161	45.6284	MD SM	100	30	235.005	466.289	634.431	0	634.431	874.647	874.647
43	0.746929	596.485	47.187	MD SM	100	30	215.223	427.04	566.449	0	566.449	798.763	798.763
44	0.746929	535.631	48.7929	MD SM	100	30	194.485	385.892	495.18	0	495.18	717.283	717.283
45	0.746929	470.187	50.452	MD SM	100	30	172.743	342.752	420.459	0	420.459	629.656	629.656
46	0.746929	399.658	52.1716	MD SM	100	30	149.945	297.516	342.108	0	342.108	535.218	535.218
47	0.746929	323.432	53.9606	MD SM	100	30	126.033	250.071	259.931	0	259.931	433.15	433.15
48	0.746929	240.746	55.8301	MD SM	100	30	100.948	200.298	173.722	0	173.722	322.43	322.43
49	0.746929	150.625	57.7945	MD SM	100	30	74.6283	148.075	83.2684	0	83.2684	201.751	201.751
50	0.746929	51.7842	59.8728	MD SM	100	30	47.016	93.2877	-11.6261	0	-11.6261	69.3922	69.3922

A-A' Post-Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.7468

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML - No Cohes	0	32	738.07	1289.26	2063.24	0	2063.24	2003.56	2003.56
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML - No Cohes	0	32	563.18	983.762	1574.35	0	1574.35	1539.82	1539.82
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML - No Cohes	0	32	479.248	837.151	1339.73	0	1339.73	1319.68	1319.68
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML - No Cohes	0	32	473.328	826.81	1323.18	0	1323.18	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML - No Cohes	0	32	469.005	819.258	1311.08	0	1311.08	1309.68	1309.68
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML - No Cohes	0	32	464.603	811.569	1298.78	0	1298.78	1306.41	1306.41
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML - No Cohes	0	32	459.649	802.914	1284.93	0	1284.93	1301.41	1301.41
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML - No Cohes	0	32	454.149	793.307	1269.56	0	1269.56	1294.68	1294.68
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML - No Cohes	0	32	448.11	782.758	1252.68	0	1252.68	1286.21	1286.21
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML - No Cohes	0	32	441.649	771.472	1234.61	0	1234.61	1276.33	1276.33
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML - No Cohes	0	32	435.204	760.214	1216.6	0	1216.6	1266.29	1266.29
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML - No Cohes	0	32	428.3	748.155	1197.3	0	1197.3	1254.7	1254.7
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML - No Cohes	0	32	420.866	735.169	1176.52	0	1176.52	1241.35	1241.35
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML - No Cohes	0	32	412.905	721.263	1154.26	0	1154.26	1226.21	1226.21
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML - No Cohes	0	32	404.42	706.441	1130.54	0	1130.54	1209.26	1209.26
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML - No Cohes	0	32	396.081	691.874	1107.23	0	1107.23	1192.5	1192.5
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML - No Cohes	0	32	399.379	697.635	1116.45	0	1116.45	1210.78	1210.78

18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML - No Cohes	0	32	406.501	710.076	1136.36	0	1136.36	1240.99	1240.99
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML - No Cohes	0	32	412.862	721.188	1154.14	0	1154.14	1269.3	1269.3
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML - No Cohes	0	32	418.462	730.97	1169.8	0	1169.8	1295.68	1295.68
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML - No Cohes	0	32	423.299	739.418	1183.32	0	1183.32	1320.1	1320.1
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML - No Cohes	0	32	427.368	746.527	1194.69	0	1194.69	1342.52	1342.52
23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML - No Cohes	0	32	430.666	752.288	1203.91	0	1203.91	1362.89	1362.89
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML - No Cohes	0	32	433.188	756.693	1210.97	0	1210.97	1381.17	1381.17
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML - No Cohes	0	32	434.926	759.728	1215.82	0	1215.82	1397.31	1397.31
26	0.832581	1174.63	23.9074	L SM/SP-SM - No Cohes	0	28	378.409	661.005	1243.17	0	1243.17	1410.92	1410.92
27	0.832581	1183.61	25.2243	L SM/SP-SM - No Cohes	0	28	378.484	661.135	1243.41	0	1243.41	1421.71	1421.71
28	0.832581	1190.25	26.5556	L SM/SP-SM - No Cohes	0	28	377.719	659.799	1240.9	0	1240.9	1429.68	1429.68
29	0.832581	1194.45	27.9026	L SM/SP-SM - No Cohes	0	28	376.099	656.97	1235.58	0	1235.58	1434.74	1434.74
30	0.7263	1055.12	29.1784	L SM/SP-SM - No Cohes	0	28	322.051	562.558	1272.99	214.982	1058.01	1452.82	1237.84
31	0.7263	1039.63	30.3822	L SM/SP-SM - No Cohes	0	28	320.079	559.114	1243.85	192.303	1051.54	1431.5	1239.2
32	0.7263	1018	31.601	L SM/SP-SM - No Cohes	0	28	316.214	552.362	1207.18	168.337	1038.84	1401.72	1233.39
33	0.775081	1059.43	32.878	MD SM - No Cohes	0	30	333.568	582.676	1151.36	142.134	1009.22	1366.97	1224.83
34	0.775081	1028.33	34.2159	MD SM - No Cohes	0	30	327.432	571.958	1104.2	113.538	990.66	1326.85	1213.32
35	0.775081	994.541	35.5753	MD SM - No Cohes	0	30	320.781	560.341	1053.82	83.2762	970.539	1283.26	1199.99
36	0.775081	957.925	36.9583	MD SM - No Cohes	0	30	313.599	547.794	1000.07	51.2631	948.808	1236.03	1184.76
37	0.775081	918.321	38.3668	MD SM - No Cohes	0	30	305.861	534.278	942.799	17.4031	925.396	1184.93	1167.53
38	0.746929	844.254	39.7768	MD SM - No Cohes	0	30	293.007	511.824	886.505	0	886.505	1130.43	1130.43
39	0.746929	801.316	41.1896	MD SM - No Cohes	0	30	275.066	480.486	832.225	0	832.225	1072.94	1072.94
40	0.746929	755.305	42.6336	MD SM - No Cohes	0	30	256.283	447.675	775.395	0	775.395	1011.34	1011.34
41	0.746929	706.003	44.112	MD SM - No Cohes	0	30	236.626	413.339	715.925	0	715.925	945.328	945.328
42	0.746929	653.161	45.6284	MD SM - No Cohes	0	30	216.067	377.425	653.718	0	653.718	874.577	874.577
43	0.746929	596.485	47.187	MD SM - No Cohes	0	30	194.568	339.871	588.674	0	588.674	798.692	798.692

44	0.746929	535.631	48.7929	MD SM - No Cohes	0	30	172.095	300.615	520.681	0	520.681	717.213	717.213
45	0.746929	470.187	50.452	MD SM - No Cohes	0	30	148.608	259.588	449.62	0	449.62	629.588	629.588
46	0.746929	399.658	52.1716	MD SM - No Cohes	0	30	124.067	216.72	375.369	0	375.369	535.151	535.151
47	0.746929	323.432	53.9606	MD SM - No Cohes	0	30	98.4303	171.938	297.804	0	297.804	433.086	433.086
48	0.746929	240.746	55.8301	MD SM - No Cohes	0	30	71.659	125.174	216.808	0	216.808	322.37	322.37
49	0.746929	150.625	57.7945	MD SM - No Cohes	0	30	43.7216	76.3729	132.282	0	132.282	201.696	201.696
50	0.746929	51.7842	59.8728	MD SM - No Cohes	0	30	14.6022	25.5072	44.1799	0	44.1799	69.3425	69.3425

A-A' Post-Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.05379

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	1322.66	1393.81	2110.55	0	2110.55	2003.59	2003.59
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	1021.39	1076.33	1602.45	0	1602.45	1539.83	1539.83
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	875.422	922.511	1356.3	0	1356.3	1319.68	1319.68
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	860.927	907.236	1331.86	0	1331.86	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	849.284	894.967	1312.22	0	1312.22	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	837.679	882.738	1292.65	0	1292.65	1306.41	1306.41
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	825.324	869.718	1271.81	0	1271.81	1301.4	1301.4
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	812.233	855.923	1249.74	0	1249.74	1294.67	1294.67
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	798.42	841.367	1226.44	0	1226.44	1286.2	1286.2
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	784.074	826.249	1202.25	0	1202.25	1276.31	1276.31
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	769.908	811.321	1178.36	0	1178.36	1266.27	1266.27
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	755.146	795.765	1153.47	0	1153.47	1254.68	1254.68
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	739.677	779.464	1127.38	0	1127.38	1241.32	1241.32
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	723.508	762.426	1100.11	0	1100.11	1226.18	1226.18
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	706.65	744.661	1071.68	0	1071.68	1209.23	1209.23
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	690.166	727.29	1043.88	0	1043.88	1192.46	1192.46
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	692.166	729.398	1047.26	0	1047.26	1210.74	1210.74
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	700.156	737.817	1060.73	0	1060.73	1240.95	1240.95
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	706.887	744.91	1072.08	0	1072.08	1269.25	1269.25
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	712.37	750.688	1081.33	0	1081.33	1295.63	1295.63
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	716.61	755.156	1088.48	0	1088.48	1320.04	1320.04
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	719.614	758.322	1093.54	0	1093.54	1342.45	1342.45

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	721.386	760.189	1096.53	0	1096.53	1362.82	1362.82
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	721.925	760.757	1097.44	0	1097.44	1381.09	1381.09
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	721.231	760.026	1096.27	0	1096.27	1397.23	1397.23
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	620.522	653.9	1135.77	0	1135.77	1410.85	1410.85
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	617.892	651.128	1130.56	0	1130.56	1421.64	1421.64
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	613.953	646.978	1122.75	0	1122.75	1429.6	1429.6
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	608.694	641.436	1112.33	0	1112.33	1434.65	1434.65
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	524.275	552.476	1160	214.982	945.021	1452.75	1237.77
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	519.105	547.028	1127.08	192.303	934.775	1431.42	1239.11
32	0.7263	1018	31.601	L SM/SP-SM	50	28	511.081	538.572	1087.21	168.337	918.87	1401.64	1233.3
33	0.775081	1059.43	32.878	MD SM	100	30	565.605	596.029	1001.28	142.134	859.147	1366.88	1224.75
34	0.775081	1028.33	34.2159	MD SM	100	30	553.414	583.182	950.435	113.538	836.897	1326.76	1213.22
35	0.775081	994.541	35.5753	MD SM	100	30	540.483	569.556	896.571	83.2762	813.294	1283.17	1199.89
36	0.775081	957.925	36.9583	MD SM	100	30	526.789	555.125	839.563	51.2631	788.3	1235.93	1184.66
37	0.775081	918.321	38.3668	MD SM	100	30	512.304	539.861	779.265	17.4031	761.862	1184.83	1167.43
38	0.746929	844.254	39.7768	MD SM	100	30	490.472	516.855	722.014	0	722.014	1130.32	1130.32
39	0.746929	801.316	41.1896	MD SM	100	30	461.44	486.261	669.025	0	669.025	1072.84	1072.84
40	0.746929	755.305	42.6336	MD SM	100	30	431.357	454.56	614.116	0	614.116	1011.24	1011.24
41	0.746929	706.003	44.112	MD SM	100	30	400.2	421.727	557.247	0	557.247	945.23	945.23
42	0.746929	653.161	45.6284	MD SM	100	30	367.946	387.738	498.376	0	498.376	874.483	874.483
43	0.746929	596.485	47.187	MD SM	100	30	334.572	352.569	437.463	0	437.463	798.603	798.603
44	0.746929	535.631	48.7929	MD SM	100	30	300.057	316.197	374.465	0	374.465	717.131	717.131
45	0.746929	470.187	50.452	MD SM	100	30	264.378	278.599	309.343	0	309.343	629.512	629.512
46	0.746929	399.658	52.1716	MD SM	100	30	227.52	239.758	242.068	0	242.068	535.085	535.085
47	0.746929	323.432	53.9606	MD SM	100	30	189.472	199.663	172.622	0	172.622	433.03	433.03
48	0.746929	240.746	55.8301	MD SM	100	30	150.237	158.318	101.01	0	101.01	322.327	322.327
49	0.746929	150.625	57.7945	MD SM	100	30	109.842	115.75	27.2803	0	27.2803	201.669	201.669
50	0.746929	51.7842	59.8728	MD SM	100	30	68.3518	72.0284	-48.4481	0	-48.4481	69.336	69.336

B-B' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.97945	106.401	-27.3499	MD ML	150	32	61.7203	203.515	85.6424	0	85.6424	53.718	53.718
2	1.97945	313.348	-26.0486	MD ML	150	32	83.1863	274.297	198.916	0	198.916	158.256	158.256
3	2.23261	594.295	-24.6802	MD ML	150	32	96.7053	318.874	310.58	40.3257	270.254	266.141	225.815
4	2.23261	841.007	-23.2452	MD ML	150	32	102.696	338.627	420.758	118.89	301.868	376.647	257.757
5	2.23261	1122.56	-21.8256	MD ML	150	32	112.677	371.539	547.876	193.342	354.534	502.75	309.408
6	2.23261	1507.02	-20.4199	MD ML	150	32	132.772	437.8	724.382	263.806	460.576	674.952	411.146
7	2.30514	1960	-19.0044	MD Intbd SP-SM, SM, ML	75	32	129.516	427.063	894.832	331.414	563.418	850.225	518.811
8	2.30514	2290.89	-17.5785	MD Intbd SP-SM, SM, ML	75	32	144.684	477.079	1039.61	396.145	643.462	993.77	597.625
9	2.30514	2554	-16.1638	MD Intbd SP-SM, SM, ML	75	32	154.596	509.763	1152.72	456.95	695.767	1107.91	650.959
10	2.30514	2800.09	-14.7591	MD Intbd SP-SM, SM, ML	75	32	163.714	539.828	1257.8	513.918	743.879	1214.67	700.748
11	2.30514	3029.52	-13.3634	MD Intbd SP-SM, SM, ML	75	32	172.065	567.364	1355.07	567.126	787.948	1314.2	747.072
12	2.09162	2933.92	-12.0398	L Intbd SP -SM, SM, ML	75	28	155.174	511.666	1435.76	614.509	821.249	1402.66	788.153
13	2.09162	3097.29	-10.7866	L Intbd SP -SM, SM, ML	75	28	160.604	529.573	1511.37	656.445	854.926	1480.77	824.328
14	2.09162	3251.63	-9.53857	L Intbd SP -SM, SM, ML	75	28	165.775	546.623	1582.42	695.428	886.992	1554.56	859.136
15	2.09162	3399.48	-8.29514	L Intbd SP -SM, SM, ML	75	28	170.884	563.468	1650.17	731.492	918.674	1625.25	893.76
16	2.30755	3907.91	-6.99183	L Intbd SM, ML	150	28	198.951	656.016	1717.91	766.225	951.68	1693.51	927.281
17	2.30755	4058.4	-5.62832	L Intbd SM, ML	150	28	203.426	670.772	1778.77	799.342	979.431	1758.73	959.384
18	2.30755	4193.55	-4.26801	L Intbd SM, ML	150	28	207.351	683.714	1832.78	829.004	1003.77	1817.3	988.297
19	2.30755	4313.46	-2.9101	L Intbd SM, ML	150	28	210.734	694.869	1879.98	855.229	1024.75	1869.27	1014.04
20	2.30755	4418.19	-1.55383	L Intbd SM, ML	150	28	213.582	704.262	1920.45	878.035	1042.42	1914.66	1036.62
21	2.30755	4511.14	-0.198436	L Intbd SM, ML	150	28	216.138	712.689	1955.7	897.431	1058.26	1954.95	1057.52
22	2.30755	4597.86	1.15685	L Intbd SM, ML	150	28	218.787	721.423	1988.11	913.419	1074.69	1992.53	1079.11
23	2.30755	4669.91	2.51279	L Intbd SM, ML	150	28	220.944	728.535	2014.07	925.999	1088.07	2023.76	1097.76
24	2.30755	4726.81	3.87013	L Intbd SM, ML	150	28	222.578	733.925	2033.36	935.162	1098.2	2048.42	1113.26
25	2.30755	4768.48	5.22966	L Intbd SM, ML	150	28	223.693	737.602	2046.01	940.895	1105.12	2066.49	1125.59
26	2.30755	4794.85	6.59215	L Intbd SM, ML	150	28	224.29	739.571	2052	943.178	1108.82	2077.92	1134.74
27	2.30755	4805.79	7.95839	L Intbd SM, ML	150	28	224.37	739.833	2051.3	941.986	1109.31	2082.67	1140.68
28	2.30755	4801.17	9.32921	L Intbd SM, ML	150	28	223.932	738.388	2043.88	937.286	1106.6	2080.67	1143.38
29	2.30755	4780.81	10.7054	L Intbd SM, ML	150	28	222.975	735.232	2029.7	929.041	1100.66	2071.86	1142.81
30	2.30755	4744.52	12.088	L Intbd SM, ML	150	28	221.496	730.357	2008.7	917.204	1091.49	2056.13	1138.93
31	2.30755	4692.06	13.4777	L Intbd SM, ML	150	28	219.494	723.754	1980.8	901.724	1079.07	2033.4	1131.68

32	2.30755	4623.15	14.8755	L Intbd SM, ML	150	28	216.963	715.409	1945.92	882.538	1063.38	2003.55	1121.01
33	2.30755	4537.5	16.2824	L Intbd SM, ML	150	28	213.899	705.307	1903.96	859.578	1044.38	1966.44	1106.86
34	2.30755	4434.75	17.6996	L Intbd SM, ML	150	28	210.296	693.426	1854.8	832.766	1022.03	1921.91	1089.15
35	2.30755	4314.52	19.128	L Intbd SM, ML	150	28	206.146	679.743	1798.32	802.013	996.303	1869.81	1067.8
36	2.30755	4176.35	20.5689	L Intbd SM, ML	150	28	201.442	664.232	1734.35	767.219	967.131	1809.94	1042.72
37	2.59262	4504.09	22.1143	L Intbd SP-SM, SM, ML	75	28	174.462	575.267	1666.45	725.588	940.863	1737.34	1011.76
38	2.59262	4279.4	23.7679	L Intbd SP-SM, SM, ML	75	28	167.924	553.709	1576.73	676.413	900.32	1650.68	974.271
39	2.59262	4026.77	25.4428	L Intbd SP-SM, SM, ML	75	28	160.647	529.715	1476.82	621.624	855.195	1553.25	931.623
40	2.32123	3423.06	27.0512	MD Intbd SP-SM, SM, ML	75	32	178.025	587.017	1383.86	564.464	819.399	1474.77	910.308
41	2.32123	3257.1	28.5927	MD Intbd SP-SM, SM, ML	75	32	174.856	576.566	1307.98	505.302	802.676	1403.28	897.981
42	2.32123	3008.93	30.1573	MD Intbd SP-SM, SM, ML	75	32	166.501	549.018	1199.63	441.044	758.588	1296.37	855.328
43	2.32123	2733.98	31.7471	MD Intbd SP-SM, SM, ML	75	32	157.149	518.18	1080.68	371.449	709.235	1177.92	806.471
44	2.32123	2433.98	33.3647	MD Intbd SP-SM, SM, ML	75	32	146.993	484.691	951.885	296.243	655.642	1048.68	752.437
45	2.20441	2023.83	34.9707	MD ML	150	32	157.445	519.155	808.078	217.307	590.771	918.202	700.895
46	2.20441	1741.72	36.5666	MD ML	150	32	148.815	490.698	679.839	134.609	545.23	790.223	655.614
47	2.20441	1445.39	38.1961	MD ML	150	32	140.169	462.192	545.514	45.9016	499.612	655.801	609.899
48	2.68373	1335.17	40.0492	MD ML	150	32	120.583	397.608	396.256	0	396.256	497.614	497.614
49	2.68373	837.22	42.1415	MD ML	150	32	89.3103	294.49	231.233	0	231.233	312.048	312.048
50	2.68373	288.043	44.3055	MD ML	150	32	55.5637	183.215	53.1546	0	53.1546	107.387	107.387

B-B' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.97945	106.401	-27.3499	MD ML	150	32	61.7203	203.515	85.6424	0	85.6424	53.718	53.718
2	1.97945	313.348	-26.0486	MD ML	150	32	83.1863	274.297	198.916	0	198.916	158.256	158.256
3	2.23261	594.295	-24.6802	MD ML	150	32	96.7053	318.874	310.58	40.3257	270.254	266.141	225.815
4	2.23261	841.007	-23.2452	MD ML	150	32	102.696	338.627	420.758	118.89	301.868	376.647	257.757
5	2.23261	1122.56	-21.8256	MD ML	150	32	112.677	371.539	547.876	193.342	354.534	502.75	309.408
6	2.23261	1507.02	-20.4199	MD ML	150	32	132.772	437.8	724.382	263.806	460.576	674.952	411.146
7	2.30514	1960	-19.0044	MD Intbd SP-SM, SM, ML	75	32	129.516	427.063	894.832	331.414	563.418	850.225	518.811
8	2.30514	2290.89	-17.5785	MD Intbd SP-SM, SM, ML	75	32	144.684	477.079	1039.61	396.145	643.462	993.77	597.625
9	2.30514	2554	-16.1638	MD Intbd SP-SM, SM, ML	75	32	154.596	509.763	1152.72	456.95	695.767	1107.91	650.959
10	2.30514	2800.09	-14.7591	MD Intbd SP-SM, SM, ML	75	32	163.714	539.828	1257.8	513.918	743.879	1214.67	700.748
11	2.30514	3029.52	-13.3634	MD Intbd SP-SM, SM, ML	75	32	172.065	567.364	1355.07	567.126	787.948	1314.2	747.072
12	2.09162	2933.92	-12.0398	L Intbd SP -SM, SM, ML	75	28	155.174	511.666	1435.76	614.509	821.249	1402.66	788.153
13	2.09162	3097.29	-10.7866	L Intbd SP -SM, SM, ML	75	28	160.604	529.573	1511.37	656.445	854.926	1480.77	824.328
14	2.09162	3251.63	-9.53857	L Intbd SP -SM, SM, ML	75	28	165.775	546.623	1582.42	695.428	886.992	1554.56	859.136
15	2.09162	3399.48	-8.29514	L Intbd SP -SM, SM, ML	75	28	170.884	563.468	1650.17	731.492	918.674	1625.25	893.76
16	2.30755	3907.91	-6.99183	L Intbd SM, ML	150	28	198.951	656.016	1717.91	766.225	951.68	1693.51	927.281
17	2.30755	4058.4	-5.62832	L Intbd SM, ML	150	28	203.426	670.772	1778.77	799.342	979.431	1758.73	959.384
18	2.30755	4193.55	-4.26801	L Intbd SM, ML	150	28	207.351	683.714	1832.78	829.004	1003.77	1817.3	988.297
19	2.30755	4313.46	-2.9101	L Intbd SM, ML	150	28	210.734	694.869	1879.98	855.229	1024.75	1869.27	1014.04
20	2.30755	4418.19	-1.55383	L Intbd SM, ML	150	28	213.582	704.262	1920.45	878.035	1042.42	1914.66	1036.62
21	2.30755	4511.14	-0.198436	L Intbd SM, ML	150	28	216.138	712.689	1955.7	897.431	1058.26	1954.95	1057.52
22	2.30755	4597.86	1.15685	L Intbd SM, ML	150	28	218.787	721.423	1988.11	913.419	1074.69	1992.53	1079.11
23	2.30755	4669.91	2.51279	L Intbd SM, ML	150	28	220.944	728.535	2014.07	925.999	1088.07	2023.76	1097.76
24	2.30755	4726.81	3.87013	L Intbd SM, ML	150	28	222.578	733.925	2033.36	935.162	1098.2	2048.42	1113.26
25	2.30755	4768.48	5.22966	L Intbd SM, ML	150	28	223.693	737.602	2046.01	940.895	1105.12	2066.49	1125.59
26	2.30755	4794.85	6.59215	L Intbd SM, ML	150	28	224.29	739.571	2052	943.178	1108.82	2077.92	1134.74
27	2.30755	4805.79	7.95839	L Intbd SM, ML	150	28	224.37	739.833	2051.3	941.986	1109.31	2082.67	1140.68
28	2.30755	4801.17	9.32921	L Intbd SM, ML	150	28	223.932	738.388	2043.88	937.286	1106.6	2080.67	1143.38
29	2.30755	4780.81	10.7054	L Intbd SM, ML	150	28	222.975	735.232	2029.7	929.041	1100.66	2071.86	1142.81
30	2.30755	4744.52	12.088	L Intbd SM, ML	150	28	221.496	730.357	2008.7	917.204	1091.49	2056.13	1138.93
31	2.30755	4692.06	13.4777	L Intbd SM, ML	150	28	219.494	723.754	1980.8	901.724	1079.07	2033.4	1131.68

32	2.30755	4623.15	14.8755	L Intbd SM, ML	150	28	216.963	715.409	1945.92	882.538	1063.38	2003.55	1121.01
33	2.30755	4537.5	16.2824	L Intbd SM, ML	150	28	213.899	705.307	1903.96	859.578	1044.38	1966.44	1106.86
34	2.30755	4434.75	17.6996	L Intbd SM, ML	150	28	210.296	693.426	1854.8	832.766	1022.03	1921.91	1089.15
35	2.30755	4314.52	19.128	L Intbd SM, ML	150	28	206.146	679.743	1798.32	802.013	996.303	1869.81	1067.8
36	2.30755	4176.35	20.5689	L Intbd SM, ML	150	28	201.442	664.232	1734.35	767.219	967.131	1809.94	1042.72
37	2.59262	4504.09	22.1143	L Intbd SP-SM, SM, ML	75	28	174.462	575.267	1666.45	725.588	940.863	1737.34	1011.76
38	2.59262	4279.4	23.7679	L Intbd SP-SM, SM, ML	75	28	167.924	553.709	1576.73	676.413	900.32	1650.68	974.271
39	2.59262	4026.77	25.4428	L Intbd SP-SM, SM, ML	75	28	160.647	529.715	1476.82	621.624	855.195	1553.25	931.623
40	2.32123	3423.06	27.0512	MD Intbd SP-SM, SM, ML	75	32	178.025	587.017	1383.86	564.464	819.399	1474.77	910.308
41	2.32123	3257.1	28.5927	MD Intbd SP-SM, SM, ML	75	32	174.856	576.566	1307.98	505.302	802.676	1403.28	897.981
42	2.32123	3008.93	30.1573	MD Intbd SP-SM, SM, ML	75	32	166.501	549.018	1199.63	441.044	758.588	1296.37	855.328
43	2.32123	2733.98	31.7471	MD Intbd SP-SM, SM, ML	75	32	157.149	518.18	1080.68	371.449	709.235	1177.92	806.471
44	2.32123	2433.98	33.3647	MD Intbd SP-SM, SM, ML	75	32	146.993	484.691	951.885	296.243	655.642	1048.68	752.437
45	2.20441	2023.83	34.9707	MD ML	150	32	157.445	519.155	808.078	217.307	590.771	918.202	700.895
46	2.20441	1741.72	36.5666	MD ML	150	32	148.815	490.698	679.839	134.609	545.23	790.223	655.614
47	2.20441	1445.39	38.1961	MD ML	150	32	140.169	462.192	545.514	45.9016	499.612	655.801	609.899
48	2.68373	1335.17	40.0492	MD ML	150	32	120.583	397.608	396.256	0	396.256	497.614	497.614
49	2.68373	837.22	42.1415	MD ML	150	32	89.3103	294.49	231.233	0	231.233	312.048	312.048
50	2.68373	288.043	44.3055	MD ML	150	32	55.5637	183.215	53.1546	0	53.1546	107.387	107.387

B-B' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 2.55835

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.97945	106.401	-27.3499	MD ML - No Cohes	0	32	15.0253	38.4401	61.517	0	61.517	53.7453	53.7453
2	1.97945	313.348	-26.0486	MD ML - No Cohes	0	32	43.9006	112.313	179.738	0	179.738	158.28	158.28
3	2.23261	594.295	-24.6802	MD ML - No Cohes	0	32	62.1338	158.96	294.715	40.3257	254.389	266.162	225.837
4	2.23261	841.007	-23.2452	MD ML - No Cohes	0	32	70.3403	179.955	406.878	118.89	287.988	376.665	257.775
5	2.23261	1122.56	-21.8256	MD ML - No Cohes	0	32	83.7712	214.316	536.317	193.342	342.975	502.767	309.425
6	2.23261	1507.02	-20.4199	MD ML - No Cohes	0	32	110.47	282.621	716.096	263.806	452.29	674.968	411.162
7	2.30514	1960	-19.0044	MD Intbd SP-SM, SM, ML - No Cohes	0	32	138.358	353.968	897.88	331.414	566.466	850.227	518.813
8	2.30514	2290.89	-17.5785	MD Intbd SP-SM, SM, ML - No Cohes	0	32	158.211	404.758	1043.89	396.145	647.747	993.77	597.625
9	2.30514	2554	-16.1638	MD Intbd SP-SM, SM, ML - No Cohes	0	32	171.108	437.755	1157.5	456.95	700.555	1107.91	650.96
10	2.30514	2800.09	-14.7591	MD Intbd SP-SM, SM, ML - No Cohes	0	32	182.927	467.992	1262.86	513.918	748.942	1214.67	700.75
11	2.30514	3029.52	-13.3634	MD Intbd SP-SM, SM, ML - No Cohes	0	32	193.71	495.578	1360.21	567.126	793.089	1314.2	747.071
12	2.09162	2933.92	-12.0398	L Intbd SP -SM, SM, ML - No Cohes	0	28	171.402	438.507	1439.22	614.509	824.714	1402.67	788.157
13	2.09162	3097.29	-10.7866	L Intbd SP -SM, SM, ML - No Cohes	0	28	178.386	456.375	1514.76	656.445	858.317	1480.78	824.331
14	2.09162	3251.63	-9.53857	L Intbd SP -SM, SM, ML - No Cohes	0	28	185.019	473.343	1585.65	695.428	890.226	1554.56	859.136
15	2.09162	3399.48	-8.29514	L Intbd SP -SM, SM, ML - No Cohes	0	28	191.558	490.072	1653.18	731.492	921.693	1625.26	893.764
16	2.30755	3907.91	-6.99183	L Intbd SM, ML - No Cohes	0	28	197.761	505.941	1717.76	766.225	951.538	1693.51	927.285
17	2.30755	4058.4	-5.62832	L Intbd SM, ML - No Cohes	0	28	203.561	520.781	1778.79	799.342	979.448	1758.73	959.387
18	2.30755	4193.55	-4.26801	L Intbd SM, ML - No Cohes	0	28	208.637	533.766	1832.87	829.004	1003.87	1817.3	988.296
19	2.30755	4313.46	-2.9101	L Intbd SM, ML - No Cohes	0	28	213.001	544.931	1880.1	855.229	1024.87	1869.27	1014.04
20	2.30755	4418.19	-1.55383	L Intbd SM, ML - No Cohes	0	28	216.666	554.307	1920.54	878.035	1042.5	1914.66	1036.62
21	2.30755	4511.14	-0.198436	L Intbd SM, ML - No Cohes	0	28	219.945	562.696	1955.71	897.431	1058.28	1954.95	1057.52

22	2.30755	4597.86	1.15685	L Intbd SM, ML - No Cohes	0	28	223.337	571.374	1988.02	913.419	1074.6	1992.53	1079.11
23	2.30755	4669.91	2.51279	L Intbd SM, ML - No Cohes	0	28	226.089	578.414	2013.84	925.999	1087.84	2023.76	1097.76
24	2.30755	4726.81	3.87013	L Intbd SM, ML - No Cohes	0	28	228.164	583.723	2032.99	935.162	1097.82	2048.42	1113.26
25	2.30755	4768.48	5.22966	L Intbd SM, ML - No Cohes	0	28	229.568	587.315	2045.47	940.895	1104.58	2066.48	1125.59
26	2.30755	4794.85	6.59215	L Intbd SM, ML - No Cohes	0	28	230.305	589.2	2051.3	943.178	1108.12	2077.92	1134.74
27	2.30755	4805.79	7.95839	L Intbd SM, ML - No Cohes	0	28	230.377	589.385	2050.46	941.986	1108.47	2082.66	1140.68
28	2.30755	4801.17	9.32921	L Intbd SM, ML - No Cohes	0	28	229.786	587.874	2042.92	937.286	1105.63	2080.67	1143.38
29	2.30755	4780.81	10.7054	L Intbd SM, ML - No Cohes	0	28	228.534	584.67	2028.65	929.041	1099.6	2071.85	1142.81
30	2.30755	4744.52	12.088	L Intbd SM, ML - No Cohes	0	28	226.619	579.771	2007.59	917.204	1090.39	2056.13	1138.92
31	2.30755	4692.06	13.4777	L Intbd SM, ML - No Cohes	0	28	224.039	573.171	1979.7	901.724	1077.98	2033.4	1131.67
32	2.30755	4623.15	14.8755	L Intbd SM, ML - No Cohes	0	28	220.793	564.865	1944.89	882.538	1062.35	2003.54	1121
33	2.30755	4537.5	16.2824	L Intbd SM, ML - No Cohes	0	28	216.874	554.84	1903.08	859.578	1043.5	1966.43	1106.85
34	2.30755	4434.75	17.6996	L Intbd SM, ML - No Cohes	0	28	212.279	543.084	1854.16	832.766	1021.39	1921.9	1089.14
35	2.30755	4314.52	19.128	L Intbd SM, ML - No Cohes	0	28	207.001	529.58	1798.01	802.013	995.996	1869.8	1067.79
36	2.30755	4176.35	20.5689	L Intbd SM, ML - No Cohes	0	28	201.031	514.308	1734.49	767.219	967.273	1809.93	1042.71
37	2.59262	4504.09	22.1143	L Intbd SP -SM, SM, ML - No Cohes	0	28	193.9	496.065	1658.55	725.588	932.963	1737.34	1011.75
38	2.59262	4279.4	23.7679	L Intbd SP -SM, SM, ML - No Cohes	0	28	185.506	474.59	1568.99	676.413	892.576	1650.68	974.269
39	2.59262	4026.77	25.4428	L Intbd SP -SM, SM, ML - No Cohes	0	28	176.199	450.779	1469.41	621.624	847.79	1553.24	931.616
40	2.32123	3423.06	27.0512	MD Intbd SP-SM, SM, ML - No Cohes	0	32	197.683	505.742	1373.82	564.464	809.358	1474.77	910.305
41	2.32123	3257.1	28.5927	MD Intbd SP-SM, SM, ML - No Cohes	0	32	193.56	495.194	1297.78	505.302	792.474	1403.28	897.974
42	2.32123	3008.93	30.1573	MD Intbd SP-SM, SM, ML - No Cohes	0	32	182.948	468.044	1190.07	441.044	749.026	1296.37	855.321
43	2.32123	2733.98	31.7471	MD Intbd SP-SM, SM, ML - No Cohes	0	32	171.117	437.776	1072.04	371.449	700.589	1177.92	806.467

44	2.32123	2433.98	33.3647	MD Intbd SP-SM, SM, ML - No Cohes	0	32	158.316	405.027	944.423	296.243	648.18	1048.67	752.43
45	2.20441	2023.83	34.9707	MD ML - No Cohes	0	32	146.208	374.051	815.914	217.307	598.607	918.179	700.872
46	2.20441	1741.72	36.5666	MD ML - No Cohes	0	32	135.566	346.824	689.643	134.609	555.034	790.2	655.591
47	2.20441	1445.39	38.1961	MD ML - No Cohes	0	32	124.947	319.659	557.464	45.9016	511.562	655.774	609.872
48	2.68373	1335.17	40.0492	MD ML - No Cohes	0	32	100.832	257.963	412.828	0	412.828	497.584	497.584
49	2.68373	837.22	42.1415	MD ML - No Cohes	0	32	62.4141	159.677	255.536	0	255.536	312.014	312.014
50	2.68373	288.043	44.3055	MD ML - No Cohes	0	32	21.1722	54.1658	86.6833	0	86.6833	107.348	107.348

B-B' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.983231

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.56825	135.85	-21.4204	MD ML	150	32	247.949	243.791	150.097	0	150.097	52.8251	52.8251
2	2.56825	398.081	-20.0502	MD ML	150	32	326.812	321.332	274.188	0	274.188	154.914	154.914
3	2.30097	570.376	-18.762	MD ML	150	32	368.684	362.502	373.032	32.957	340.075	247.794	214.837
4	2.30097	764.567	-17.5538	MD ML	150	32	377.871	371.534	451.726	97.1966	354.529	332.193	234.997
5	2.30097	1038.04	-16.3536	MD ML	150	32	416.369	409.387	573.219	158.116	415.103	451.042	292.926
6	2.30097	1390.86	-15.1607	MD ML	150	32	482.628	474.535	735.141	215.778	519.363	604.37	388.592
7	2.30097	1720.98	-13.9745	MD ML	150	32	541.77	532.685	882.662	270.239	612.423	747.84	477.601
8	2.42681	2067.7	-12.7623	MD Intbd SP-SM, SM, ML	75	32	481.891	473.81	961.094	322.867	638.227	851.945	529.078
9	2.42681	2297.03	-11.5237	MD Intbd SP-SM, SM, ML	75	32	505.936	497.452	1049.6	373.536	676.065	946.449	572.913
10	2.42681	2510.47	-10.2906	MD Intbd SP-SM, SM, ML	75	32	527.057	518.219	1130.1	420.802	709.298	1034.41	613.605
11	2.42681	2708.24	-9.06228	MD Intbd SP-SM, SM, ML	75	32	545.418	536.272	1202.9	464.707	738.191	1115.9	651.198
12	2.42681	2890.48	-7.83815	MD Intbd SP-SM, SM, ML	75	32	561.167	551.757	1268.26	505.288	762.973	1191.01	685.722
13	2.42681	3059.38	-6.61761	MD Intbd SP-SM, SM, ML	75	32	575.005	565.363	1327.32	542.577	784.746	1260.61	718.036
14	2.42681	3221.2	-5.40009	MD Intbd SP-SM, SM, ML	75	32	588.737	578.864	1382.95	576.601	806.352	1327.3	750.699
15	2.29316	3179.76	-4.21841	L Intbd SP -SM, SM, ML	75	28	518.769	510.07	1424.87	606.619	818.247	1386.6	779.983
16	2.29316	3298.8	-3.07194	L Intbd SP -SM, SM, ML	75	28	527.285	518.443	1466.81	632.821	833.994	1438.52	805.696
17	2.29316	3405.17	-1.92671	L Intbd SP -SM, SM, ML	75	28	534.172	525.214	1502.88	656.154	846.729	1484.91	828.76
18	2.29316	3498.93	-0.782243	L Intbd SP -SM, SM, ML	75	28	539.482	530.435	1533.17	676.623	856.547	1525.8	849.181
19	2.29316	3580.07	0.361909	L Intbd SP -SM, SM, ML	75	28	543.259	534.149	1557.77	694.234	863.533	1561.2	866.965
20	2.29316	3651.86	1.5062	L Intbd SP -SM, SM, ML	75	28	546.303	537.142	1578.15	708.986	869.164	1592.51	883.529
21	2.29316	3719.84	2.6511	L Intbd SP -SM, SM, ML	75	28	549.906	540.685	1596.7	720.878	875.826	1622.17	901.289
22	2.29316	3775.67	3.79706	L Intbd SP -SM, SM, ML	75	28	552.149	542.89	1609.87	729.902	879.972	1646.52	916.618
23	2.29316	3818.81	4.94454	L Intbd SP -SM, SM, ML	75	28	552.95	543.678	1617.5	736.05	881.454	1665.34	929.292
24	2.29316	3849.21	6.09402	L Intbd SP -SM, SM, ML	75	28	552.341	543.079	1619.64	739.307	880.329	1678.61	939.299
25	2.29316	3866.79	7.24596	L Intbd SP -SM, SM, ML	75	28	550.35	541.121	1616.3	739.658	876.646	1686.28	946.62
26	2.29316	3871.45	8.40086	L Intbd SP -SM, SM, ML	75	28	547.004	537.831	1607.54	737.081	870.456	1688.32	951.238

27	2.29316	3863.1	9.55921	L Intbd SP -SM, SM, ML	75	28	542.324	533.23	1593.36	731.551	861.806	1684.69	953.136
28	2.29316	3841.61	10.7215	L Intbd SP -SM, SM, ML	75	28	536.335	527.341	1573.77	723.042	850.73	1675.32	952.28
29	2.29316	3806.82	11.8883	L Intbd SP -SM, SM, ML	75	28	529.053	520.181	1548.78	711.519	837.262	1660.16	948.638
30	2.29316	3758.59	13.0601	L Intbd SP -SM, SM, ML	75	28	520.498	511.77	1518.39	696.946	821.446	1639.13	942.187
31	2.29316	3696.72	14.2375	L Intbd SP -SM, SM, ML	75	28	510.685	502.121	1482.58	679.281	803.3	1612.16	932.879
32	2.29316	3621.01	15.4211	L Intbd SP -SM, SM, ML	75	28	499.628	491.25	1441.33	658.477	782.854	1579.15	920.672
33	2.29316	3531.23	16.6115	L Intbd SP -SM, SM, ML	75	28	487.341	479.169	1394.61	634.482	760.13	1540	905.519
34	2.29316	3427.12	17.8093	L Intbd SP -SM, SM, ML	75	28	473.834	465.888	1342.39	607.24	735.154	1494.61	887.369
35	2.17113	3135.71	18.9829	MD Intbd SP-SM, SM, ML	75	32	514.653	506.023	1267.37	577.585	689.783	1444.4	866.82
36	2.17113	3016.65	20.1325	MD Intbd SP-SM, SM, ML	75	32	496.867	488.535	1207.42	545.627	661.796	1389.57	843.943
37	2.17113	2884.66	21.2906	MD Intbd SP-SM, SM, ML	75	32	477.911	469.897	1142.54	510.574	631.965	1328.78	818.204
38	2.17113	2739.45	22.4579	MD Intbd SP-SM, SM, ML	75	32	457.796	450.119	1072.67	472.352	600.317	1261.9	789.548
39	2.17113	2584.31	23.6351	MD Intbd SP-SM, SM, ML	75	32	437.362	430.028	999.048	430.885	568.163	1190.45	759.561
40	2.17113	2479.77	24.8231	MD Intbd SP-SM, SM, ML	75	32	430.363	423.146	943.234	386.084	557.15	1142.3	756.215
41	2.17113	2354.3	26.0225	MD Intbd SP-SM, SM, ML	75	32	420.371	413.322	879.285	337.856	541.429	1084.52	746.662
42	2.17113	2169.82	27.2344	MD Intbd SP-SM, SM, ML	75	32	399.137	392.444	794.115	286.096	508.019	999.546	713.45
43	2.22167	2023.26	28.474	MD ML	150	32	435.243	427.944	674.805	230.002	444.803	910.866	680.864
44	2.22167	1818.09	29.7427	MD ML	150	32	414.575	407.623	581.639	169.354	412.285	818.518	649.164
45	2.22167	1596.86	31.0278	MD ML	150	32	392.815	386.228	482.649	104.607	378.042	718.936	614.329
46	2.22167	1365.81	32.3304	MD ML	150	32	371.371	365.143	379.894	35.5935	344.3	614.941	579.347
47	2.59115	1298.84	33.7638	MD ML	150	32	330.716	325.17	280.33	0	280.33	501.423	501.423
48	2.59115	964.373	35.3337	MD ML	150	32	268.298	263.799	182.116	0	182.116	372.319	372.319
49	2.59115	600.563	36.9347	MD ML	150	32	202.96	199.557	79.3071	0	79.3071	231.886	231.886
50	2.59115	205.554	38.5702	MD ML	150	32	134.739	132.48	-28.0384	0	-28.0384	79.4076	79.4076

B-B' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.43567

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.997897	17.6774	-17.1571	MD Intbd SP-SM, SM, ML	75	32	69.2241	99.383	39.0209	0	39.0209	17.6492	17.6492
2	0.860788	55.822	-15.369	L Intbd SP -SM, SM, ML	75	28	84.8712	121.847	88.1065	0	88.1065	64.7784	64.7784
3	0.860788	132.519	-13.727	L Intbd SP -SM, SM, ML	75	28	120.088	172.407	183.195	0	183.195	153.861	153.861
4	0.771269	184.503	-12.1808	L Intbd SP -SM, SM, ML	75	28	150.817	216.524	271.674	5.5069	266.168	239.12	233.613
5	0.771269	245.052	-10.7279	L Intbd SP -SM, SM, ML	75	28	176.365	253.202	351.037	15.8879	335.149	317.624	301.736
6	0.771269	303.73	-9.28189	L Intbd SP -SM, SM, ML	75	28	200.953	288.502	426.547	25.0074	401.54	393.705	368.697
7	0.771269	360.561	-7.84187	L Intbd SP -SM, SM, ML	75	28	224.623	322.485	498.333	32.8821	465.451	467.396	434.514
8	0.771269	415.568	-6.40681	L Intbd SP -SM, SM, ML	75	28	247.411	355.2	566.507	39.5261	526.981	538.725	499.199
9	0.771269	468.766	-4.97578	L Intbd SP -SM, SM, ML	75	28	269.348	386.695	631.163	44.951	586.212	607.713	562.762
10	0.771269	520.169	-3.54786	L Intbd SP -SM, SM, ML	75	28	290.461	417.006	692.387	49.1657	643.221	674.378	625.212
11	0.771269	569.787	-2.12215	L Intbd SP -SM, SM, ML	75	28	310.775	446.17	750.247	52.1772	698.069	738.731	686.554
12	0.771269	617.627	-0.697747	L Intbd SP -SM, SM, ML	75	28	330.309	474.215	804.805	53.9896	750.815	800.782	746.793
13	0.771269	663.632	0.726222	L Intbd SP -SM, SM, ML	75	28	349.053	501.125	856.031	54.6054	801.425	860.455	805.85
14	0.771269	705.729	2.15064	L Intbd SP -SM, SM, ML	75	28	366.042	525.515	901.32	54.0245	847.295	915.066	861.042
15	0.771269	744.992	3.57639	L Intbd SP -SM, SM, ML	75	28	381.819	548.166	942.14	52.2446	889.895	966.004	913.759
16	0.771269	782.47	5.00436	L Intbd SP -SM, SM, ML	75	28	396.899	569.816	979.875	49.2612	930.614	1014.63	965.368
17	0.771269	818.152	6.43546	L Intbd SP -SM, SM, ML	75	28	411.29	590.477	1014.54	45.0675	969.471	1060.93	1015.86
18	0.771269	852.026	7.87061	L Intbd SP -SM, SM, ML	75	28	424.997	610.156	1046.14	39.6545	1006.48	1104.89	1065.23
19	0.771269	884.075	9.31074	L Intbd SP -SM, SM, ML	75	28	438.024	628.858	1074.67	33.0105	1041.66	1146.48	1113.47
20	0.771269	914.276	10.7568	L Intbd SP -SM, SM, ML	75	28	450.372	646.586	1100.12	25.1215	1075	1185.68	1160.56
21	0.771269	942.606	12.2099	L Intbd SP -SM, SM, ML	75	28	462.041	663.339	1122.48	15.9706	1106.5	1222.46	1206.49
22	0.771269	969.035	13.671	L Intbd SP -SM, SM, ML	75	28	473.029	679.114	1141.71	5.53805	1136.17	1256.77	1251.23

23	0.815333	1051.4	15.1835	L Intbd SP-SM, SM, ML	75	28	481.573	691.38	1159.24	0	1159.24	1289.93	1289.93
24	0.815333	1077.35	16.7493	L Intbd SP-SM, SM, ML	75	28	487.449	699.816	1175.1	0	1175.1	1321.8	1321.8
25	0.815333	1101.01	18.3281	L Intbd SP-SM, SM, ML	75	28	492.165	706.586	1187.84	0	1187.84	1350.87	1350.87
26	0.815333	1122.32	19.9214	L Intbd SP-SM, SM, ML	75	28	495.708	711.673	1197.41	0	1197.41	1377.07	1377.07
27	0.815333	1141.21	21.531	L Intbd SP-SM, SM, ML	75	28	498.067	715.06	1203.78	0	1203.78	1400.29	1400.29
28	0.815333	1157.6	23.1586	L Intbd SP-SM, SM, ML	75	28	499.223	716.72	1206.9	0	1206.9	1420.44	1420.44
29	0.70429	1047.59	24.6928	L Intbd SP-SM, SM, ML	75	28	311.436	447.119	1344.68	644.834	699.85	1487.88	843.046
30	0.70429	1055.31	26.1324	L Intbd SP-SM, SM, ML	75	28	316.672	454.636	1343.51	629.525	713.987	1498.87	869.345
31	0.70429	1061.15	27.5901	L Intbd SP-SM, SM, ML	75	28	321.297	461.276	1339.31	612.836	726.474	1507.21	894.373
32	0.70429	1065.06	29.0674	L Intbd SP-SM, SM, ML	75	28	325.293	467.014	1331.98	594.714	737.264	1512.79	918.078
33	0.782211	1184.96	30.6504	MD Intbd SP-SM, SM, ML	75	32	367.337	527.375	1297.87	573.92	723.948	1515.55	941.627
34	0.782211	1184.36	32.3444	MD Intbd SP-SM, SM, ML	75	32	370.093	531.331	1280.47	550.195	730.279	1514.84	964.643
35	0.782211	1180.05	34.0707	MD Intbd SP-SM, SM, ML	75	32	371.562	533.441	1258.08	524.426	733.655	1509.37	984.944
36	0.782211	1152.85	35.8329	MD Intbd SP-SM, SM, ML	75	32	363.678	522.121	1212.03	496.489	715.543	1474.64	978.153
37	0.782211	1112.97	37.6353	MD Intbd SP-SM, SM, ML	75	32	351.121	504.094	1152.94	466.239	686.697	1423.68	957.441
38	0.782211	1069.35	39.4826	MD Intbd SP-SM, SM, ML	75	32	337.816	484.993	1089.64	433.507	656.13	1367.94	934.432
39	0.782211	1021.69	41.3804	MD Intbd SP-SM, SM, ML	75	32	323.721	464.756	1021.83	398.091	623.742	1307.03	908.944
40	0.782211	969.642	43.3354	MD Intbd SP-SM, SM, ML	75	32	308.781	443.307	949.167	359.755	589.412	1240.51	880.752
41	0.782211	912.765	45.3556	MD Intbd SP-SM, SM, ML	75	32	292.935	420.558	871.218	318.209	553.009	1167.81	849.603
42	0.782211	850.532	47.451	MD Intbd SP-SM, SM, ML	75	32	276.112	396.405	787.459	273.103	514.356	1088.26	815.161
43	0.813787	815.766	49.6797	MD ML	150	32	293.632	421.559	657.5	222.914	434.586	1003.49	780.576
44	0.813787	741.442	52.0625	MD ML	150	32	275.213	395.115	559.132	166.866	392.266	912.182	745.316
45	0.813787	658.821	54.5806	MD ML	150	32	255.338	366.581	451.636	105.035	346.601	810.674	705.639
46	0.813787	566.263	57.2661	MD ML	150	32	233.761	335.604	333.304	36.276	297.028	696.951	660.675
47	0.765175	439.556	60.0711	MD ML	150	32	202.147	290.216	224.393	0	224.393	575.527	575.527
48	0.765175	338.891	63.0452	MD ML	150	32	160.392	230.269	128.458	0	128.458	443.859	443.859
49	0.765175	221.377	66.3656	MD ML	150	32	115.69	166.093	25.7539	0	25.7539	290.125	290.125
50	0.765175	78.8607	70.2146	MD ML	150	32	67.6901	97.1807	-84.5286	0	-84.5286	103.638	103.638

B-B' Post Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.04324

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.693016	6.14763	-12.5502	MD Intbd SP-SM, SM, ML	75	32	173.551	354.606	447.463	0	447.463	408.828	408.828
2	0.693016	17.7688	-11.211	MD Intbd SP-SM, SM, ML	75	32	177.632	362.945	460.808	0	460.808	425.601	425.601
3	0.693016	28.051	-9.87787	MD Intbd SP-SM, SM, ML	75	32	181.045	369.918	471.968	0	471.968	440.442	440.442
4	0.693016	37.0116	-8.55017	MD Intbd SP-SM, SM, ML	75	32	183.811	375.569	481.011	0	481.011	453.376	453.376
5	0.693016	44.6654	-7.22709	MD Intbd SP-SM, SM, ML	75	32	185.95	379.94	488.005	0	488.005	464.425	464.425
6	0.693016	51.025	-5.90786	MD Intbd SP-SM, SM, ML	75	32	187.479	383.065	493.007	0	493.007	473.607	473.607
7	0.693016	56.1005	-4.59178	MD Intbd SP-SM, SM, ML	75	32	188.415	384.977	496.066	0	496.066	480.934	480.934
8	0.693016	59.9002	-3.27812	MD Intbd SP-SM, SM, ML	75	32	188.772	385.707	497.234	0	497.234	486.422	486.422
9	0.693016	62.4299	-1.96618	MD Intbd SP-SM, SM, ML	75	32	188.563	385.279	496.55	0	496.55	490.077	490.077
10	0.693016	63.6938	-0.655281	MD Intbd SP-SM, SM, ML	75	32	187.799	383.719	494.054	0	494.054	491.906	491.906
11	0.693016	63.6938	0.655281	MD Intbd SP-SM, SM, ML	75	32	186.492	381.047	489.778	0	489.778	491.911	491.911
12	0.693016	62.4299	1.96618	MD Intbd SP-SM, SM, ML	75	32	184.649	377.282	483.753	0	483.753	490.092	490.092
13	0.693016	59.9002	3.27812	MD Intbd SP-SM, SM, ML	75	32	182.28	372.441	476.005	0	476.005	486.446	486.446
14	0.693016	56.1005	4.59178	MD Intbd SP-SM, SM, ML	75	32	179.391	366.539	466.559	0	466.559	480.967	480.967
15	0.693016	51.025	5.90786	MD Intbd SP-SM, SM, ML	75	32	175.989	359.588	455.436	0	455.436	473.647	473.647
16	0.693016	44.6654	7.22709	MD Intbd SP-SM, SM, ML	75	32	172.08	351.6	442.653	0	442.653	464.474	464.474
17	0.693016	37.0116	8.55017	MD Intbd SP-SM, SM, ML	75	32	409.461	836.627	1218.86	0	1218.86	1280.42	1280.42
18	0.693016	28.051	9.87787	MD Intbd SP-SM, SM, ML	75	32	627.357	1281.84	1931.35	0	1931.35	2040.6	2040.6
19	0.693016	479.328	11.211	MD Intbd SP-SM, SM, ML	75	32	607.55	1241.37	1866.59	0	1866.59	1987.01	1987.01
20	0.693016	1227.41	12.5502	MD Intbd SP-SM, SM, ML	75	32	541.527	1106.47	1650.69	0	1650.69	1771.25	1771.25
21	0.676831	1135.08	13.8807	Structural Fill	0	35	529.889	1082.69	1546.25	0	1546.25	1677.19	1677.19
22	0.676831	1120.22	15.203	Structural Fill	0	35	518.921	1060.28	1514.23	0	1514.23	1655.25	1655.25
23	0.676831	1103.94	16.5337	Structural Fill	0	35	507.39	1036.72	1480.59	0	1480.59	1631.21	1631.21

24	0.676831	1086.21	17.8736	Structural Fill	0	35	495.297	1012.01	1445.3	0	1445.3	1605.02	1605.02
25	0.659032	1038.49	19.2058	MD Intbd SP-SM, SM, ML	75	32	468.736	957.74	1412.68	0	1412.68	1575.96	1575.96
26	0.659032	1017.52	20.531	MD Intbd SP-SM, SM, ML	75	32	456.641	933.027	1373.13	0	1373.13	1544.14	1544.14
27	0.659032	995.218	21.8678	MD Intbd SP-SM, SM, ML	75	32	444.088	907.378	1332.08	0	1332.08	1510.32	1510.32
28	0.659032	971.559	23.2173	MD Intbd SP-SM, SM, ML	75	32	431.069	880.777	1289.51	0	1289.51	1474.42	1474.42
29	0.659032	946.5	24.5805	MD Intbd SP-SM, SM, ML	75	32	417.577	853.21	1245.4	0	1245.4	1436.41	1436.41
30	0.659032	919.995	25.9587	MD Intbd SP-SM, SM, ML	75	32	403.603	824.658	1199.7	0	1199.7	1396.19	1396.19
31	0.659032	891.994	27.3533	MD Intbd SP-SM, SM, ML	75	32	389.138	795.102	1152.4	0	1152.4	1353.71	1353.71
32	0.659032	862.442	28.7657	MD Intbd SP-SM, SM, ML	75	32	374.17	764.52	1103.46	0	1103.46	1308.87	1308.87
33	0.659032	831.275	30.1974	MD Intbd SP-SM, SM, ML	75	32	358.69	732.89	1052.84	0	1052.84	1261.58	1261.58
34	0.659032	798.424	31.6504	MD Intbd SP-SM, SM, ML	75	32	342.684	700.185	1000.51	0	1000.51	1211.74	1211.74
35	0.659032	763.81	33.1264	MD Intbd SP-SM, SM, ML	75	32	326.137	666.376	946.4	0	946.4	1159.22	1159.22
36	0.659032	727.341	34.6277	MD Intbd SP-SM, SM, ML	75	32	309.034	631.43	890.474	0	890.474	1103.88	1103.88
37	0.659032	687.612	36.1567	MD Intbd SP-SM, SM, ML	75	32	290.863	594.302	831.057	0	831.057	1043.6	1043.6
38	0.659032	644.754	37.7161	MD Intbd SP-SM, SM, ML	75	32	271.713	555.174	768.44	0	768.44	978.565	978.565
39	0.659032	599.699	39.3091	MD Intbd SP-SM, SM, ML	75	32	251.972	514.839	703.89	0	703.89	910.194	910.194
40	0.69258	580.85	40.9819	MD ML	150	32	260.709	532.692	612.436	0	612.436	838.922	838.922
41	0.69258	536.428	42.7409	MD ML	150	32	241.974	494.41	551.172	0	551.172	774.779	774.779
42	0.69258	518.674	44.5515	MD ML	150	32	232.516	475.087	520.248	0	520.248	749.152	749.152
43	0.69258	500.935	46.4203	MD ML	150	32	223.017	455.678	489.187	0	489.187	723.545	723.545
44	0.69258	479.668	48.3557	MD ML	150	32	212.289	433.757	454.107	0	454.107	692.841	692.841
45	0.704916	458.439	50.3865	Structural Fill	0	35	157.661	322.14	460.064	0	460.064	650.553	650.553
46	0.704916	399.487	52.5274	Structural Fill	0	35	134.256	274.318	391.766	0	391.766	566.906	566.906
47	0.704916	326.275	54.7786	Structural Fill	0	35	106.822	218.263	311.712	0	311.712	463.022	463.022
48	0.704916	245.455	57.1635	Structural Fill	0	35	77.9698	159.311	227.519	0	227.519	348.336	348.336
49	0.704916	155.447	59.7144	Structural Fill	0	35	47.644	97.3482	139.028	0	139.028	220.608	220.608
50	0.704916	53.9581	62.4785	Structural Fill	0	35	15.8309	32.3464	46.1954	0	46.1954	76.5785	76.5785

B-B' Post Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.04324

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.693016	6.14763	-12.5502	MD Intbd SP-SM, SM, ML	75	32	173.551	354.606	447.463	0	447.463	408.828	408.828
2	0.693016	17.7688	-11.211	MD Intbd SP-SM, SM, ML	75	32	177.632	362.945	460.808	0	460.808	425.601	425.601
3	0.693016	28.051	-9.87787	MD Intbd SP-SM, SM, ML	75	32	181.045	369.918	471.968	0	471.968	440.442	440.442
4	0.693016	37.0116	-8.55017	MD Intbd SP-SM, SM, ML	75	32	183.811	375.569	481.011	0	481.011	453.376	453.376
5	0.693016	44.6654	-7.22709	MD Intbd SP-SM, SM, ML	75	32	185.95	379.94	488.005	0	488.005	464.425	464.425
6	0.693016	51.025	-5.90786	MD Intbd SP-SM, SM, ML	75	32	187.479	383.065	493.007	0	493.007	473.607	473.607
7	0.693016	56.1005	-4.59178	MD Intbd SP-SM, SM, ML	75	32	188.415	384.977	496.066	0	496.066	480.934	480.934
8	0.693016	59.9002	-3.27812	MD Intbd SP-SM, SM, ML	75	32	188.772	385.707	497.234	0	497.234	486.422	486.422
9	0.693016	62.4299	-1.96618	MD Intbd SP-SM, SM, ML	75	32	188.563	385.279	496.55	0	496.55	490.077	490.077
10	0.693016	63.6938	-0.655281	MD Intbd SP-SM, SM, ML	75	32	187.799	383.719	494.054	0	494.054	491.906	491.906
11	0.693016	63.6938	0.655281	MD Intbd SP-SM, SM, ML	75	32	186.492	381.047	489.778	0	489.778	491.911	491.911
12	0.693016	62.4299	1.96618	MD Intbd SP-SM, SM, ML	75	32	184.649	377.282	483.753	0	483.753	490.092	490.092
13	0.693016	59.9002	3.27812	MD Intbd SP-SM, SM, ML	75	32	182.28	372.441	476.005	0	476.005	486.446	486.446
14	0.693016	56.1005	4.59178	MD Intbd SP-SM, SM, ML	75	32	179.391	366.539	466.559	0	466.559	480.967	480.967
15	0.693016	51.025	5.90786	MD Intbd SP-SM, SM, ML	75	32	175.989	359.588	455.436	0	455.436	473.647	473.647
16	0.693016	44.6654	7.22709	MD Intbd SP-SM, SM, ML	75	32	172.08	351.6	442.653	0	442.653	464.474	464.474
17	0.693016	37.0116	8.55017	MD Intbd SP-SM, SM, ML	75	32	409.461	836.627	1218.86	0	1218.86	1280.42	1280.42
18	0.693016	28.051	9.87787	MD Intbd SP-SM, SM, ML	75	32	627.357	1281.84	1931.35	0	1931.35	2040.6	2040.6
19	0.693016	479.328	11.211	MD Intbd SP-SM, SM, ML	75	32	607.55	1241.37	1866.59	0	1866.59	1987.01	1987.01
20	0.693016	1227.41	12.5502	MD Intbd SP-SM, SM, ML	75	32	541.527	1106.47	1650.69	0	1650.69	1771.25	1771.25
21	0.676831	1135.08	13.8807	Structural Fill	0	35	529.889	1082.69	1546.25	0	1546.25	1677.19	1677.19
22	0.676831	1120.22	15.203	Structural Fill	0	35	518.921	1060.28	1514.23	0	1514.23	1655.25	1655.25
23	0.676831	1103.94	16.5337	Structural Fill	0	35	507.39	1036.72	1480.59	0	1480.59	1631.21	1631.21

24	0.676831	1086.21	17.8736	Structural Fill	0	35	495.297	1012.01	1445.3	0	1445.3	1605.02	1605.02
25	0.659032	1038.49	19.2058	MD Intbd SP-SM, SM, ML	75	32	468.736	957.74	1412.68	0	1412.68	1575.96	1575.96
26	0.659032	1017.52	20.531	MD Intbd SP-SM, SM, ML	75	32	456.641	933.027	1373.13	0	1373.13	1544.14	1544.14
27	0.659032	995.218	21.8678	MD Intbd SP-SM, SM, ML	75	32	444.088	907.378	1332.08	0	1332.08	1510.32	1510.32
28	0.659032	971.559	23.2173	MD Intbd SP-SM, SM, ML	75	32	431.069	880.777	1289.51	0	1289.51	1474.42	1474.42
29	0.659032	946.5	24.5805	MD Intbd SP-SM, SM, ML	75	32	417.577	853.21	1245.4	0	1245.4	1436.41	1436.41
30	0.659032	919.995	25.9587	MD Intbd SP-SM, SM, ML	75	32	403.603	824.658	1199.7	0	1199.7	1396.19	1396.19
31	0.659032	891.994	27.3533	MD Intbd SP-SM, SM, ML	75	32	389.138	795.102	1152.4	0	1152.4	1353.71	1353.71
32	0.659032	862.442	28.7657	MD Intbd SP-SM, SM, ML	75	32	374.17	764.52	1103.46	0	1103.46	1308.87	1308.87
33	0.659032	831.275	30.1974	MD Intbd SP-SM, SM, ML	75	32	358.69	732.89	1052.84	0	1052.84	1261.58	1261.58
34	0.659032	798.424	31.6504	MD Intbd SP-SM, SM, ML	75	32	342.684	700.185	1000.51	0	1000.51	1211.74	1211.74
35	0.659032	763.81	33.1264	MD Intbd SP-SM, SM, ML	75	32	326.137	666.376	946.4	0	946.4	1159.22	1159.22
36	0.659032	727.341	34.6277	MD Intbd SP-SM, SM, ML	75	32	309.034	631.43	890.474	0	890.474	1103.88	1103.88
37	0.659032	687.612	36.1567	MD Intbd SP-SM, SM, ML	75	32	290.863	594.302	831.057	0	831.057	1043.6	1043.6
38	0.659032	644.754	37.7161	MD Intbd SP-SM, SM, ML	75	32	271.713	555.174	768.44	0	768.44	978.565	978.565
39	0.659032	599.699	39.3091	MD Intbd SP-SM, SM, ML	75	32	251.972	514.839	703.89	0	703.89	910.194	910.194
40	0.69258	580.85	40.9819	MD ML	150	32	260.709	532.692	612.436	0	612.436	838.922	838.922
41	0.69258	536.428	42.7409	MD ML	150	32	241.974	494.41	551.172	0	551.172	774.779	774.779
42	0.69258	518.674	44.5515	MD ML	150	32	232.516	475.087	520.248	0	520.248	749.152	749.152
43	0.69258	500.935	46.4203	MD ML	150	32	223.017	455.678	489.187	0	489.187	723.545	723.545
44	0.69258	479.668	48.3557	MD ML	150	32	212.289	433.757	454.107	0	454.107	692.841	692.841
45	0.704916	458.439	50.3865	Structural Fill	0	35	157.661	322.14	460.064	0	460.064	650.553	650.553
46	0.704916	399.487	52.5274	Structural Fill	0	35	134.256	274.318	391.766	0	391.766	566.906	566.906
47	0.704916	326.275	54.7786	Structural Fill	0	35	106.822	218.263	311.712	0	311.712	463.022	463.022
48	0.704916	245.455	57.1635	Structural Fill	0	35	77.9698	159.311	227.519	0	227.519	348.336	348.336
49	0.704916	155.447	59.7144	Structural Fill	0	35	47.644	97.3482	139.028	0	139.028	220.608	220.608
50	0.704916	53.9581	62.4785	Structural Fill	0	35	15.8309	32.3464	46.1954	0	46.1954	76.5785	76.5785

B-B' Post Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.80257

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.693016	6.14763	-12.5502	MD Intbd SP-SM, SM, ML - No Cohes	0	32	153.578	276.835	443.029	0	443.029	408.84	408.84
2	0.693016	17.7688	-11.211	MD Intbd SP-SM, SM, ML - No Cohes	0	32	158.425	285.573	457.012	0	457.012	425.612	425.612
3	0.693016	28.051	-9.87787	MD Intbd SP-SM, SM, ML - No Cohes	0	32	162.493	292.905	468.747	0	468.747	440.452	440.452
4	0.693016	37.0116	-8.55017	MD Intbd SP-SM, SM, ML - No Cohes	0	32	165.809	298.883	478.313	0	478.313	453.384	453.384
5	0.693016	44.6654	-7.22709	MD Intbd SP-SM, SM, ML - No Cohes	0	32	168.4	303.553	485.787	0	485.787	464.432	464.432
6	0.693016	51.025	-5.90786	MD Intbd SP-SM, SM, ML - No Cohes	0	32	170.288	306.956	491.233	0	491.233	473.612	473.612
7	0.693016	56.1005	-4.59178	MD Intbd SP-SM, SM, ML - No Cohes	0	32	171.495	309.131	494.713	0	494.713	480.94	480.94
8	0.693016	59.9002	-3.27812	MD Intbd SP-SM, SM, ML - No Cohes	0	32	172.037	310.109	496.279	0	496.279	486.425	486.425
9	0.693016	62.4299	-1.96618	MD Intbd SP-SM, SM, ML - No Cohes	0	32	171.935	309.924	495.982	0	495.982	490.08	490.08
10	0.693016	63.6938	-0.655281	MD Intbd SP-SM, SM, ML - No Cohes	0	32	171.201	308.601	493.864	0	493.864	491.906	491.906
11	0.693016	63.6938	0.655281	MD Intbd SP-SM, SM, ML - No Cohes	0	32	169.85	306.166	489.967	0	489.967	491.909	491.909
12	0.693016	62.4299	1.96618	MD Intbd SP-SM, SM, ML - No Cohes	0	32	167.894	302.64	484.325	0	484.325	490.089	490.089
13	0.693016	59.9002	3.27812	MD Intbd SP-SM, SM, ML - No Cohes	0	32	165.344	298.045	476.972	0	476.972	486.442	486.442
14	0.693016	56.1005	4.59178	MD Intbd SP-SM, SM, ML - No Cohes	0	32	162.212	292.398	467.935	0	467.935	480.963	480.963
15	0.693016	51.025	5.90786	MD Intbd SP-SM, SM, ML - No Cohes	0	32	158.504	285.715	457.24	0	457.24	473.642	473.642
16	0.693016	44.6654	7.22709	MD Intbd SP-SM, SM, ML - No Cohes	0	32	154.23	278.011	444.91	0	444.91	464.468	464.468
17	0.693016	37.0116	8.55017	MD Intbd SP-SM, SM, ML - No Cohes	0	32	421.872	760.454	1216.98	0	1216.98	1280.41	1280.41

18	0.693016	28.051	9.87787	MD Intbd SP-SM, SM, ML - No Cohes	0	32	667.109	1202.51	1924.42	0	1924.42	2040.58	2040.58
19	0.693016	479.328	11.211	MD Intbd SP-SM, SM, ML - No Cohes	0	32	644.519	1161.79	1859.24	0	1859.24	1986.99	1986.99
20	0.693016	1227.41	12.5502	MD Intbd SP-SM, SM, ML - No Cohes	0	32	570.014	1027.49	1644.33	0	1644.33	1771.22	1771.22
21	0.676831	1135.08	13.8807	Structural Fill	0	35	594.44	1071.52	1530.28	0	1530.28	1677.18	1677.18
22	0.676831	1120.22	15.203	Structural Fill	0	35	581.586	1048.35	1497.2	0	1497.2	1655.24	1655.24
23	0.676831	1103.94	16.5337	Structural Fill	0	35	568.128	1024.09	1462.54	0	1462.54	1631.19	1631.19
24	0.676831	1086.21	17.8736	Structural Fill	0	35	554.058	998.728	1426.33	0	1426.33	1605	1605
25	0.659032	1038.49	19.2058	MD Intbd SP-SM, SM, ML - No Cohes	0	32	487.443	878.651	1406.14	0	1406.14	1575.94	1575.94
26	0.659032	1017.52	20.531	MD Intbd SP-SM, SM, ML - No Cohes	0	32	473.769	854.002	1366.69	0	1366.69	1544.12	1544.12
27	0.659032	995.218	21.8678	MD Intbd SP-SM, SM, ML - No Cohes	0	32	459.604	828.468	1325.83	0	1325.83	1510.29	1510.29
28	0.659032	971.559	23.2173	MD Intbd SP-SM, SM, ML - No Cohes	0	32	444.942	802.039	1283.53	0	1283.53	1474.39	1474.39
29	0.659032	946.5	24.5805	MD Intbd SP-SM, SM, ML - No Cohes	0	32	429.776	774.702	1239.78	0	1239.78	1436.37	1436.37
30	0.659032	919.995	25.9587	MD Intbd SP-SM, SM, ML - No Cohes	0	32	414.099	746.443	1194.56	0	1194.56	1396.16	1396.16
31	0.659032	891.994	27.3533	MD Intbd SP-SM, SM, ML - No Cohes	0	32	397.902	717.246	1147.83	0	1147.83	1353.68	1353.68
32	0.659032	862.442	28.7657	MD Intbd SP-SM, SM, ML - No Cohes	0	32	381.175	687.094	1099.58	0	1099.58	1308.84	1308.84
33	0.659032	831.275	30.1974	MD Intbd SP-SM, SM, ML - No Cohes	0	32	363.908	655.969	1049.77	0	1049.77	1261.55	1261.55
34	0.659032	798.424	31.6504	MD Intbd SP-SM, SM, ML - No Cohes	0	32	346.089	623.849	998.366	0	998.366	1211.7	1211.7
35	0.659032	763.81	33.1264	MD Intbd SP-SM, SM, ML - No Cohes	0	32	327.705	590.711	945.336	0	945.336	1159.18	1159.18
36	0.659032	727.341	34.6277	MD Intbd SP-SM, SM, ML - No Cohes	0	32	308.743	556.53	890.634	0	890.634	1103.84	1103.84
37	0.659032	687.612	36.1567	MD Intbd SP-SM, SM, ML - No Cohes	0	32	288.638	520.291	832.639	0	832.639	1043.55	1043.55
38	0.659032	644.754	37.7161	MD Intbd SP-SM, SM, ML - No Cohes	0	32	267.498	482.183	771.654	0	771.654	978.52	978.52

39	0.659032	599.699	39.3091	MD Intbd SP-SM, SM, ML - No Cohes	0	32	245.755	442.991	708.935	0	708.935	910.149	910.149
40	0.69258	580.85	40.9819	MD ML - No Cohes	0	32	223.488	402.852	644.698	0	644.698	838.849	838.849
41	0.69258	536.428	42.7409	MD ML - No Cohes	0	32	203.397	366.638	586.744	0	586.744	774.703	774.703
42	0.69258	518.674	44.5515	MD ML - No Cohes	0	32	193.6	348.977	558.48	0	558.48	749.072	749.072
43	0.69258	500.935	46.4203	MD ML - No Cohes	0	32	183.826	331.36	530.287	0	530.287	723.461	723.461
44	0.69258	479.668	48.3557	MD ML - No Cohes	0	32	172.787	311.461	498.442	0	498.442	692.755	692.755
45	0.704916	458.439	50.3865	Structural Fill	0	35	171.982	310.01	442.74	0	442.74	650.531	650.531
46	0.704916	399.487	52.5274	Structural Fill	0	35	146.147	263.441	376.234	0	376.234	566.885	566.885
47	0.704916	326.275	54.7786	Structural Fill	0	35	116.018	209.13	298.668	0	298.668	463.004	463.004
48	0.704916	245.455	57.1635	Structural Fill	0	35	84.465	152.254	217.441	0	217.441	348.322	348.322
49	0.704916	155.447	59.7144	Structural Fill	0	35	51.4619	92.7637	132.48	0	132.48	220.597	220.597
50	0.704916	53.9581	62.4785	Structural Fill	0	35	17.0409	30.7175	43.8692	0	43.8692	76.5746	76.5746

B-B' Post Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.15806

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.994167	7.34951	-7.3687	MD Intbd SP-SM, SM, ML	75	32	305.926	354.281	446.943	0	446.943	407.38	407.38
2	0.994167	20.8997	-6.2267	MD Intbd SP-SM, SM, ML	75	32	310.195	359.225	454.855	0	454.855	421.011	421.011
3	0.994167	32.1595	-5.08718	MD Intbd SP-SM, SM, ML	75	32	313.086	362.572	460.211	0	460.211	432.339	432.339
4	0.994167	41.1426	-3.94968	MD Intbd SP-SM, SM, ML	75	32	314.645	364.378	463.101	0	463.101	441.377	441.377
5	0.994167	47.8597	-2.81373	MD Intbd SP-SM, SM, ML	75	32	574.038	664.77	943.83	0	943.83	915.617	915.617
6	0.994167	52.3186	-1.67889	MD Intbd SP-SM, SM, ML	75	32	1191.16	1379.43	2087.52	0	2087.52	2052.61	2052.61
7	0.994167	1470.01	-0.544708	MD Intbd SP-SM, SM, ML	75	32	1102.03	1276.22	1922.36	0	1922.36	1911.88	1911.88
8	0.982447	1711.73	0.582575	L Intbd SP-SM, SM, ML	75	28	860.709	996.753	1733.56	0	1733.56	1742.31	1742.31
9	0.982447	1709.32	1.7034	L Intbd SP-SM, SM, ML	75	28	851.968	986.63	1714.53	0	1714.53	1739.87	1739.87
10	0.982447	1700.27	2.82487	L Intbd SP-SM, SM, ML	75	28	840.336	973.16	1689.19	0	1689.19	1730.66	1730.66
11	0.982447	1687.2	3.94743	L Intbd SP-SM, SM, ML	75	28	827.068	957.794	1660.29	0	1660.29	1717.37	1717.37
12	0.982447	1671.95	5.07151	L Intbd SP-SM, SM, ML	75	28	813.017	941.523	1629.69	0	1629.69	1701.84	1701.84
13	0.982447	1654.5	6.19755	L Intbd SP-SM, SM, ML	75	28	798.196	924.359	1597.41	0	1597.41	1684.09	1684.09
14	0.982447	1634.84	7.326	L Intbd SP-SM, SM, ML	75	28	782.611	906.311	1563.47	0	1563.47	1664.09	1664.09
15	0.982447	1612.96	8.45731	L Intbd SP-SM, SM, ML	75	28	766.27	887.387	1527.88	0	1527.88	1641.81	1641.81
16	0.982447	1588.83	9.59196	L Intbd SP-SM, SM, ML	75	28	749.179	867.594	1490.65	0	1490.65	1617.26	1617.26
17	0.982447	1562.44	10.7304	L Intbd SP-SM, SM, ML	75	28	731.344	846.94	1451.81	0	1451.81	1590.4	1590.4
18	0.982447	1533.75	11.8732	L Intbd SP-SM, SM, ML	75	28	712.764	825.423	1411.34	0	1411.34	1561.19	1561.19
19	0.982447	1499.76	13.0208	L Intbd SP-SM, SM, ML	75	28	692.19	801.598	1366.54	0	1366.54	1526.61	1526.61
20	0.910985	1356.23	14.1316	MD Intbd SP-SM, SM, ML	75	32	764.276	885.078	1296.39	0	1296.39	1488.81	1488.81
21	0.910985	1321.13	15.2057	MD Intbd SP-SM, SM, ML	75	32	738.941	855.738	1249.44	0	1249.44	1450.29	1450.29
22	0.910985	1310.84	16.2853	MD Intbd SP-SM, SM, ML	75	32	726.674	841.532	1226.7	0	1226.7	1438.99	1438.99

23	0.910985	1340.51	17.3708	MD Intbd SP-SM, SM, ML	75	32	734.773	850.911	1241.72	0	1241.72	1471.57	1471.57
24	0.910985	1368.69	18.4629	MD Intbd SP-SM, SM, ML	75	32	741.846	859.102	1254.83	0	1254.83	1502.51	1502.51
25	0.910985	1386.2	19.5619	MD Intbd SP-SM, SM, ML	75	32	743.341	860.833	1257.6	0	1257.6	1521.73	1521.73
26	0.910985	1364.29	20.6685	MD Intbd SP-SM, SM, ML	75	32	725.259	839.894	1224.08	0	1224.08	1497.68	1497.68
27	0.910985	1335.96	21.7833	MD Intbd SP-SM, SM, ML	75	32	704.248	815.562	1185.14	0	1185.14	1466.58	1466.58
28	0.910985	1305.47	22.9067	MD Intbd SP-SM, SM, ML	75	32	682.45	790.318	1144.75	0	1144.75	1433.12	1433.12
29	0.910985	1272.76	24.0396	MD Intbd SP-SM, SM, ML	75	32	659.86	764.158	1102.88	0	1102.88	1397.22	1397.22
30	0.910985	1237.78	25.1825	MD Intbd SP-SM, SM, ML	75	32	636.481	737.083	1059.55	0	1059.55	1358.82	1358.82
31	0.910985	1200.46	26.3363	MD Intbd SP-SM, SM, ML	75	32	612.309	709.09	1014.76	0	1014.76	1317.86	1317.86
32	0.940491	1227.94	27.5208	MD Intbd SP-SM, SM, ML	75	32	431.116	499.258	1081.08	402.126	678.957	1305.71	903.58
33	0.940491	1181.06	28.7372	MD Intbd SP-SM, SM, ML	75	32	415.429	481.092	1028.07	378.191	649.882	1255.87	877.674
34	0.940491	1131.24	29.968	MD Intbd SP-SM, SM, ML	75	32	399.314	462.43	972.647	352.626	620.021	1202.89	850.268
35	0.940491	1078.36	31.2143	MD Intbd SP-SM, SM, ML	75	32	382.768	443.268	914.724	325.369	589.355	1146.67	821.298
36	0.940491	1022.3	32.4772	MD Intbd SP-SM, SM, ML	75	32	365.783	423.599	854.231	296.355	557.876	1087.06	790.701
37	0.940491	965.658	33.7581	MD Intbd SP-SM, SM, ML	75	32	349.511	404.755	793.227	265.509	527.718	1026.83	761.326
38	0.987164	960.677	35.0912	MD ML	150	32	383.986	444.679	703.471	231.886	471.585	973.254	741.368
39	0.987164	905.934	36.4794	MD ML	150	32	371.261	429.943	643.289	195.287	448.002	917.802	722.515
40	0.987164	847.135	37.8929	MD ML	150	32	357.937	414.512	579.664	156.356	423.308	858.239	701.883
41	0.987164	784.043	39.3342	MD ML	150	32	343.995	398.367	512.429	114.959	397.47	794.328	679.369
42	0.987164	716.392	40.8058	MD ML	150	32	329.417	381.485	441.394	70.9416	370.453	725.798	654.856
43	0.987164	643.875	42.3108	MD ML	150	32	314.182	363.842	366.346	24.1281	342.218	652.338	628.21
44	0.909646	526.408	43.7907	MD ML	150	32	291.199	337.226	299.624	0	299.624	578.784	578.784
45	0.909646	459.564	45.2462	MD ML	150	32	260.436	301.601	242.611	0	242.611	505.295	505.295
46	0.909646	388.202	46.7399	MD ML	150	32	228.705	264.854	183.804	0	183.804	426.839	426.839
47	0.909646	311.939	48.2764	MD ML	150	32	195.999	226.978	123.191	0	123.191	342.993	342.993
48	0.909646	230.323	49.8606	MD ML	150	32	162.318	187.974	60.7718	0	60.7718	253.262	253.262
49	0.909646	142.814	51.4986	MD ML	150	32	127.669	147.848	-3.44342	0	-3.44342	157.05	157.05
50	0.909646	48.7561	53.1979	MD ML	150	32	92.0679	106.62	-69.4223	0	-69.4223	53.638	53.638

Interslice Data

A-A' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.60044

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	12.8535	98.6527	0	0	0
2	13.7049	97.9863	112.257	0	0
3	14.5919	97.3395	308.469	0	0
4	15.4788	96.7377	564.136	0	0
5	16.3658	96.1778	866.906	0	0
6	17.2259	95.6727	1161.78	0	0
7	18.0859	95.2027	1481.53	0	0
8	18.946	94.7661	1819.42	0	0
9	19.806	94.3614	2169.57	0	0
10	20.666	93.9873	2526.81	0	0
11	21.5824	93.6211	2940.4	0	0
12	22.4987	93.2871	3350.95	0	0
13	23.4151	92.9842	3754.43	0	0
14	24.3314	92.7115	4147.28	0	0
15	25.2478	92.4683	4526.38	0	0
16	26.1641	92.2538	4888.97	0	0
17	27.0804	92.0675	5232.66	0	0
18	27.9968	91.9089	5563.32	0	0
19	28.9462	91.7732	5880.5	0	0
20	29.8957	91.6664	6181.01	0	0
21	30.8452	91.5882	6460.96	0	0
22	31.7946	91.5384	6716.78	0	0
23	32.7441	91.5168	6943.37	0	0
24	33.6935	91.5234	7134.78	0	0
25	34.643	91.5582	7289.73	0	0
26	35.5925	91.6213	7407.33	0	0
27	36.5419	91.7129	7486.9	0	0
28	37.4914	91.8332	7527.96	0	0
29	38.4408	91.9825	7530.26	0	0
30	39.3903	92.1613	7493.77	0	0
31	40.3397	92.37	7418.7	0	0
32	41.2892	92.6093	7305.47	0	0
33	42.2387	92.8799	7154.81	0	0
34	43.2655	93.2088	6972.05	0	0
35	44.2924	93.5764	6747.71	0	0
36	45.3193	93.9843	6483.16	0	0
37	46.3462	94.4342	6180.24	0	0
38	47.3731	94.9281	5841.46	0	0
39	48.4	95.4681	5469.94	0	0
40	49.4269	96.0572	5069.58	0	0
41	50.4124	96.6717	4619.99	0	0
42	51.398	97.3376	4154.01	0	0
43	52.3835	98.0591	3678.31	0	0
44	53.3691	98.841	3201.1	0	0
45	54.1606	99.5166	2688.56	0	0
46	54.9521	100.239	1458.5	0	0
47	55.7436	101.012	430.255	0	0
48	56.751	102.078	-156.203	0	0
49	57.7584	103.251	-699.659	0	0
50	58.7658	104.549	-1173.02	0	0
51	59.7731	106	0	0	0

A-A' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.60044

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	12.8535	98.6527	0	0	0
2	13.7049	97.9863	112.257	0	0
3	14.5919	97.3395	308.469	0	0
4	15.4788	96.7377	564.136	0	0
5	16.3658	96.1778	866.906	0	0
6	17.2259	95.6727	1161.78	0	0
7	18.0859	95.2027	1481.53	0	0
8	18.946	94.7661	1819.42	0	0
9	19.806	94.3614	2169.57	0	0
10	20.666	93.9873	2526.81	0	0
11	21.5824	93.6211	2940.4	0	0
12	22.4987	93.2871	3350.95	0	0
13	23.4151	92.9842	3754.43	0	0
14	24.3314	92.7115	4147.28	0	0
15	25.2478	92.4683	4526.38	0	0
16	26.1641	92.2538	4888.97	0	0
17	27.0804	92.0675	5232.66	0	0
18	27.9968	91.9089	5563.32	0	0
19	28.9462	91.7732	5880.5	0	0
20	29.8957	91.6664	6181.01	0	0
21	30.8452	91.5882	6460.96	0	0
22	31.7946	91.5384	6716.78	0	0
23	32.7441	91.5168	6943.37	0	0
24	33.6935	91.5234	7134.78	0	0
25	34.643	91.5582	7289.73	0	0
26	35.5925	91.6213	7407.33	0	0
27	36.5419	91.7129	7486.9	0	0
28	37.4914	91.8332	7527.96	0	0
29	38.4408	91.9825	7530.26	0	0
30	39.3903	92.1613	7493.77	0	0
31	40.3397	92.37	7418.7	0	0
32	41.2892	92.6093	7305.47	0	0
33	42.2387	92.8799	7154.81	0	0
34	43.2655	93.2088	6972.05	0	0
35	44.2924	93.5764	6747.71	0	0
36	45.3193	93.9843	6483.16	0	0
37	46.3462	94.4342	6180.24	0	0
38	47.3731	94.9281	5841.46	0	0
39	48.4	95.4681	5469.94	0	0
40	49.4269	96.0572	5069.58	0	0
41	50.4124	96.6717	4619.99	0	0
42	51.398	97.3376	4154.01	0	0
43	52.3835	98.0591	3678.31	0	0
44	53.3691	98.841	3201.1	0	0
45	54.1606	99.5166	2688.56	0	0
46	54.9521	100.239	1458.5	0	0
47	55.7436	101.012	430.255	0	0
48	56.751	102.078	-156.203	0	0
49	57.7584	103.251	-699.659	0	0
50	58.7658	104.549	-1173.02	0	0
51	59.7731	106	0	0	0

A-A' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 2.13147

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	12.8535	98.6527	0	0	0
2	13.7049	97.9863	53.1164	0	0
3	14.5919	97.3395	198.568	0	0
4	15.4788	96.7377	410.726	0	0
5	16.3658	96.1778	675.997	0	0
6	17.2259	95.6727	963.074	0	0
7	18.0859	95.2027	1277.56	0	0
8	18.946	94.7661	1612.33	0	0
9	19.806	94.3614	1961.18	0	0
10	20.666	93.9873	2318.7	0	0
11	21.5824	93.6211	2727.53	0	0
12	22.4987	93.2871	3134.93	0	0
13	23.4151	92.9842	3536.62	0	0
14	24.3314	92.7115	3928.84	0	0
15	25.2478	92.4683	4308.29	0	0
16	26.1641	92.2538	4672.04	0	0
17	27.0804	92.0675	5017.6	0	0
18	27.9968	91.9089	5351.81	0	0
19	28.9462	91.7732	5660.11	0	0
20	29.8957	91.6664	5953.96	0	0
21	30.8452	91.5882	6229.29	0	0
22	31.7946	91.5384	6482.38	0	0
23	32.7441	91.5168	6707.6	0	0
24	33.6935	91.5234	6898.09	0	0
25	34.643	91.5582	7052.48	0	0
26	35.5925	91.6213	7169.77	0	0
27	36.5419	91.7129	7249.2	0	0
28	37.4914	91.8332	7290.21	0	0
29	38.4408	91.9825	7292.47	0	0
30	39.3903	92.1613	7255.86	0	0
31	40.3397	92.37	7180.5	0	0
32	41.2892	92.6093	7066.74	0	0
33	42.2387	92.8799	6915.19	0	0
34	43.2655	93.2088	6747.41	0	0
35	44.2924	93.5764	6537.64	0	0
36	45.3193	93.9843	6287.29	0	0
37	46.3462	94.4342	5998.16	0	0
38	47.3731	94.9281	5672.65	0	0
39	48.4	95.4681	5313.74	0	0
40	49.4269	96.0572	4925.16	0	0
41	50.4124	96.6717	4491.87	0	0
42	51.398	97.3376	4041.42	0	0
43	52.3835	98.0591	3580.29	0	0
44	53.3691	98.841	3116.46	0	0
45	54.1606	99.5166	2611.8	0	0
46	54.9521	100.239	1461.7	0	0
47	55.7436	101.012	489.366	0	0
48	56.751	102.078	-101.483	0	0
49	57.7584	103.251	-660.871	0	0
50	58.7658	104.549	-1164.92	0	0
51	59.7731	106	0	0	0

A-A' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.0871

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	6.86723	98.0826	0	0	0
2	7.68338	97.553	208.356	0	0
3	8.72052	96.9195	551.636	0	0
4	9.75767	96.3282	944.588	0	0
5	10.7948	95.7769	1372.8	0	0
6	11.7908	95.2834	1702.66	0	0
7	12.7868	94.8237	2044.88	0	0
8	13.7828	94.3965	2392.27	0	0
9	14.7788	94.0007	2738.72	0	0
10	15.7748	93.6353	3078.94	0	0
11	16.8362	93.2785	3525.63	0	0
12	17.8975	92.9542	3952.91	0	0
13	18.9589	92.6618	4357.01	0	0
14	20.0202	92.4004	4734.71	0	0
15	21.0815	92.1695	5083.32	0	0
16	22.1429	91.9685	5400.6	0	0
17	23.2042	91.7969	5684.73	0	0
18	24.2655	91.6545	5934.22	0	0
19	25.4143	91.5327	6127.58	0	0
20	26.563	91.4443	6279.01	0	0
21	27.7118	91.3891	6389.86	0	0
22	28.8605	91.3669	6465.78	0	0
23	30.0093	91.3778	6503.99	0	0
24	31.158	91.4216	6501.4	0	0
25	32.3067	91.4985	6455.27	0	0
26	33.4555	91.6088	6362.32	0	0
27	34.6042	91.7526	6222.51	0	0
28	35.753	91.9304	6036.99	0	0
29	36.9017	92.1426	5807.27	0	0
30	38.0505	92.3898	5535.22	0	0
31	39.1992	92.6727	5223.15	0	0
32	40.2506	92.9635	4944.1	0	0
33	41.302	93.2855	4634.75	0	0
34	42.3534	93.6395	4297.55	0	0
35	43.4048	94.0265	3935.33	0	0
36	44.4561	94.4474	3551.18	0	0
37	45.5075	94.9034	3147.95	0	0
38	46.5589	95.396	2729.3	0	0
39	47.6103	95.9265	2299.54	0	0
40	48.7658	96.5555	1733.11	0	0
41	49.9213	97.2351	1168.8	0	0
42	51.0768	97.9684	615.685	0	0
43	52.2323	98.7591	84.3217	0	0
44	53.174	99.4489	-252.993	0	0
45	54.1157	100.182	-598.14	0	0
46	55.0574	100.962	-1242.37	0	0
47	56.0449	101.835	-1720.57	0	0
48	57.0325	102.768	-1991.37	0	0
49	58.02	103.768	-2212.26	0	0
50	59.0076	104.842	-2368.79	0	0
51	59.9951	106	0	0	0

A-A' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.46464

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	86.3728	97.5	0	0	0
2	87.5351	97	121.382	0	0
3	88.3325	96.6871	233.154	0	0
4	89.1299	96.3978	358.482	0	0
5	89.9273	96.1314	494.208	0	0
6	90.8617	95.8478	672.524	0	0
7	91.7961	95.594	858.3	0	0
8	92.7305	95.3695	1047.93	0	0
9	93.6649	95.1736	1238.31	0	0
10	94.5993	95.0058	1426.76	0	0
11	95.5337	94.8656	1617.23	0	0
12	96.4681	94.7527	1833.51	0	0
13	97.4025	94.6668	2072.54	0	0
14	98.3369	94.6078	2327.76	0	0
15	99.2712	94.5753	2592.4	0	0
16	100.206	94.5695	2861.52	0	0
17	101.14	94.5902	3130.65	0	0
18	102.074	94.6376	3395.66	0	0
19	103.009	94.7116	3652.8	0	0
20	103.943	94.8126	3898.76	0	0
21	104.878	94.9407	4130.3	0	0
22	105.812	95.0964	4344.38	0	0
23	106.746	95.2799	4538.28	0	0
24	107.681	95.4917	4709.5	0	0
25	108.615	95.7325	4855.82	0	0
26	109.55	96.0029	4975.27	0	0
27	110.484	96.3037	5066.14	0	0
28	111.418	96.6357	5127	0	0
29	112.353	97	5156.72	0	0
30	113.236	97.3749	5151.56	0	0
31	114.118	97.7808	5109.13	0	0
32	114.809	98.1209	5091.02	0	0
33	115.5	98.4814	5049.06	0	0
34	116.51	99.0467	4737.98	0	0
35	117.519	99.6601	4382.23	0	0
36	118.529	100.325	3982.26	0	0
37	119.538	101.045	3539.31	0	0
38	120.363	101.678	3072.6	0	0
39	121.189	102.354	2578.56	0	0
40	122.014	103.076	2059.72	0	0
41	122.839	103.85	1519.5	0	0
42	123.66	104.675	1039.49	0	0
43	124.48	105.562	553.873	0	0
44	125.301	106.518	74.9961	0	0
45	126.171	107.619	-417.022	0	0
46	127.041	108.826	-895.907	0	0
47	127.911	110.16	-1344.04	0	0
48	128.781	111.654	-1736.74	0	0
49	129.651	113.359	-2037.33	0	0
50	130.521	115.363	-2186.58	0	0
51	131.391	117.852	0	0	0

A-A' Post-Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	658.682	0	0
3	94.3928	97.3901	1144.85	0	0
4	95.1657	97.3578	1542.98	0	0
5	95.9386	97.3405	1916.78	0	0
6	96.7115	97.3382	2267.87	0	0
7	97.4844	97.3509	2596.53	0	0
8	98.2573	97.3786	2902.77	0	0
9	99.0303	97.4213	3186.65	0	0
10	99.8032	97.4792	3448.28	0	0
11	100.576	97.5522	3687.86	0	0
12	101.349	97.6404	3905.83	0	0
13	102.122	97.744	4102.44	0	0
14	102.895	97.8631	4277.94	0	0
15	103.668	97.9978	4432.63	0	0
16	104.441	98.1482	4566.9	0	0
17	105.214	98.3146	4681.3	0	0
18	105.986	98.4972	4778.36	0	0
19	106.759	98.6961	4857.99	0	0
20	107.532	98.9117	4919.15	0	0
21	108.305	99.1442	4960.91	0	0
22	109.078	99.394	4982.34	0	0
23	109.851	99.6613	4982.61	0	0
24	110.624	99.9466	4960.95	0	0
25	111.397	100.25	4916.62	0	0
26	112.17	100.573	4848.98	0	0
27	113.002	100.942	4687.1	0	0
28	113.835	101.334	4496.16	0	0
29	114.667	101.75	4275.7	0	0
30	115.5	102.191	4025.37	0	0
31	116.226	102.597	3731.78	0	0
32	116.953	103.022	3423.38	0	0
33	117.679	103.469	3102.6	0	0
34	118.454	103.97	2793.79	0	0
35	119.229	104.497	2476.01	0	0
36	120.004	105.052	2151.85	0	0
37	120.779	105.635	1824.31	0	0
38	121.554	106.249	1496.82	0	0
39	122.301	106.87	1179.87	0	0
40	123.048	107.524	859.537	0	0
41	123.795	108.212	539.067	0	0
42	124.542	108.936	222.18	0	0
43	125.289	109.699	-86.8085	0	0
44	126.036	110.506	-382.872	0	0
45	126.783	111.358	-660.103	0	0
46	127.53	112.263	-911.503	0	0
47	128.277	113.225	-1128.68	0	0
48	129.024	114.252	-1301.45	0	0
49	129.771	115.352	-1417.26	0	0
50	130.517	116.538	-1460.31	0	0
51	131.264	117.825	0	0	0

A-A' Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	658.682	0	0
3	94.3928	97.3901	1144.85	0	0
4	95.1657	97.3578	1542.98	0	0
5	95.9386	97.3405	1916.78	0	0
6	96.7115	97.3382	2267.87	0	0
7	97.4844	97.3509	2596.53	0	0
8	98.2573	97.3786	2902.77	0	0
9	99.0303	97.4213	3186.65	0	0
10	99.8032	97.4792	3448.28	0	0
11	100.576	97.5522	3687.86	0	0
12	101.349	97.6404	3905.83	0	0
13	102.122	97.744	4102.44	0	0
14	102.895	97.8631	4277.94	0	0
15	103.668	97.9978	4432.63	0	0
16	104.441	98.1482	4566.9	0	0
17	105.214	98.3146	4681.3	0	0
18	105.986	98.4972	4778.36	0	0
19	106.759	98.6961	4857.99	0	0
20	107.532	98.9117	4919.15	0	0
21	108.305	99.1442	4960.91	0	0
22	109.078	99.394	4982.34	0	0
23	109.851	99.6613	4982.61	0	0
24	110.624	99.9466	4960.95	0	0
25	111.397	100.25	4916.62	0	0
26	112.17	100.573	4848.98	0	0
27	113.002	100.942	4687.1	0	0
28	113.835	101.334	4496.16	0	0
29	114.667	101.75	4275.7	0	0
30	115.5	102.191	4025.37	0	0
31	116.226	102.597	3731.78	0	0
32	116.953	103.022	3423.38	0	0
33	117.679	103.469	3102.6	0	0
34	118.454	103.97	2793.79	0	0
35	119.229	104.497	2476.01	0	0
36	120.004	105.052	2151.85	0	0
37	120.779	105.635	1824.31	0	0
38	121.554	106.249	1496.82	0	0
39	122.301	106.87	1179.87	0	0
40	123.048	107.524	859.537	0	0
41	123.795	108.212	539.067	0	0
42	124.542	108.936	222.18	0	0
43	125.289	109.699	-86.8085	0	0
44	126.036	110.506	-382.872	0	0
45	126.783	111.358	-660.103	0	0
46	127.53	112.263	-911.503	0	0
47	128.277	113.225	-1128.68	0	0
48	129.024	114.252	-1301.45	0	0
49	129.771	115.352	-1417.26	0	0
50	130.517	116.538	-1460.31	0	0
51	131.264	117.825	0	0	0

A-A' Post-Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.7468

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	699.111	0	0
3	94.3928	97.3901	1208.77	0	0
4	95.1657	97.3578	1622.31	0	0
5	95.9386	97.3405	2010.85	0	0
6	96.7115	97.3382	2376.19	0	0
7	97.4844	97.3509	2718.61	0	0
8	98.2573	97.3786	3038.08	0	0
9	99.0303	97.4213	3334.64	0	0
10	99.8032	97.4792	3608.34	0	0
11	100.576	97.5522	3859.39	0	0
12	101.349	97.6404	4088.22	0	0
13	102.122	97.744	4295.05	0	0
14	102.895	97.8631	4480.09	0	0
15	103.668	97.9978	4643.61	0	0
16	104.441	98.1482	4785.95	0	0
17	105.214	98.3146	4907.68	0	0
18	105.986	98.4972	5012.39	0	0
19	106.759	98.6961	5100.35	0	0
20	107.532	98.9117	5170.47	0	0
21	108.305	99.1442	5221.73	0	0
22	109.078	99.394	5253.19	0	0
23	109.851	99.6613	5263.95	0	0
24	110.624	99.9466	5253.15	0	0
25	111.397	100.25	5220.04	0	0
26	112.17	100.573	5163.9	0	0
27	113.002	100.942	5019.96	0	0
28	113.835	101.334	4847.23	0	0
29	114.667	101.75	4645.19	0	0
30	115.5	102.191	4413.42	0	0
31	116.226	102.597	4130.93	0	0
32	116.953	103.022	3833.64	0	0
33	117.679	103.469	3523.77	0	0
34	118.454	103.97	3205.34	0	0
35	119.229	104.497	2877.02	0	0
36	120.004	105.052	2541.29	0	0
37	120.779	105.635	2201.01	0	0
38	121.554	106.249	1859.46	0	0
39	122.301	106.87	1526.97	0	0
40	123.048	107.524	1188.33	0	0
41	123.795	108.212	846.46	0	0
42	124.542	108.936	504.691	0	0
43	125.289	109.699	166.883	0	0
44	126.036	110.506	-162.478	0	0
45	126.783	111.358	-478.141	0	0
46	127.53	112.263	-773.903	0	0
47	128.277	113.225	-1042.37	0	0
48	129.024	114.252	-1274.6	0	0
49	129.771	115.352	-1459.67	0	0
50	130.517	116.538	-1583.89	0	0
51	131.264	117.825	0	0	0

A-A' Post-Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.05379

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	1153.23	0	0
3	94.3928	97.3901	1711.67	0	0
4	95.1657	97.3578	2095.5	0	0
5	95.9386	97.3405	2449.14	0	0
6	96.7115	97.3382	2774.5	0	0
7	97.4844	97.3509	3072.29	0	0
8	98.2573	97.3786	3342.98	0	0
9	99.0303	97.4213	3587.08	0	0
10	99.8032	97.4792	3805.15	0	0
11	100.576	97.5522	3997.83	0	0
12	101.349	97.6404	4165.9	0	0
13	102.122	97.744	4310.01	0	0
14	102.895	97.8631	4430.84	0	0
15	103.668	97.9978	4529.12	0	0
16	104.441	98.1482	4605.61	0	0
17	105.214	98.3146	4661.17	0	0
18	105.986	98.4972	4696.13	0	0
19	106.759	98.6961	4709.72	0	0
20	107.532	98.9117	4701.19	0	0
21	108.305	99.1442	4669.87	0	0
22	109.078	99.394	4615.17	0	0
23	109.851	99.6613	4536.58	0	0
24	110.624	99.9466	4433.67	0	0
25	111.397	100.25	4306.09	0	0
26	112.17	100.573	4153.56	0	0
27	113.002	100.942	3863.35	0	0
28	113.835	101.334	3543.75	0	0
29	114.667	101.75	3194.91	0	0
30	115.5	102.191	2817.1	0	0
31	116.226	102.597	2379.22	0	0
32	116.953	103.022	1933.23	0	0
33	117.679	103.469	1482.66	0	0
34	118.454	103.97	1069.77	0	0
35	119.229	104.497	658.406	0	0
36	120.004	105.052	252.045	0	0
37	120.779	105.635	-145.406	0	0
38	121.554	106.249	-529.548	0	0
39	122.301	106.87	-890.776	0	0
40	123.048	107.524	-1247.87	0	0
41	123.795	108.212	-1597.24	0	0
42	124.542	108.936	-1934.84	0	0
43	125.289	109.699	-2256.07	0	0
44	126.036	110.506	-2555.72	0	0
45	126.783	111.358	-2827.79	0	0
46	127.53	112.263	-3065.31	0	0
47	128.277	113.225	-3260.12	0	0
48	129.024	114.252	-3402.55	0	0
49	129.771	115.352	-3480.93	0	0
50	130.517	116.538	-3480.95	0	0
51	131.264	117.825	0	0	0

B-B' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	17.0508	100	0	0	0
2	19.0302	98.9761	209.727	0	0
3	21.0097	98.0086	566.669	0	0
4	23.2423	96.9827	1100.98	0	0
5	25.4749	96.0237	1733.51	0	0
6	27.7075	95.1296	2474.68	0	0
7	29.9401	94.2984	3372.88	0	0
8	32.2452	93.5044	4381.54	0	0
9	34.5504	92.7742	5473.91	0	0
10	36.8555	92.106	6600.05	0	0
11	39.1607	91.4988	7740.87	0	0
12	41.4658	90.9511	8879.13	0	0
13	43.5574	90.505	9843.84	0	0
14	45.6491	90.1065	10781.7	0	0
15	47.7407	89.7551	11684.2	0	0
16	49.8323	89.4501	12544.5	0	0
17	52.1399	89.1671	13489.2	0	0
18	54.4474	88.9397	14362.6	0	0
19	56.755	88.7675	15156.2	0	0
20	59.0625	88.6502	15862.5	0	0
21	61.3701	88.5876	16475	0	0
22	63.6776	88.5796	16988.9	0	0
23	65.9852	88.6262	17400.6	0	0
24	68.2928	88.7275	17705.9	0	0
25	70.6003	88.8836	17901.5	0	0
26	72.9079	89.0948	17985	0	0
27	75.2154	89.3615	17954.8	0	0
28	77.523	89.6841	17810.3	0	0
29	79.8305	90.0632	17551.6	0	0
30	82.1381	90.4994	17180.2	0	0
31	84.4456	90.9936	16698.1	0	0
32	86.7532	91.5466	16108.5	0	0
33	89.0607	92.1596	15415.9	0	0
34	91.3683	92.8336	14625.7	0	0
35	93.6759	93.57	13744.5	0	0
36	95.9834	94.3703	12780.5	0	0
37	98.291	95.2362	11743	0	0
38	100.884	96.2897	10439.2	0	0
39	103.476	97.4315	9073.88	0	0
40	106.069	98.6649	7668.36	0	0
41	108.39	99.8503	6440.81	0	0
42	110.711	101.115	5191.41	0	0
43	113.033	102.464	3959.57	0	0
44	115.354	103.9	2771.82	0	0
45	117.675	105.429	1657.68	0	0
46	119.879	106.971	758.429	0	0
47	122.084	108.606	-25.5118	0	0
48	124.288	110.34	-663.024	0	0
49	126.972	112.596	-1233.65	0	0
50	129.656	115.025	-1555.77	0	0
51	132.339	117.644	0	0	0

B-B' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	17.0508	100	0	0	0
2	19.0302	98.9761	209.727	0	0
3	21.0097	98.0086	566.669	0	0
4	23.2423	96.9827	1100.98	0	0
5	25.4749	96.0237	1733.51	0	0
6	27.7075	95.1296	2474.68	0	0
7	29.9401	94.2984	3372.88	0	0
8	32.2452	93.5044	4381.54	0	0
9	34.5504	92.7742	5473.91	0	0
10	36.8555	92.106	6600.05	0	0
11	39.1607	91.4988	7740.87	0	0
12	41.4658	90.9511	8879.13	0	0
13	43.5574	90.505	9843.84	0	0
14	45.6491	90.1065	10781.7	0	0
15	47.7407	89.7551	11684.2	0	0
16	49.8323	89.4501	12544.5	0	0
17	52.1399	89.1671	13489.2	0	0
18	54.4474	88.9397	14362.6	0	0
19	56.755	88.7675	15156.2	0	0
20	59.0625	88.6502	15862.5	0	0
21	61.3701	88.5876	16475	0	0
22	63.6776	88.5796	16988.9	0	0
23	65.9852	88.6262	17400.6	0	0
24	68.2928	88.7275	17705.9	0	0
25	70.6003	88.8836	17901.5	0	0
26	72.9079	89.0948	17985	0	0
27	75.2154	89.3615	17954.8	0	0
28	77.523	89.6841	17810.3	0	0
29	79.8305	90.0632	17551.6	0	0
30	82.1381	90.4994	17180.2	0	0
31	84.4456	90.9936	16698.1	0	0
32	86.7532	91.5466	16108.5	0	0
33	89.0607	92.1596	15415.9	0	0
34	91.3683	92.8336	14625.7	0	0
35	93.6759	93.57	13744.5	0	0
36	95.9834	94.3703	12780.5	0	0
37	98.291	95.2362	11743	0	0
38	100.884	96.2897	10439.2	0	0
39	103.476	97.4315	9073.88	0	0
40	106.069	98.6649	7668.36	0	0
41	108.39	99.8503	6440.81	0	0
42	110.711	101.115	5191.41	0	0
43	113.033	102.464	3959.57	0	0
44	115.354	103.9	2771.82	0	0
45	117.675	105.429	1657.68	0	0
46	119.879	106.971	758.429	0	0
47	122.084	108.606	-25.5118	0	0
48	124.288	110.34	-663.024	0	0
49	126.972	112.596	-1233.65	0	0
50	129.656	115.025	-1555.77	0	0
51	132.339	117.644	0	0	0

B-B' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 2.55835

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	17.0508	100	0	0	0
2	19.0302	98.9761	92.699	0	0
3	21.0097	98.0086	353.418	0	0
4	23.2423	96.9827	794.37	0	0
5	25.4749	96.0237	1341.46	0	0
6	27.7075	95.1296	2007.85	0	0
7	29.9401	94.2984	2849.46	0	0
8	32.2452	93.5044	3880.95	0	0
9	34.5504	92.7742	5007.64	0	0
10	36.8555	92.106	6175.06	0	0
11	39.1607	91.4988	7363.26	0	0
12	41.4658	90.9511	8554.24	0	0
13	43.5574	90.505	9554.46	0	0
14	45.6491	90.1065	10530.8	0	0
15	47.7407	89.7551	11474.8	0	0
16	49.8323	89.4501	12379.2	0	0
17	52.1399	89.1671	13321.3	0	0
18	54.4474	88.9397	14195.1	0	0
19	56.755	88.7675	14991.7	0	0
20	59.0625	88.6502	15703.3	0	0
21	61.3701	88.5876	16323	0	0
22	63.6776	88.5796	16845.7	0	0
23	65.9852	88.6262	17267.9	0	0
24	68.2928	88.7275	17585.2	0	0
25	70.6003	88.8836	17793.9	0	0
26	72.9079	89.0948	17891.1	0	0
27	75.2154	89.3615	17875	0	0
28	77.523	89.6841	17744.7	0	0
29	79.8305	90.0632	17500	0	0
30	82.1381	90.4994	17141.9	0	0
31	84.4456	90.9936	16672.2	0	0
32	86.7532	91.5466	16093.8	0	0
33	89.0607	92.1596	15410.7	0	0
34	91.3683	92.8336	14628	0	0
35	93.6759	93.57	13752	0	0
36	95.9834	94.3703	12790.2	0	0
37	98.291	95.2362	11751.7	0	0
38	100.884	96.2897	10506.7	0	0
39	103.476	97.4315	9195.79	0	0
40	106.069	98.6649	7839.74	0	0
41	108.39	99.8503	6669.74	0	0
42	110.711	101.115	5476.68	0	0
43	113.033	102.464	4295.93	0	0
44	115.354	103.9	3153.04	0	0
45	117.675	105.429	2076.62	0	0
46	119.879	106.971	1140.59	0	0
47	122.084	108.606	311.489	0	0
48	124.288	110.34	-380.229	0	0
49	126.972	112.596	-1041.15	0	0
50	129.656	115.025	-1494.37	0	0
51	132.339	117.644	0	0	0

B-B' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.983231

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	16.2628	100	0	0	0
2	18.8311	98.9925	742.728	0	0
3	21.3993	98.0551	1707.08	0	0
4	23.7003	97.2735	2658.14	0	0
5	26.0012	96.5457	3603.46	0	0
6	28.3022	95.8705	4605.29	0	0
7	30.6032	95.247	5714.34	0	0
8	32.9041	94.6744	6897.52	0	0
9	35.331	94.1247	7912.07	0	0
10	37.7578	93.6299	8900.29	0	0
11	40.1846	93.1893	9847.91	0	0
12	42.6114	92.8023	10742.5	0	0
13	45.0382	92.4682	11573.1	0	0
14	47.465	92.1866	12331.7	0	0
15	49.8918	91.9572	13013.6	0	0
16	52.1849	91.7881	13394.1	0	0
17	54.4781	91.665	13694.2	0	0
18	56.7713	91.5879	13910.5	0	0
19	59.0644	91.5566	14040.1	0	0
20	61.3576	91.5711	14081	0	0
21	63.6507	91.6314	14032.5	0	0
22	65.9439	91.7375	13895.5	0	0
23	68.2371	91.8897	13669.8	0	0
24	70.5302	92.0881	13355.8	0	0
25	72.8234	92.3329	12954.7	0	0
26	75.1165	92.6245	12468.5	0	0
27	77.4097	92.9632	11900	0	0
28	79.7029	93.3493	11252.6	0	0
29	81.996	93.7835	10530.5	0	0
30	84.2892	94.2663	9738.9	0	0
31	86.5823	94.7982	8883.57	0	0
32	88.8755	95.3801	7971.23	0	0
33	91.1687	96.0126	7009.48	0	0
34	93.4618	96.6968	6006.82	0	0
35	95.755	97.4334	4972.77	0	0
36	97.9261	98.1803	4108.01	0	0
37	100.097	98.9762	3229.49	0	0
38	102.268	99.8223	2347.72	0	0
39	104.439	100.72	1474.25	0	0
40	106.611	101.67	621.083	0	0
41	108.782	102.674	-210.804	0	0
42	110.953	103.734	-1007.74	0	0
43	113.124	104.852	-1745.22	0	0
44	115.346	106.057	-2259.75	0	0
45	117.567	107.326	-2677.68	0	0
46	119.789	108.662	-2977.58	0	0
47	122.011	110.068	-3138.02	0	0
48	124.602	111.801	-3195.94	0	0
49	127.193	113.638	-3154.02	0	0
50	129.784	115.586	-2981.18	0	0
51	132.375	117.652	0	0	0

B-B' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.43567

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.7344	97.5	0	0	0
2	93.7323	97.1919	80.8886	0	0
3	94.5931	96.9553	174.567	0	0
4	95.4539	96.7451	316.141	0	0
5	96.2252	96.5786	477.335	0	0
6	96.9964	96.4324	664.237	0	0
7	97.7677	96.3064	872.517	0	0
8	98.539	96.2002	1098.17	0	0
9	99.3102	96.1136	1337.47	0	0
10	100.082	96.0464	1586.95	0	0
11	100.853	95.9986	1843.4	0	0
12	101.624	95.97	2103.8	0	0
13	102.395	95.9606	2365.33	0	0
14	103.167	95.9704	2625.35	0	0
15	103.938	95.9994	2880.7	0	0
16	104.709	96.0476	3128.87	0	0
17	105.48	96.1151	3367.87	0	0
18	106.252	96.2021	3595.85	0	0
19	107.023	96.3087	3811.1	0	0
20	107.794	96.4352	4012.01	0	0
21	108.565	96.5817	4197.11	0	0
22	109.337	96.7486	4365.04	0	0
23	110.108	96.9362	4514.57	0	0
24	110.923	97.1575	4649.5	0	0
25	111.739	97.4028	4757.38	0	0
26	112.554	97.6729	4836.6	0	0
27	113.369	97.9684	4885.71	0	0
28	114.185	98.2901	4903.33	0	0
29	115	98.6389	4888.2	0	0
30	115.704	98.9627	4671.42	0	0
31	116.409	99.3082	4429.55	0	0
32	117.113	99.6762	4162.22	0	0
33	117.817	100.068	3869.18	0	0
34	118.599	100.531	3554.04	0	0
35	119.382	101.027	3208.37	0	0
36	120.164	101.556	2832.58	0	0
37	120.946	102.12	2431.58	0	0
38	121.728	102.724	2010	0	0
39	122.51	103.368	1571.27	0	0
40	123.293	104.057	1119.53	0	0
41	124.075	104.795	659.805	0	0
42	124.857	105.587	198.251	0	0
43	125.639	106.439	-257.48	0	0
44	126.453	107.398	-649.731	0	0
45	127.267	108.442	-1010.16	0	0
46	128.081	109.586	-1319.8	0	0
47	128.894	110.852	-1552.1	0	0
48	129.66	112.182	-1696.15	0	0
49	130.425	113.686	-1767.08	0	0
50	131.19	115.435	-1723.86	0	0
51	131.955	117.562	0	0	0

B-B' Post Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.04324

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	78.5769	97.5	0	0	0
2	79.2699	97.3457	189.175	0	0
3	79.9629	97.2084	375.439	0	0
4	80.656	97.0877	557.724	0	0
5	81.349	96.9835	735.086	0	0
6	82.042	96.8956	906.698	0	0
7	82.735	96.8239	1071.84	0	0
8	83.428	96.7682	1229.88	0	0
9	84.121	96.7286	1380.3	0	0
10	84.8141	96.7048	1522.64	0	0
11	85.5071	96.6968	1656.57	0	0
12	86.2001	96.7048	1781.78	0	0
13	86.8931	96.7286	1898.1	0	0
14	87.5861	96.7682	2005.39	0	0
15	88.2791	96.8239	2103.61	0	0
16	88.9721	96.8956	2192.78	0	0
17	89.6652	96.9835	2273	0	0
18	90.3582	97.0877	2429.46	0	0
19	91.0512	97.2084	2630.69	0	0
20	91.7442	97.3457	2794.88	0	0
21	92.4372	97.5	2915.1	0	0
22	93.1141	97.6673	3014.73	0	0
23	93.7909	97.8512	3087.06	0	0
24	94.4677	98.0521	3132.62	0	0
25	95.1446	98.2704	3152.03	0	0
26	95.8036	98.4999	3136.29	0	0
27	96.4626	98.7468	3098	0	0
28	97.1216	99.0113	3038.01	0	0
29	97.7807	99.294	2957.25	0	0
30	98.4397	99.5954	2856.71	0	0
31	99.0987	99.9163	2737.49	0	0
32	99.7578	100.257	2600.78	0	0
33	100.417	100.619	2447.88	0	0
34	101.076	101.002	2280.22	0	0
35	101.735	101.409	2099.37	0	0
36	102.394	101.839	1907.07	0	0
37	103.053	102.294	1705.25	0	0
38	103.712	102.775	1496.51	0	0
39	104.371	103.285	1283.75	0	0
40	105.03	103.825	1069.81	0	0
41	105.723	104.426	881.696	0	0
42	106.415	105.066	696.343	0	0
43	107.108	105.748	502.488	0	0
44	107.8	106.476	300.748	0	0
45	108.493	107.255	93.9303	0	0
46	109.198	108.107	-186.884	0	0
47	109.903	109.026	-452.606	0	0
48	110.608	110.025	-688.63	0	0
49	111.313	111.117	-882.244	0	0
50	112.018	112.324	-1016.5	0	0
51	112.722	113.677	0	0	0

B-B' Post Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.04324

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	78.5769	97.5	0	0	0
2	79.2699	97.3457	189.175	0	0
3	79.9629	97.2084	375.439	0	0
4	80.656	97.0877	557.724	0	0
5	81.349	96.9835	735.086	0	0
6	82.042	96.8956	906.698	0	0
7	82.735	96.8239	1071.84	0	0
8	83.428	96.7682	1229.88	0	0
9	84.121	96.7286	1380.3	0	0
10	84.8141	96.7048	1522.64	0	0
11	85.5071	96.6968	1656.57	0	0
12	86.2001	96.7048	1781.78	0	0
13	86.8931	96.7286	1898.1	0	0
14	87.5861	96.7682	2005.39	0	0
15	88.2791	96.8239	2103.61	0	0
16	88.9721	96.8956	2192.78	0	0
17	89.6652	96.9835	2273	0	0
18	90.3582	97.0877	2429.46	0	0
19	91.0512	97.2084	2630.69	0	0
20	91.7442	97.3457	2794.88	0	0
21	92.4372	97.5	2915.1	0	0
22	93.1141	97.6673	3014.73	0	0
23	93.7909	97.8512	3087.06	0	0
24	94.4677	98.0521	3132.62	0	0
25	95.1446	98.2704	3152.03	0	0
26	95.8036	98.4999	3136.29	0	0
27	96.4626	98.7468	3098	0	0
28	97.1216	99.0113	3038.01	0	0
29	97.7807	99.294	2957.25	0	0
30	98.4397	99.5954	2856.71	0	0
31	99.0987	99.9163	2737.49	0	0
32	99.7578	100.257	2600.78	0	0
33	100.417	100.619	2447.88	0	0
34	101.076	101.002	2280.22	0	0
35	101.735	101.409	2099.37	0	0
36	102.394	101.839	1907.07	0	0
37	103.053	102.294	1705.25	0	0
38	103.712	102.775	1496.51	0	0
39	104.371	103.285	1283.75	0	0
40	105.03	103.825	1069.81	0	0
41	105.723	104.426	881.696	0	0
42	106.415	105.066	696.343	0	0
43	107.108	105.748	502.488	0	0
44	107.8	106.476	300.748	0	0
45	108.493	107.255	93.9303	0	0
46	109.198	108.107	-186.884	0	0
47	109.903	109.026	-452.606	0	0
48	110.608	110.025	-688.63	0	0
49	111.313	111.117	-882.244	0	0
50	112.018	112.324	-1016.5	0	0
51	112.722	113.677	0	0	0

B-B' Post Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.80257

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	78.5769	97.5	0	0	0
2	79.2699	97.3457	174.685	0	0
3	79.9629	97.2084	347.153	0	0
4	80.656	97.0877	516.229	0	0
5	81.349	96.9835	680.871	0	0
6	82.042	96.8956	840.163	0	0
7	82.735	96.8239	993.297	0	0
8	83.428	96.7682	1139.57	0	0
9	84.121	96.7286	1278.39	0	0
10	84.8141	96.7048	1409.24	0	0
11	85.5071	96.6968	1531.69	0	0
12	86.2001	96.7048	1645.41	0	0
13	86.8931	96.7286	1750.14	0	0
14	87.5861	96.7682	1845.69	0	0
15	88.2791	96.8239	1931.96	0	0
16	88.9721	96.8956	2008.92	0	0
17	89.6652	96.9835	2076.61	0	0
18	90.3582	97.0877	2241.91	0	0
19	91.0512	97.2084	2471.58	0	0
20	91.7442	97.3457	2662.46	0	0
21	92.4372	97.5	2803.46	0	0
22	93.1141	97.6673	2949.48	0	0
23	93.7909	97.8512	3067.39	0	0
24	94.4677	98.0521	3157.71	0	0
25	95.1446	98.2704	3221.06	0	0
26	95.8036	98.4999	3219.2	0	0
27	96.4626	98.7468	3193.84	0	0
28	97.1216	99.0113	3145.79	0	0
29	97.7807	99.294	3075.9	0	0
30	98.4397	99.5954	2985.15	0	0
31	99.0987	99.9163	2874.54	0	0
32	99.7578	100.257	2745.21	0	0
33	100.417	100.619	2598.37	0	0
34	101.076	101.002	2435.37	0	0
35	101.735	101.409	2257.67	0	0
36	102.394	101.839	2066.91	0	0
37	103.053	102.294	1864.86	0	0
38	103.712	102.775	1653.94	0	0
39	104.371	103.285	1436.79	0	0
40	105.03	103.825	1216.08	0	0
41	105.723	104.426	982.831	0	0
42	106.415	105.066	748.051	0	0
43	107.108	105.748	501.231	0	0
44	107.8	106.476	242.49	0	0
45	108.493	107.255	-26.1636	0	0
46	109.198	108.107	-282.116	0	0
47	109.903	109.026	-525.16	0	0
48	110.608	110.025	-741.669	0	0
49	111.313	111.117	-919.689	0	0
50	112.018	112.324	-1043.35	0	0
51	112.722	113.677	0	0	0

B-B' Post Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.15806

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	85.3196	97.5	0	0	0
2	86.3138	97.3714	359.082	0	0
3	87.308	97.263	709.812	0	0
4	88.3021	97.1745	1051.09	0	0
5	89.2963	97.1058	1382.01	0	0
6	90.2905	97.057	1982.84	0	0
7	91.2846	97.0278	3210.24	0	0
8	92.2788	97.0184	3838.56	0	0
9	93.2613	97.0284	4101.71	0	0
10	94.2437	97.0576	4324.29	0	0
11	95.2262	97.106	4506.64	0	0
12	96.2086	97.1738	4649.59	0	0
13	97.191	97.261	4754.25	0	0
14	98.1735	97.3677	4821.78	0	0
15	99.1559	97.494	4853.44	0	0
16	100.138	97.6401	4850.55	0	0
17	101.121	97.8061	4814.54	0	0
18	102.103	97.9923	4746.92	0	0
19	103.086	98.1989	4649.3	0	0
20	104.068	98.4261	4523.74	0	0
21	104.979	98.6554	4474.87	0	0
22	105.89	98.903	4402.47	0	0
23	106.801	99.1692	4305.2	0	0
24	107.712	99.4541	4178.13	0	0
25	108.623	99.7583	4020.39	0	0
26	109.534	100.082	3832.81	0	0
27	110.445	100.426	3622.42	0	0
28	111.356	100.79	3391.45	0	0
29	112.267	101.175	3141.48	0	0
30	113.178	101.581	2874.25	0	0
31	114.089	102.009	2591.57	0	0
32	115	102.46	2295.44	0	0
33	115.94	102.95	1765.8	0	0
34	116.881	103.466	1236.45	0	0
35	117.821	104.008	711.12	0	0
36	118.762	104.578	193.835	0	0
37	119.702	105.177	-310.986	0	0
38	120.643	105.805	-799.675	0	0
39	121.63	106.499	-1225.66	0	0
40	122.617	107.229	-1627.79	0	0
41	123.604	107.997	-1999.46	0	0
42	124.592	108.806	-2333.27	0	0
43	125.579	109.658	-2620.78	0	0
44	126.566	110.557	-2852.4	0	0
45	127.476	111.429	-3022.59	0	0
46	128.385	112.347	-3160.02	0	0
47	129.295	113.313	-3257.82	0	0
48	130.205	114.333	-3308.2	0	0
49	131.114	115.412	-3302.16	0	0
50	132.024	116.556	-3229.25	0	0
51	132.933	117.771	0	0	0

Entity Information

A-A' Existing

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 80 132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 106, 112 96.1, 110 96, 108 82, 108 82, 106 54, 106 44, 104 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5
Material Boundary	0, 95 132, 104.5
Material Boundary	0, 92.5 132, 102
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 97 132, 106.5	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM - No Cohes L SM/SP-SM No Cohes MD Intbd SM, SM, ML No Cohes L SM - No Cohes MD-D Intbd SM, ML - No Cohes	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML
Distributed Load	55.5, 106 54, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	82, 106 80.5, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	80.5, 106 55.5, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

A-A' During Const

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 80 132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 124.774, 116.242 102.464, 102.404 97.664, 99.369 95, 97.5 69.319, 97.5 58, 97.5 55.851, 99 51.25, 102 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5
Material Boundary	0, 95 55.851, 99
Material Boundary	0, 92.5 69.319, 97.5
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96
Material Boundary	97.664, 99.369 132, 102
Material Boundary	102.464, 102.404 132, 104.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static
Water Table	0, 95 27.7895, 97 115.5, 97 115.5, 105.813 132, 107	Assigned to: MD SM L SM/SP-SM MD Intbd SP-SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd SP-SM, SM, ML L SM MD-D Intbd SM, ML

A-A' Post-Development

Shared Entities

Type	Coordinates (x,y)
External Boundary	132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 121.5, 115.5 116, 114 105, 108 94.25, 108 93.75, 108 93.75, 97.5 69.4737, 97.5 59.25, 97.5 59.25, 102 58.75, 102 55.242, 102 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5 0, 80
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96
Material Boundary	0, 95 57.7641, 99.1573
Material Boundary	95.6122, 99.3812 132, 102
Material Boundary	100.152, 102.208 132, 104.5
Material Boundary	0, 92.5 69.4737, 97.5
Material Boundary	93.75, 97.5 94.25, 97.5 94.25, 108
Material Boundary	58.75, 102 58.75, 97.5 59.25, 97.5
Material Boundary	94.25, 97.5 95.6122, 99.3812 100.152, 102.208 105, 108
Material Boundary	55.242, 102 57.7641, 99.1573 58.75, 97.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95 27.7895, 97 115.5, 97 115.5, 105.813 132, 107	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM - No Cohes L SM/SP-SM No Cohes MD Intbd SM, SM, ML No Cohes L SM - No Cohes MD-D Intbd SM, ML - No Cohes	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML
Distributed Load	60.75, 97.5 59.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	93.75, 97.5 92.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	92.25, 97.5 69.4737, 97.5 60.75, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

B-B' Existing

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 109, 113 106, 112 62, 105.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 134, 107.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95.5 134, 111.5	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML	Assigned to: MD Intbd SI SM, SM, ML No Cohes MD ML - No Cohes L Intbd SP-S SM, ML - No Cohes L Intbd SM, - No Cohes Vd Intbd SI ML - No Col D ML - No Cohes	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML

B-B' During Const

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 103.017, 103.569 94, 97.5 55.1765, 97.5 55, 97.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 55.1765, 97.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91
Material Boundary	103.017, 103.569 134, 107.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static
Water Table	0, 95.5 115, 97 115, 109.09 134, 111.5	Assigned to: MD Intbd SP-SM, SM, ML MD ML L Intbd SP-SM, SM, ML L Intbd SM, ML VD Intbd SM, ML D ML	Assigned to: MD Intbd SP-SM, SM, ML MD ML L Intbd SP-SM, SM, ML L Intbd SM, ML VD Intbd SM, ML D ML

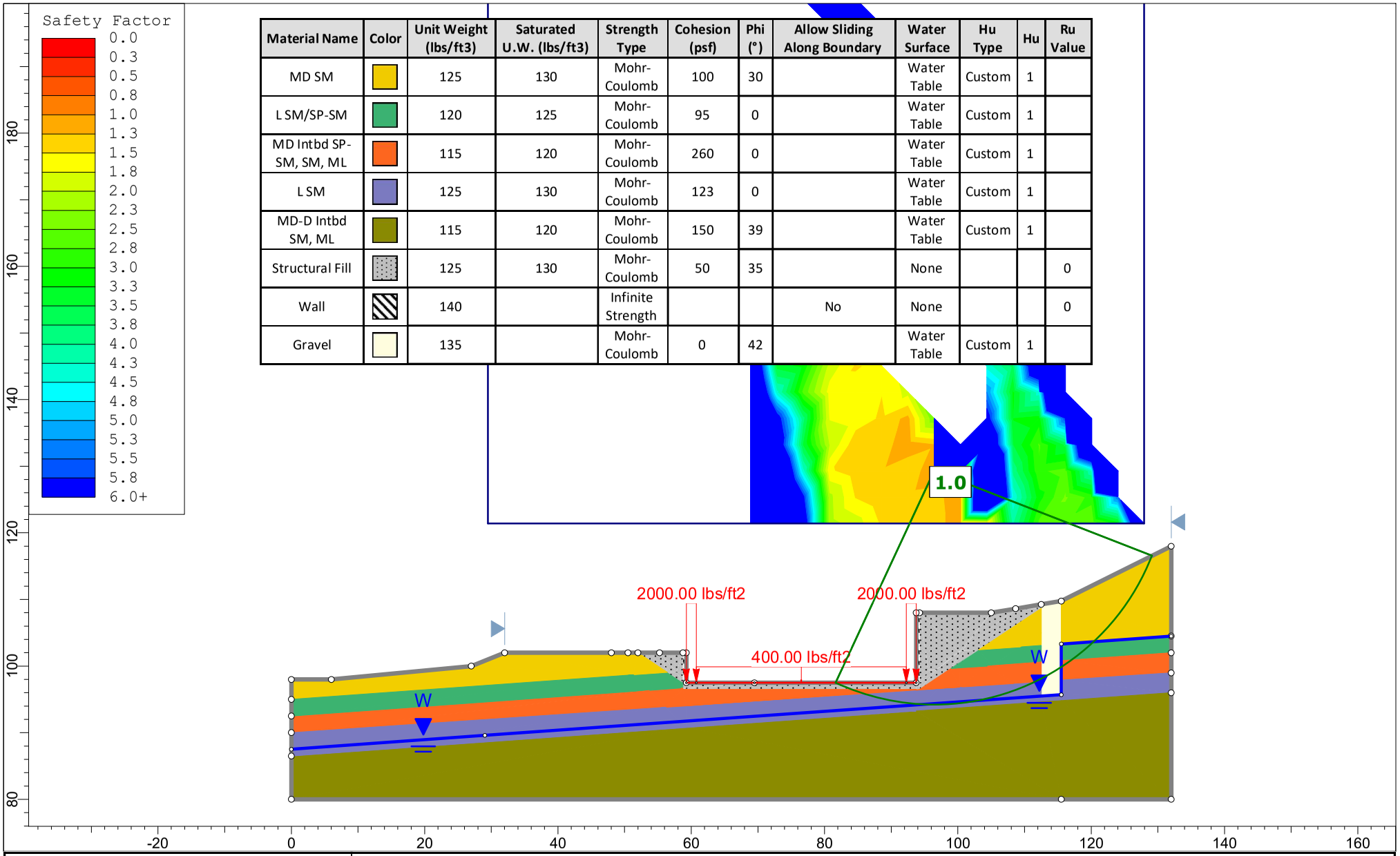
B-B' Post Development

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 109, 113 106, 111 92, 111 91.5, 111 91.5, 97.5 57.5, 97.5 57.5, 103.5 57, 103.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 55.1765, 97.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91
Material Boundary	103.017, 103.569 134, 107.5
Material Boundary	91.5, 97.5 92, 97.5 92, 111
Material Boundary	92, 97.5 94, 97.5 103.017, 103.569 120, 115
Material Boundary	46, 103.5 55.1765, 97.5 57, 97.5 57.5, 97.5
Material Boundary	57, 97.5 57, 103.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95.5 115, 97 115, 109.09 134, 111.5	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML	Assigned to: MD ML - No Cohes L Intbd SP-S SM, ML - No Cohes L Intbd SM, - No Cohes Vd Intbd SM ML - No Col D ML - No Cohes	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML
Distributed Load	59, 97.5 57.5, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	91.5, 97.5 90, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	90, 97.5 59, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

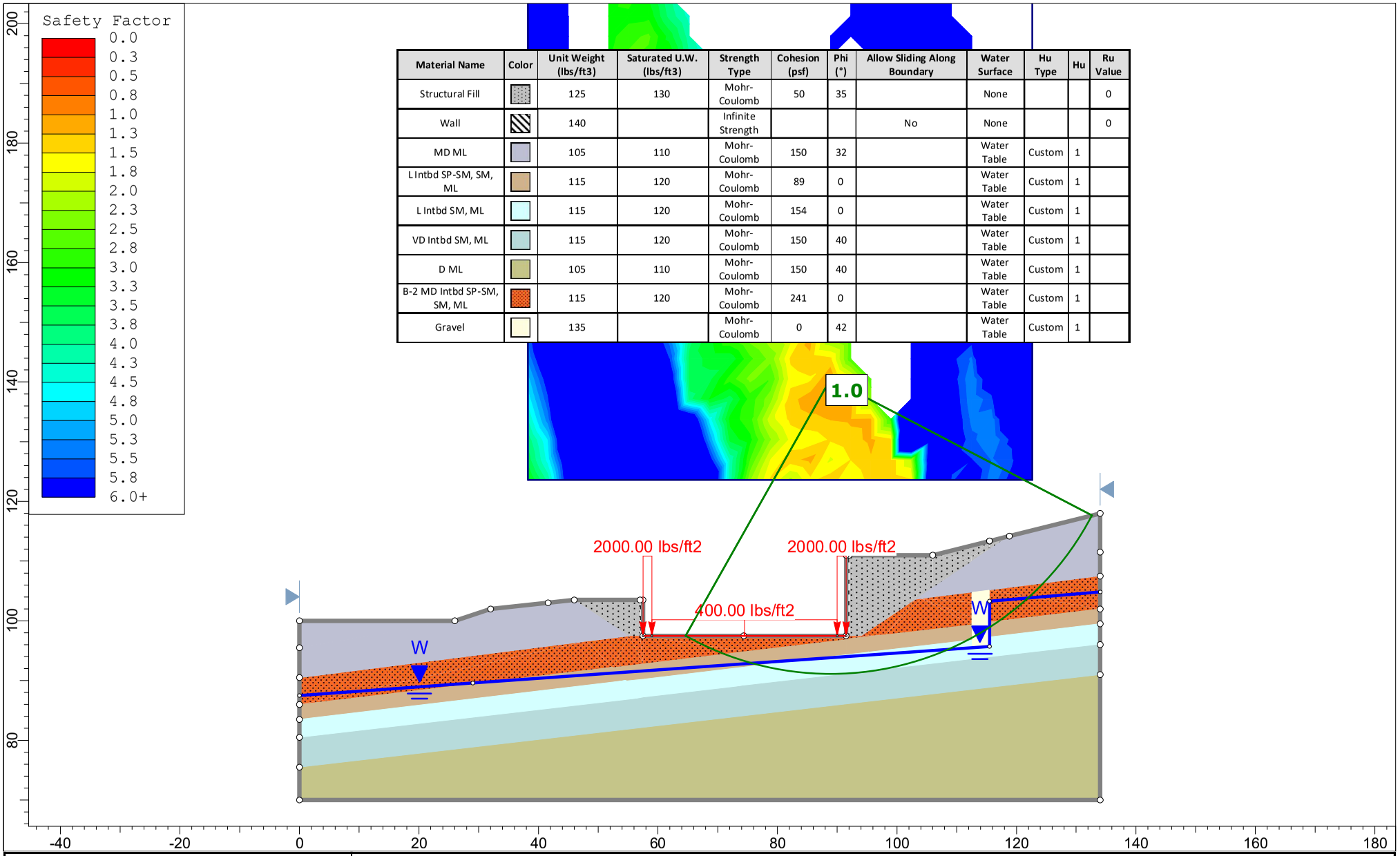


Material Name	Color	Unit Weight (lbs/ft3)	Saturated U.W. (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu	Ru Value
MD SM		125	130	Mohr-Coulomb	100	30		Water Table	Custom	1	
L SM/SP-SM		120	125	Mohr-Coulomb	95	0		Water Table	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	260	0		Water Table	Custom	1	
L SM		125	130	Mohr-Coulomb	123	0		Water Table	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Table	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	50	35		None			0
Wall		140		Infinite Strength			No	None			0
Gravel		135		Mohr-Coulomb	0	42		Water Table	Custom	1	

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SLIDEINTERPRET 9.029

Project	3036 67th Ave SE		
Group	A-A' - Post-Development - Static	Scenario	Master Scenario
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023 rv 10/10/2023	File Name	3036 67th Ave SE - Post Construction Residual Strengths rv 11-3-23.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Saturated U.W. (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (°)	Allow Sliding Along Boundary	Water Surface	Hu Type	Hu	Ru Value
Structural Fill		125	130	Mohr-Coulomb	50	35		None			0
Wall		140		Infinite Strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Table	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	89	0		Water Table	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	154	0		Water Table	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Table	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Table	Custom	1	
B-2 MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	241	0		Water Table	Custom	1	
Gravel		135		Mohr-Coulomb	0	42		Water Table	Custom	1	

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SLIDEINTERPRET 9.029

Project	3036 67th Ave SE		
Group	B-B' - Post-Development - Static	Scenario	Master Scenario
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023 rv 11/27/23	File Name	3036 67th Ave SE - Post Construction Residual Strengths rv 11-3-23.slmd

Residual Soil Strengths - For the layers that liquefy

B-1 L SM/SP-SM % Passing #200 Sieve = 15 $N_{corr} = 1$

$N_{1(60)} = 6$

$N_{1(60)cs-sr} = 7$

Overburden = $(9.5)(125) + (0.5)(57.6) = 1216.3$

Per Figure 4-19

$S_r/\sigma_v = 0.078$ $S_r = (0.078)(1216.3) = 94.87 \approx 95$

B-1 MO INTBD SP-SM, SM, ML % Passing = 30 $N_{corr} = 2$

$N_{(60)} = 15$ $N_{(60)cs-sr} = 17$

Overburden = $(9.5)(125) + (4.5)(57.6) = 1446.7$

$S_r/\sigma_v = 0.18$ $S_r = (0.18)(1446.7) = 260.41 \approx 260$

B-1 L SM % Passing 200 = 15 $N_{corr} = 1$

$N_{1(60)} = 6$ $N_{1(60)cs-sr} = 7$

Overburden = $(9.5)(125) + (4.5)(57.6) + 2(67.6) = 1581.9$

$S_r/\sigma_v = 0.078$ $S_r = (0.078)(1581.9) = 123.38 \approx 123$

B-2 IND INTBD SP-SM, SM, ML % Passing = 30 $N_{corr} = 2$

$N_{1(60)} = \frac{23+10}{2} = 14.5$ $N_{1(60)cs-sr} = 18.5$

Overburden = 2.5(105) + 4.5(45) + 2.5(55) = 602.5

$S_r/\sigma_v' = 0.4$ $S_r = (0.4)(602.5) = 241$

B-2 L INTBD SP-SM, SM, ML % passing = 50 $N_{corr} = 4$

$N_{1(60)} = \frac{7+9}{2} = 8$ $N_{1(60)cs-sr} = 12$

Overburden = 2.5(105) + 4.5(45) + 4(55) = 685

$S_r/\sigma_v = 0.13$ $S_r = (0.13)(685) = 89.05 \approx 89$

B-2 L INTBD SM, ML % passing = 50 $N_{corr} = 4$

$N_{1(60)} = 9$ $N_{1(60)cs-sr} = 13$

Overburden = 2.5(105) + 4.5(45) + 9(55) = 960

$S_r/\sigma_v = 0.16$ $S_r = (0.16)(960) = 153.6 \approx 154$

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3036 67th Ave SE - Post Construction Residual Strengths rv 11-3-23
3036 67th Ave SE
Terra Associates
Date Created: 2/25/2023 rv 11/27/23
Software Version: 9.029

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Slide2 Analysis Information

3036 67th Ave SE - Post Construction Residual Strengths rv 11-3-23

Project Summary

File Name:	3036 67th Ave SE - Post Construction Residual Strengths rv 11-3-23.slmd
Slide2 Modeler Version:	9.029
Project Title:	3036 67th Ave SE
Analysis:	Cross Section B-B'
Author:	JCS
Company:	Terra Associates
Date Created:	2/25/2023 rv 11/27/23

Currently Open Scenarios

Group Name	Scenario Name	Global Minimum	Compute Time
B-B' - Post-Development - Static	Master Scenario	Bishop Simplified: 0.962316	00h:00m:00.276s
A-A' - Post-Development - Static	Master Scenario	Bishop Simplified: 1.037120	00h:00m:00.253s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Right to Left

Analysis Options

All Open Scenarios

Slices Type:	Vertical
Analysis Methods Used	
	Bishop simplified
Number of slices:	50
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

All Open Scenarios

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Advanced Groundwater Method:	None

Random Numbers

All Open Scenarios

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

B-B' - Post-Development - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' - Post-Development - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

All Open Scenarios

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

Loading

All Open Scenarios

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

Materials

MD SM	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	125 lbs/ft3
Saturated U.W.	130 lbs/ft3
Cohesion	100 psf
Phi	30 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

L SM/SP-SM	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	120 lbs/ft3
Saturated U.W.	125 lbs/ft3
Cohesion	95 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

MD Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	260 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

L SM	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	125 lbs/ft3
Saturated U.W.	130 lbs/ft3
Cohesion	123 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

MD-D Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	150 psf
Phi	39 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

Structural Fill	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	125 lbs/ft3
Saturated U.W.	130 lbs/ft3
Cohesion	50 psf
Phi	35 °
Water Surface	Assigned per scenario
Ru Value	0

Wall	
Color	
Strength Type	Infinite Strength
Unit Weight	140 lbs/ft3
Allow Sliding Along Boundary	No
Water Surface	Assigned per scenario
Ru Value	0

MD ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	105 lbs/ft3
Saturated U.W.	110 lbs/ft3
Cohesion	150 psf
Phi	32 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

L Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	89 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

L Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	154 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

VD Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	150 psf
Phi	40 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

D ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	105 lbs/ft3
Saturated U.W.	110 lbs/ft3
Cohesion	150 psf
Phi	40 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

B-2 MD Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	115 lbs/ft3
Saturated U.W.	120 lbs/ft3
Cohesion	241 psf
Phi	0 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

Gravel	
Color	
Strength Type	Mohr-Coulomb
Unit Weight	135 lbs/ft3
Cohesion	0 psf
Phi	42 °
Water Surface	Assigned per scenario
Hu Type	Custom
Hu	1
Specify alternate strength type above water surface	No

Materials In Use

Material	B-B' - Post-Development - Static	A-A' - Post-Development - Static
MD SM	✗	✓
L SM/SP-SM	✗	✓
MD Intbd SP-SM, SM, ML	✗	✓
L SM	✗	✓
MD-D Intbd SM, ML	✗	✓
Structural Fill	✓	✓
Wall	✓	✓
MD ML	✓	✗
L Intbd SP-SM, SM, ML	✓	✗
L Intbd SM, ML	✓	✗
VD Intbd SM, ML	✓	✗
D ML	✓	✗
B-2 MD Intbd SP-SM, SM, ML	✓	✗
Gravel	✓	✓

Global Minimums

B-B' - Post-Development - Static

Method: bishop simplified

FS	0.962316
Center:	88.883, 140.502
Radius:	49.377
Left Slip Surface Endpoint:	64.615, 97.500
Right Slip Surface Endpoint:	132.662, 117.665
Resisting Moment:	983209 lb-ft
Driving Moment:	1.02171e+06 lb-ft
Total Slice Area:	694.764 ft2
Surface Horizontal Width:	68.0467 ft
Surface Average Height:	10.2101 ft

A-A' - Post-Development - Static

Method: bishop simplified

FS	1.037120
Center:	96.444, 129.295
Radius:	35.065
Left Slip Surface Endpoint:	81.657, 97.500
Right Slip Surface Endpoint:	129.114, 116.557
Resisting Moment:	486889 lb-ft
Driving Moment:	469462 lb-ft
Total Slice Area:	389.465 ft2
Surface Horizontal Width:	47.4567 ft
Surface Average Height:	8.20674 ft

Global Minimum Support Data

All Open Scenarios

No Supports Present

Valid and Invalid Surfaces

B-B' - Post-Development - Static

Method: bishop simplified

Number of Valid Surfaces:	5376
Number of Invalid Surfaces:	8820

Error Codes

Error Code -99 reported for 7748 surfaces
Error Code -106 reported for 92 surfaces
Error Code -107 reported for 134 surfaces
Error Code -108 reported for 174 surfaces
Error Code -1000 reported for 672 surfaces

A-A' - Post-Development - Static

Method: bishop simplified

Number of Valid Surfaces:	1811
Number of Invalid Surfaces:	12385

Error Codes

Error Code -99 reported for 5676 surfaces
Error Code -103 reported for 40 surfaces
Error Code -106 reported for 306 surfaces
Error Code -107 reported for 238 surfaces
Error Code -108 reported for 2345 surfaces
Error Code -1000 reported for 3780 surfaces

Error Code Descriptions

The following errors were encountered during the computation:
-99 = Slip surface intersects an infinite strength material. If infinite strength regions are defined for a model, a large number of potential slip surfaces may show this error code. This is Normal.
-103 = Two surface / slope intersections, but one or more surface / nonslope external polygon intersections lie between them. This usually occurs when the slip surface extends past the bottom of the soil region, but may also occur on a benched slope model with two sets of Slope Limits.
-106 = Average slice width is less than 0.0001 * (maximum horizontal extent of soil region). This limitation is imposed to avoid numerical errors which may result from too many slices, or too small a slip region.
-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction.
-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).
-1000 = No valid slip surface is generated

Slice Data

B-B' - Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 0.962316

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.27672	51.0891	-28.5946	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	575.911	0	575.911	439.399	439.399
2	1.27672	149.769	-26.9201	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	643.898	0	643.898	516.733	516.733
3	1.27672	241.604	-25.2702	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	706.927	0	706.927	588.705	588.705
4	1.27672	326.878	-23.6424	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	765.168	0	765.168	655.534	655.534
5	1.27672	405.842	-22.0346	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	818.779	0	818.779	717.42	717.42
6	1.67919	643.316	-20.1974	L Intbd SP-SM, SM, ML	89	0	92.4852	89	816.98	0	816.98	782.957	782.957
7	1.67919	756.06	-18.134	L Intbd SP-SM, SM, ML	89	0	92.4852	89	880.408	0	880.408	850.118	850.118
8	1.42875	735.983	-16.2453	Material 28	150	30	853.433	821.272	1162.68	0	1162.68	913.998	913.998
9	0.895861	497.241	-14.8441	Material 28	150	30	859.243	826.863	1181.74	9.38197	1172.36	954.013	944.631
10	1.44835	855.627	-13.4424	L Intbd SM, ML	154	0	160.031	154	1028.84	32.7594	996.076	990.586	957.826
11	1.44835	913.074	-11.7201	L Intbd SM, ML	154	0	160.031	154	1063.47	59.3217	1004.15	1030.27	970.951
12	1.44835	962.651	-10.0085	L Intbd SM, ML	154	0	160.031	154	1092.77	83.0581	1009.71	1064.52	981.466
13	1.44835	1004.49	-8.30595	L Intbd SM, ML	154	0	160.031	154	1116.8	104.017	1012.78	1093.43	989.415
14	1.44835	1038.56	-6.61072	L Intbd SM, ML	154	0	160.031	154	1135.53	122.238	1013.29	1116.98	994.741
15	1.44835	1064.75	-4.92128	L Intbd SM, ML	154	0	160.031	154	1148.86	137.753	1011.11	1135.08	997.326
16	1.44835	1083.44	-3.23613	L Intbd SM, ML	154	0	160.031	154	1157.06	150.585	1006.48	1148.01	997.428
17	1.44835	1094.71	-1.55378	L Intbd SM, ML	154	0	160.031	154	1160.15	160.753	999.401	1155.81	995.06
18	1.44835	1098.59	0.127228	L Intbd SM, ML	154	0	160.031	154	1158.15	168.265	989.889	1158.51	990.244
19	1.44835	1095.08	1.80835	L Intbd SM, ML	154	0	160.031	154	2438.4	173.125	2265.28	2443.46	2270.33
20	1.44835	3064.76	3.49103	L Intbd SM, ML	154	0	160.031	154	2568.45	175.328	2393.12	2578.21	2402.89
21	1.44835	3509.91	5.17673	L Intbd SM, ML	154	0	160.031	154	2408.95	174.864	2234.09	2423.45	2248.58
22	1.44835	3476.44	6.86695	L Intbd SM, ML	154	0	160.031	154	2381.09	171.715	2209.37	2400.36	2228.64
23	1.44835	3428.95	8.56319	L Intbd SM, ML	154	0	160.031	154	2343.49	165.856	2177.64	2367.59	2201.73
24	1.44835	3373.82	10.267	L Intbd SM, ML	154	0	160.031	154	2300.56	157.253	2143.31	2329.55	2172.3

25	1.44835	3310.94	11.9801	L Intbd SM, ML	154	0	160.031	154	2252.2	145.866	2106.33	2286.16	2140.29
26	1.44835	3240.16	13.7042	L Intbd SM, ML	154	0	160.031	154	2198.29	131.644	2066.64	2237.31	2105.67
27	1.44835	3161.33	15.441	L Intbd SM, ML	154	0	160.031	154	2138.7	114.53	2024.17	2182.91	2068.38
28	1.44835	3070.42	17.1924	L Intbd SM, ML	154	0	160.031	154	2070.65	94.4534	1976.19	2120.16	2025.71
29	1.44835	2963.59	18.9607	L Intbd SM, ML	154	0	160.031	154	1991.44	71.3336	1920.11	2046.42	1975.09
30	1.44835	2866.64	20.7479	L Intbd SM, ML	154	0	160.031	154	1918.89	45.0769	1873.82	1979.52	1934.44
31	1.44835	2805.47	22.5565	L Intbd SM, ML	154	0	160.031	154	1870.83	15.5753	1855.26	1937.31	1921.73
32	1.15371	2187.6	24.2003	L Intbd SM, ML	154	0	160.031	154	1824.55	0	1824.55	1896.47	1896.47
33	1.15371	2141.78	25.6769	L Intbd SM, ML	154	0	160.031	154	1779.83	0	1779.83	1856.77	1856.77
34	1.15371	2091.06	27.1721	L Intbd SM, ML	154	0	160.031	154	1730.69	0	1730.69	1812.84	1812.84
35	0.493297	877.256	28.2494	Material 28	150	30	925.739	890.853	1283.19	0	1283.19	1780.6	1780.6
36	1.5	2800.85	29.575	Gravel	0	42	1142.95	1099.88	1221.54	0	1221.54	1870.16	1870.16
37	1.5	2669.82	31.5976	Gravel	0	42	1058.74	1018.84	1131.54	0	1131.54	1782.82	1782.82
38	1.60108	2533.78	33.7365	L Intbd SP -SM, SM, ML	89	0	92.4852	89	1521.07	245.305	1275.76	1582.83	1337.53
39	1.21662	1816.66	35.7231	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	1313.9	191.922	1121.98	1494.01	1302.09
40	1.21662	1715.68	37.4821	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	1219.02	141.8	1077.22	1411.07	1269.27
41	1.21662	1615.21	39.2837	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	1123.68	87.926	1035.76	1328.54	1240.62
42	1.21662	1506.34	41.1329	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	1020.4	30.0082	990.394	1239.13	1209.12
43	1.26145	1439.22	43.0721	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	907.852	0	907.852	1141.98	1141.98
44	1.26145	1305.61	45.1111	B-2 MD Intbd SP-SM, SM, ML	241	0	250.437	241	784.734	0	784.734	1036.14	1036.14
45	1.36191	1252.83	47.3138	MD ML	150	32	442.842	426.154	441.938	0	441.938	922.074	922.074
46	1.36191	1081.11	49.7011	MD ML	150	32	380.953	366.597	346.627	0	346.627	795.849	795.849
47	1.36191	889.376	52.2126	MD ML	150	32	316.251	304.333	246.985	0	246.985	654.878	654.878
48	1.36191	674.041	54.8758	MD ML	150	32	248.707	239.334	142.965	0	142.965	496.521	496.521
49	1.36191	430.09	57.7294	MD ML	150	32	178.356	171.635	34.6234	0	34.6234	317.076	317.076
50	1.36191	150.112	60.8309	MD ML	150	32	105.393	101.421	-77.7425	0	-77.7425	111.075	111.075

A-A' - Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.03712

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.18737	39.0116	-23.8806	Structural Fill	50	35	485.599	503.624	647.842	0	647.842	432.852	432.852
2	1.18737	113.222	-21.775	Structural Fill	50	35	523.954	543.403	704.653	0	704.653	495.352	495.352
3	0.928527	134.034	-19.9234	MD Intbd SP-SM, SM, ML	260	0	250.694	260	635.216	0	635.216	544.35	544.35
4	0.928527	168.415	-18.3174	MD Intbd SP-SM, SM, ML	260	0	250.694	260	664.371	0	664.371	581.377	581.377
5	0.918514	198.975	-16.7347	L SM	123	0	118.598	123	652.286	0	652.286	616.627	616.627
6	0.918514	229.705	-15.1735	L SM	123	0	118.598	123	682.246	0	682.246	650.082	650.082
7	0.918514	257.36	-13.6238	L SM	123	0	118.598	123	708.935	0	708.935	680.191	680.191
8	0.918514	282.004	-12.0842	L SM	123	0	118.598	123	732.412	0	732.412	707.022	707.022
9	0.918514	303.692	-10.5534	L SM	123	0	118.598	123	752.728	0	752.728	730.633	730.633
10	0.918514	322.471	-9.03021	L SM	123	0	118.598	123	769.926	0	769.926	751.078	751.078
11	0.918514	338.38	-7.51343	L SM	123	0	118.598	123	903.215	0	903.215	887.573	887.573
12	0.918514	351.454	-6.00193	L SM	123	0	118.598	123	2395.1	0	2395.1	2382.63	2382.63
13	0.918514	957.718	-4.49461	L SM	123	0	118.598	123	2169.18	0	2169.18	2159.86	2159.86
14	0.918514	1587.37	-2.99041	L SM	123	0	118.598	123	1734.4	0	1734.4	1728.2	1728.2
15	0.95673	1637.11	-1.45704	L SM	123	0	118.598	123	1714.17	2.86747	1711.3	1711.15	1708.29
16	0.95673	1633.36	0.106526	L SM	123	0	118.598	123	1707.01	7.79013	1699.22	1707.23	1699.44
17	0.95673	1626.36	1.67017	L SM	123	0	118.598	123	1696.45	11.0832	1685.37	1699.91	1688.83
18	0.95673	1616.11	3.23507	L SM	123	0	118.598	123	1682.49	12.7445	1669.75	1689.19	1676.45
19	0.95673	1603.87	4.80239	L SM	123	0	118.598	123	1666.44	12.7684	1653.67	1676.4	1663.63
20	0.95673	1589.79	6.37332	L SM	123	0	118.598	123	1648.45	11.1453	1637.3	1661.7	1650.55
21	0.95673	1572.41	7.94908	L SM	123	0	118.598	123	1626.96	7.86197	1619.09	1643.52	1635.65
22	0.95673	1551.68	9.53092	L SM	123	0	118.598	123	1601.94	2.90105	1599.04	1621.86	1618.95
23	0.968024	1546.19	11.1296	L SM	123	0	118.598	123	1573.94	0	1573.94	1597.27	1597.27
24	0.968024	1521.14	12.7465	L SM	123	0	118.598	123	1544.56	0	1544.56	1571.39	1571.39
25	0.968024	1497.01	14.3738	L SM	123	0	118.598	123	1516.06	0	1516.06	1546.46	1546.46
26	0.968024	1483.5	16.013	L SM	123	0	118.598	123	1498.47	0	1498.47	1532.51	1532.51
27	0.968024	1467.52	17.6659	L SM	123	0	118.598	123	1478.23	0	1478.23	1516	1516
28	0.968024	1447.81	19.3341	L SM	123	0	118.598	123	1454.02	0	1454.02	1495.63	1495.63
29	0.968024	1424.24	21.0195	L SM	123	0	118.598	123	1425.72	0	1425.72	1471.29	1471.29
30	0.968024	1396.7	22.7242	L SM	123	0	118.598	123	1393.16	0	1393.16	1442.83	1442.83
31	0.968024	1365.03	24.4505	L SM	123	0	118.598	123	1356.19	0	1356.19	1410.12	1410.12
32	1.05999	1455.61	26.2852	Material 29	150	32	749.095	776.901	1003.25	0	1003.25	1373.23	1373.23
33	1	1477.41	28.1779	Gravel	0	42	875.487	907.985	1008.42	0	1008.42	1477.42	1477.42
34	1	1424.7	30.0487	Gravel	0	42	823.378	853.942	948.395	0	948.395	1424.71	1424.71
35	1	1366.05	31.9555	Gravel	0	42	769.336	797.894	886.148	0	886.148	1366.05	1366.05
36	0.77568	949.905	33.68	MD Intbd SP-SM, SM, ML	260	0	250.694	260	1057.55	201.068	856.478	1224.61	1023.54
37	0.77568	937.753	35.2173	MD Intbd SP-SM, SM, ML	260	0	250.694	260	1031.99	171.34	860.647	1208.95	1037.61
38	0.830312	985.796	36.8407	L SM/SP-SM	95	0	91.5998	95	1118.63	138.455	980.174	1187.26	1048.8
39	0.830312	962.259	38.5558	L SM/SP-SM	95	0	91.5998	95	1085.9	102.127	983.777	1158.91	1056.79
40	0.830312	934.446	40.313	L SM/SP-SM	95	0	91.5998	95	1047.7	63.2286	984.468	1125.41	1062.19
41	0.830312	902.02	42.1171	L SM/SP-SM	95	0	91.5998	95	1003.55	21.5561	981.992	1086.36	1064.81
42	0.971235	1007.02	44.1374	MD SM	100	30	437.367	453.602	612.457	0	612.457	1036.85	1036.85
43	0.971235	946.869	46.3936	MD SM	100	30	403.386	418.36	551.416	0	551.416	974.919	974.919
44	0.971235	876.707	48.7477	MD SM	100	30	366.38	379.98	484.939	0	484.939	902.681	902.681
45	0.971235	795.069	51.2181	MD SM	100	30	326.163	338.27	412.696	0	412.696	818.623	818.623
46	0.971235	700.01	53.8296	MD SM	100	30	282.526	293.013	334.309	0	334.309	720.749	720.749
47	0.971235	588.858	56.6164	MD SM	100	30	235.226	243.958	249.343	0	249.343	606.305	606.305
48	0.971235	457.746	59.6281	MD SM	100	30	184.004	190.834	157.329	0	157.329	471.309	471.309
49	0.971235	300.68	62.9423	MD SM	100	30	128.606	133.379	57.8148	0	57.8148	309.59	309.59
50	0.971235	107.369	66.6928	MD SM	100	30	68.9147	71.4728	-49.4106	0	-49.4106	110.552	110.552

Interslice Data

B-B' - Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 0.962316

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	64.6152	97.5	0	0	0
2	65.8919	96.8041	719.087	0	0
3	67.1687	96.1558	1454.81	0	0
4	68.4454	95.5531	2199.15	0	0
5	69.7221	94.9942	2945.11	0	0
6	70.9988	94.4775	3686.48	0	0
7	72.678	93.8597	4345.76	0	0
8	74.3572	93.3098	4984.53	0	0
9	75.7859	92.8935	6682.41	0	0
10	76.6818	92.656	7729.28	0	0
11	78.1302	92.3099	8316.18	0	0
12	79.5785	92.0094	8866.45	0	0
13	81.0269	91.7538	9376.5	0	0
14	82.4752	91.5423	9843.38	0	0
15	83.9236	91.3745	10264.7	0	0
16	85.3719	91.2498	10638.7	0	0
17	86.8203	91.1679	10964.2	0	0
18	88.2686	91.1286	11240.5	0	0
19	89.717	91.1318	11467.5	0	0
20	91.1653	91.1775	11586.8	0	0
21	92.6137	91.2659	11590.6	0	0
22	94.062	91.3971	11505.2	0	0
23	95.5104	91.5715	11320.6	0	0
24	96.9587	91.7896	11040.2	0	0
25	98.4071	92.052	10667.4	0	0
26	99.8555	92.3593	10206	0	0
27	101.304	92.7125	9660.33	0	0
28	102.752	93.1125	9035.46	0	0
29	104.201	93.5607	8338.28	0	0
30	105.649	94.0583	7578.07	0	0
31	107.097	94.6069	6755.97	0	0
32	108.546	95.2085	5861.21	0	0
33	109.699	95.727	5098.96	0	0
34	110.853	96.2817	4295.53	0	0
35	112.007	96.8739	3454.38	0	0
36	112.5	97.139	3568.87	0	0
37	114	97.9902	4235.71	0	0
38	115.5	98.913	4772.55	0	0
39	117.101	99.9822	3293.55	0	0
40	118.318	100.857	2447.23	0	0
41	119.534	101.79	1613.26	0	0
42	120.751	102.785	798.262	0	0
43	121.968	103.848	17.3383	0	0
44	123.229	105.027	-738.799	0	0
45	124.49	106.294	-1418.06	0	0
46	125.852	107.77	-1470.25	0	0
47	127.214	109.376	-1510.44	0	0
48	128.576	111.133	-1515.53	0	0
49	129.938	113.069	-1455.13	0	0
50	131.3	115.226	-1288	0	0
51	132.662	117.665	0	0	0

A-A' - Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.03712

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	81.657	97.5	0	0	0
2	82.8444	96.9743	917.136	0	0
3	84.0318	96.5	1873.48	0	0
4	84.9603	96.1634	2320.03	0	0
5	85.8888	95.8561	2757.03	0	0
6	86.8073	95.5799	3046.1	0	0
7	87.7258	95.3308	3324.98	0	0
8	88.6444	95.1082	3591.73	0	0
9	89.5629	94.9115	3844.69	0	0
10	90.4814	94.7404	4082.43	0	0
11	91.3999	94.5944	4303.75	0	0
12	92.3184	94.4733	4522.1	0	0
13	93.2369	94.3767	4862.33	0	0
14	94.1554	94.3045	5127.88	0	0
15	95.074	94.2565	5320.03	0	0
16	96.0307	94.2322	5475.21	0	0
17	96.9874	94.234	5585.64	0	0
18	97.9441	94.2619	5651.78	0	0
19	98.9009	94.3159	5674.26	0	0
20	99.8576	94.3963	5653.77	0	0
21	100.814	94.5032	5591.08	0	0
22	101.771	94.6368	5487.19	0	0
23	102.728	94.7974	5343.33	0	0
24	103.696	94.9878	5158.4	0	0
25	104.664	95.2068	4934.98	0	0
26	105.632	95.4549	4673.69	0	0
27	106.6	95.7327	4372.19	0	0
28	107.568	96.041	4031.26	0	0
29	108.536	96.3807	3652.21	0	0
30	109.504	96.7526	3236.69	0	0
31	110.472	97.158	2786.69	0	0
32	111.44	97.5982	2304.57	0	0
33	112.5	98.1217	2573.35	0	0
34	113.5	98.6574	2908.61	0	0
35	114.5	99.2359	3183.34	0	0
36	115.5	99.8597	3399.89	0	0
37	116.276	100.377	3047.67	0	0
38	117.051	100.924	2677.08	0	0
39	117.882	101.546	2057.26	0	0
40	118.712	102.208	1414.68	0	0
41	119.542	102.912	752.658	0	0
42	120.373	103.663	75.3542	0	0
43	121.344	104.606	-77.0601	0	0
44	122.315	105.625	-247.547	0	0
45	123.286	106.733	-428.73	0	0
46	124.258	107.941	-610.803	0	0
47	125.229	109.27	-780.525	0	0
48	126.2	110.744	-919.569	0	0
49	127.171	112.401	-1001.6	0	0
50	128.142	114.302	-986.628	0	0
51	129.114	116.557	0	0	0

Discharge Sections

Entity Information

B-B' - Post-Development - Static

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 118.818, 114.205 115.502, 113.376 115.5, 113.375 106, 111 92, 111 91.5, 111 91.5, 97.5 74.3572, 97.5 57.5, 97.5 57.5, 103.5 57, 103.5 46, 103.5 41.6204, 103.031 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 48.0546, 96.5965 55.1765, 97.5

Material Boundary	0, 86 52.395, 92.2561 57.5, 92.8657 74.3572, 94.8785 91.5, 96.9254 98.1335, 97.7174 112.5, 99.4328 115.5, 99.791 115.502, 99.7913 134, 102
Material Boundary	0, 83.5 54.6283, 90.0228 57.5, 90.3657 74.3572, 92.3785 91.5, 94.4254 95.2945, 94.8784 112.5, 96.9328 115.5, 97.291 115.502, 97.2913 134, 99.5
Material Boundary	0, 80.5 57.5, 87.1511 74.3572, 89.101 91.5, 91.084 112.5, 93.5131 134, 96
Material Boundary	0, 75.5 134, 91
Material Boundary	103.017, 103.569 104.126, 103.71 112.5, 104.772 115.5, 105.153 115.502, 105.153 134, 107.5
Material Boundary	91.5, 97.5 92, 97.5 92, 111
Material Boundary	92, 97.5 94, 97.5 103.017, 103.569 105.978, 105.562 112.5, 109.952 115.5, 111.971 115.502, 111.972 118.818, 114.205
Material Boundary	46, 103.5 55.1765, 97.5 57, 97.5 57.5, 97.5
Material Boundary	57, 97.5 57, 103.5

Material Boundary	112.5, 95.488 112.5, 96.9328 112.5, 97.6705 112.5, 99.4328 112.5, 100.597 112.5, 103.097 112.5, 104.772 112.5, 109.952 112.5, 110.778
Material Boundary	112.5, 95.488 115.5, 95.7 115.502, 97.2913 115.502, 99.7913 115.502, 105.153 115.502, 111.972 115.502, 113.376
Material Boundary	91.5, 96.9254 91.5, 97.5
Material Boundary	74.3572, 94.8785 74.3572, 97.5
Material Boundary	74.3572, 89.101 74.3572, 92.3785 74.3572, 94.8785
Material Boundary	112.5, 93.5131 112.5, 95.488

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario
Water Table	0, 87.5 29.0413, 89.5901 115.5, 95.7 115.5, 103.313 134, 104.844	Assigned to: MD ML L Intbd SP-SM, SM, ML L Intbd SM, ML VD Intbd SM, ML D ML B-2 MD Intbd SP-SM, SM, ML ... and 3 more
Distributed Load	59, 97.5 57.5, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	91.5, 97.5 90, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	90, 97.5 59, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

A-A' - Post-Development - Static

Shared Entities

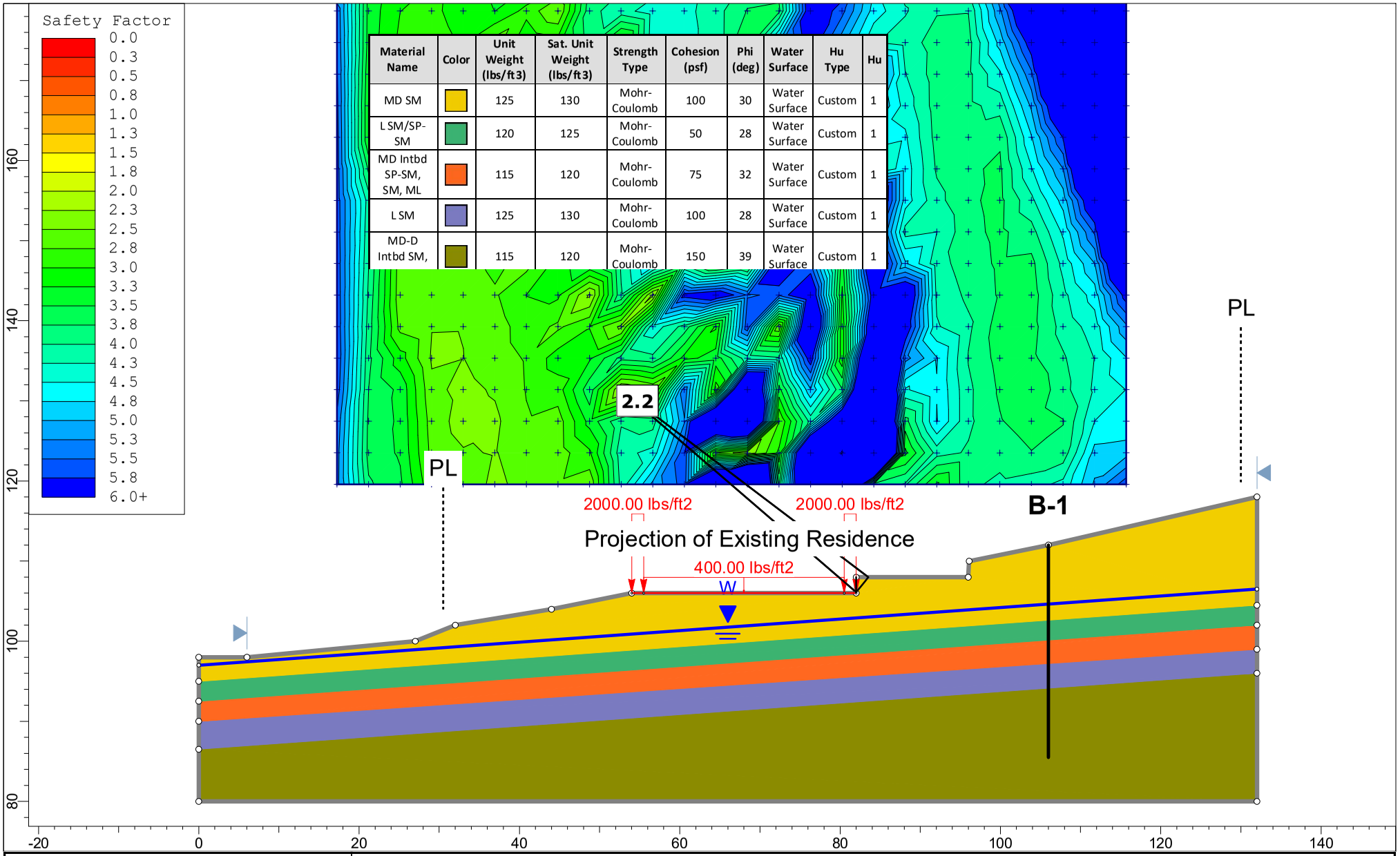
Type	Coordinates (x,y)
External Boundary	132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 115.5, 109.75 112.5, 109.25 108.685, 108.614 105, 108 94.25, 108 93.75, 108 93.75, 97.5 69.4737, 97.5 59.25, 97.5 59.25, 102 58.75, 102 55.242, 102 52, 102 50.5, 102 48.0142, 102 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5 0, 80 115.5, 80
Material Boundary	0, 95 51.3207, 98.6935 55.0564, 98.9624 56.4103, 99.0598 57.7641, 99.1573
Material Boundary	0, 92.5 53.6528, 96.3614 58.441, 96.706 58.75, 96.7282 59.25, 96.7642 69.4737, 97.5
Material Boundary	0, 90 56.1835, 93.8307 59.25, 94.0398 93.75, 96.392 97.125, 96.6222 100.253, 96.8354 108.317, 97.3853 112.5, 97.6705 115.5, 97.875 132, 99

Material Boundary	0, 86.5 59.25, 90.7642 93.75, 93.2472 112.5, 94.5966 115.5, 94.8125 132, 96
Material Boundary	95.6122, 99.3812 96.8047, 99.467 98.9299, 99.62 100.215, 99.7125 104.377, 100.012 105.096, 100.064 112.5, 100.597 115.5, 100.813 132, 102
Material Boundary	100.152, 102.208 100.386, 102.225 100.992, 102.268 102.909, 102.406 103.134, 102.423 109.299, 102.866 112.5, 103.097 115.5, 103.313 132, 104.5
Material Boundary	93.75, 97.5 94.25, 97.5 94.25, 108
Material Boundary	58.75, 102 58.75, 97.5 59.25, 97.5
Material Boundary	94.25, 97.5 95.6122, 99.3812 100.152, 102.208 105, 108
Material Boundary	55.242, 102 57.7641, 99.1573 58.75, 97.5
Material Boundary	94.25, 97.5 96.8047, 99.467 100.386, 102.225 100.698, 102.465 108.685, 108.614
Material Boundary	52, 102 56.4103, 99.0598 58.75, 97.5
Material Boundary	115.5, 80 115.5, 94.8125 115.5, 95.7 115.5, 97.875 115.5, 100.813 115.5, 103.313 115.5, 107 115.5, 109.75

Material Boundary	112.5, 94.5966 112.5, 95.5259 112.5, 97.6705 112.5, 100.597 112.5, 103.097 112.5, 105 112.5, 108.667 112.5, 109.25
Material Boundary	58.75, 97.5 58.75, 96.7282 58.75, 96.5 93.75, 96.5 94.25, 96.5 94.25, 97.5
Material Boundary	94.25, 96.5 98.9299, 99.62 103.134, 102.423 112.5, 108.667
Material Boundary	94.25, 96.5 100.253, 96.8354
Material Boundary	93.75, 93.2472 93.75, 96.392 93.75, 96.5 93.75, 97.5
Material Boundary	112.5, 95.5259 115.5, 95.7

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario
Water Table	0, 87.5 29.0413, 89.5901 115.5, 95.7 115.5, 103.313 132, 104.5	Assigned to: MD SM L SM/SP-SM MD Intbd SP-SM, SM, ML L SM MD-D Intbd SM, ML Gravel ... and 1 more
Distributed Load	60.75, 97.5 59.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	93.75, 97.5 92.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	92.25, 97.5 69.4737, 97.5 60.75, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

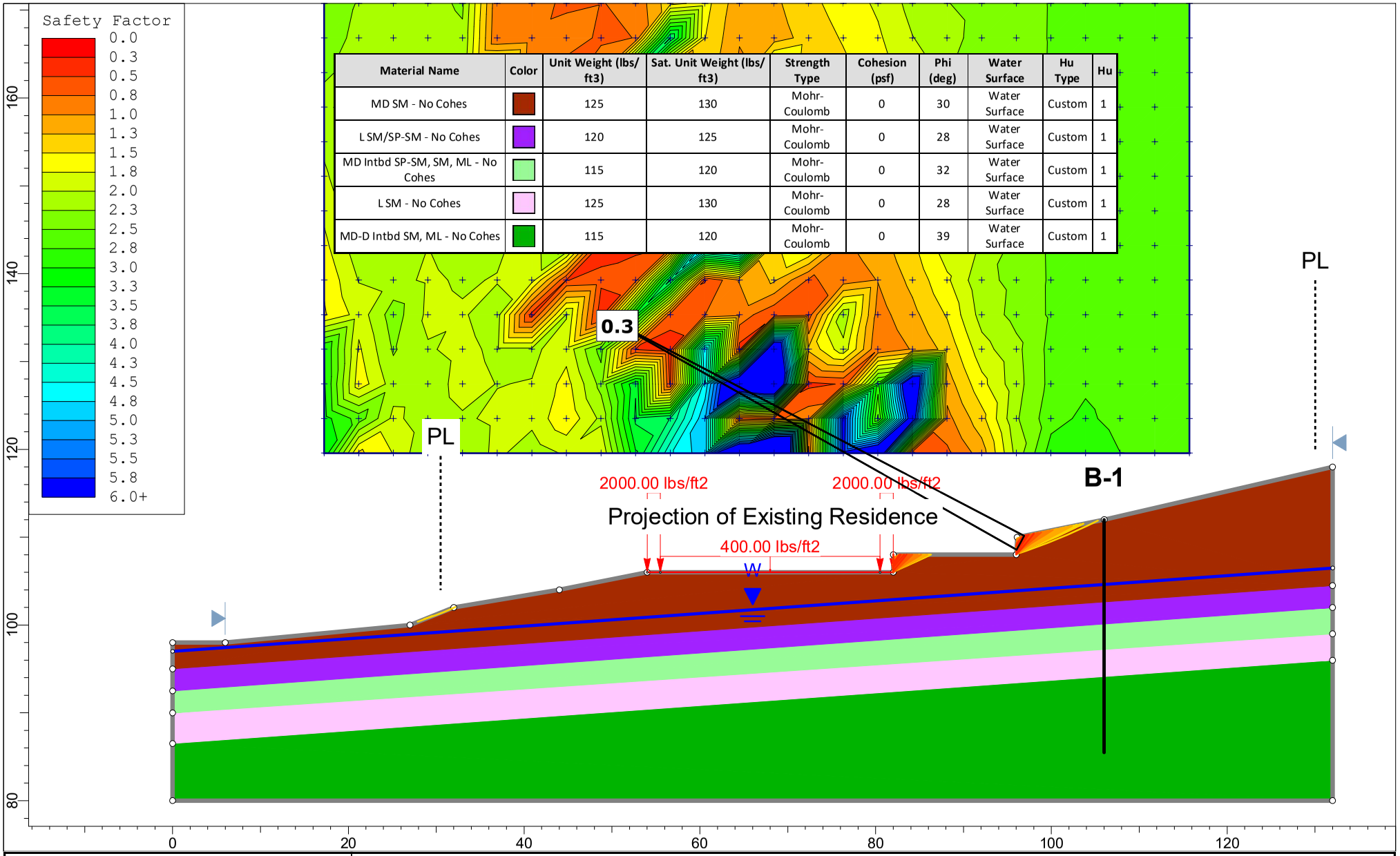


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM		125	130	Mohr-Coulomb	100	30	Water Surface	Custom	1
L SM/SP-SM		120	125	Mohr-Coulomb	50	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
L SM		125	130	Mohr-Coulomb	100	28	Water Surface	Custom	1
MD-D Intbd SM,		115	120	Mohr-Coulomb	150	39	Water Surface	Custom	1

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Existing	Scenario	Static
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

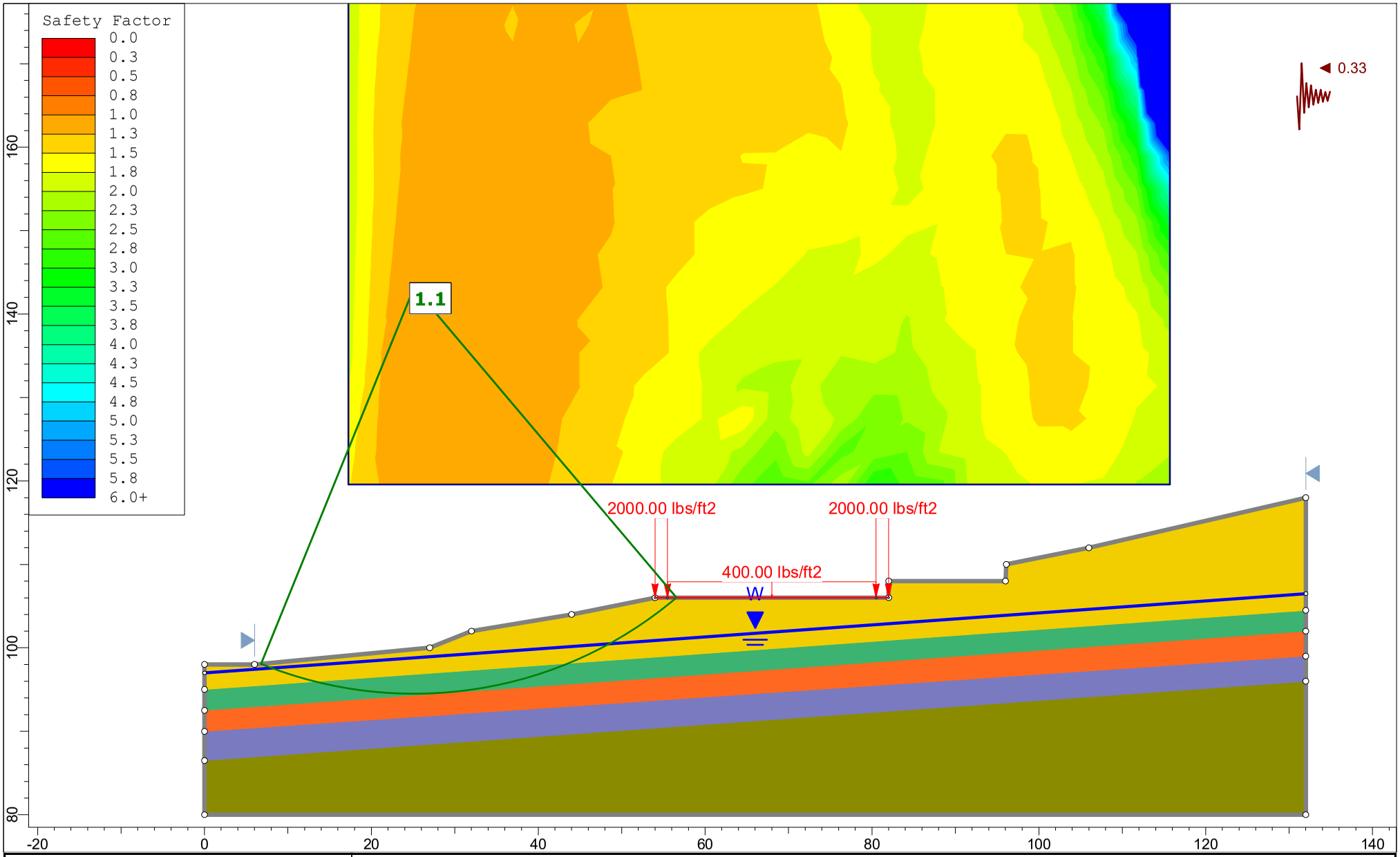


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM - No Cohes		125	130	Mohr-Coulomb	0	30	Water Surface	Custom	1
L SM/SP-SM - No Cohes		120	125	Mohr-Coulomb	0	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32	Water Surface	Custom	1
L SM - No Cohes		125	130	Mohr-Coulomb	0	28	Water Surface	Custom	1
MD-D Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	39	Water Surface	Custom	1

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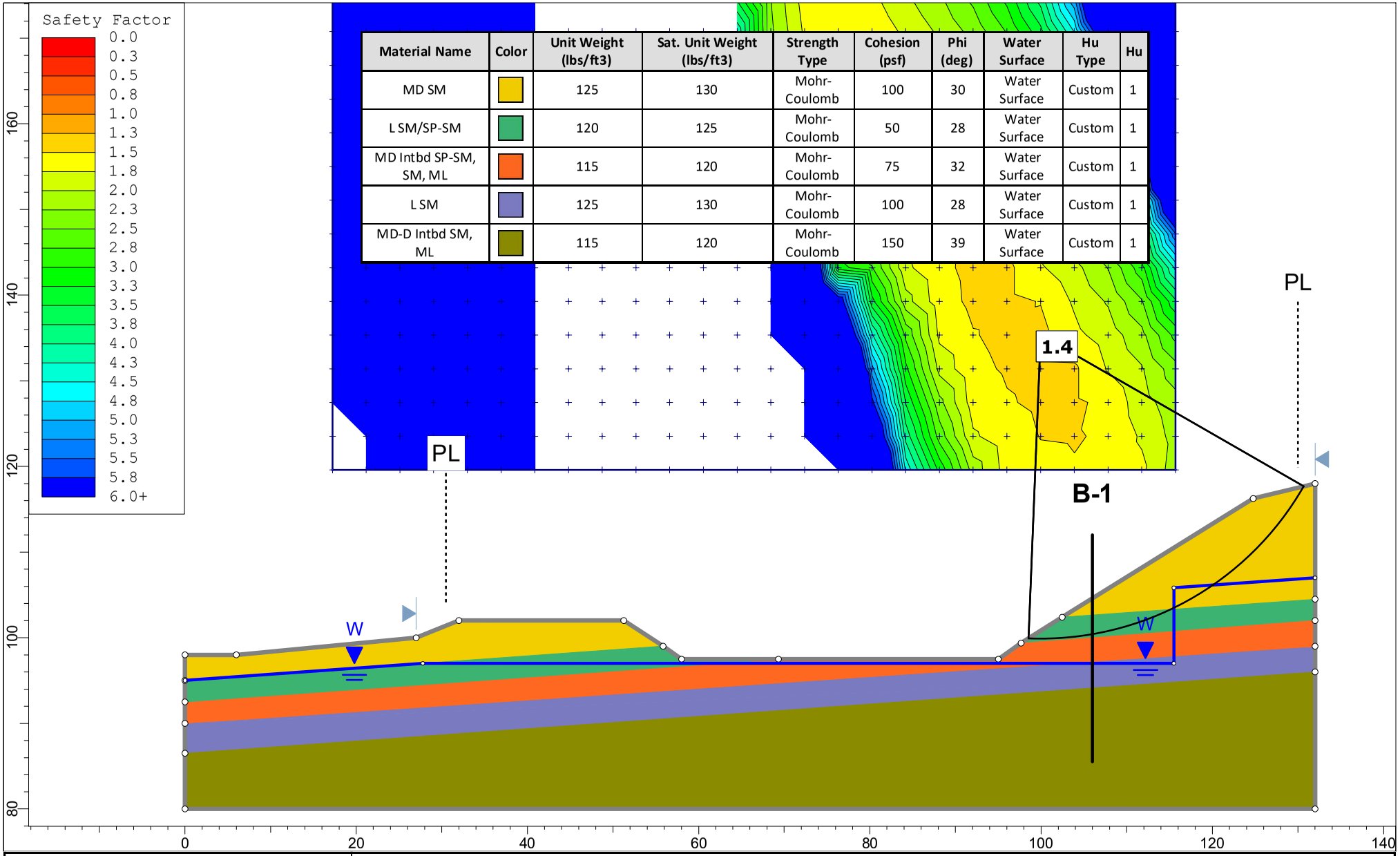
SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Existing	Scenario	Static - No Cohes
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd



rocscience	Project	3036 67th Ave SE	
	Group	A-A' Existing	Scenario: Pseudostatic
	Drawn By	JCS	Company: Terra Associates
	Date	2/25/2023	File Name: 3036 67th Ave SE - All Failure Surfaces.slmd

SLIDEINTERPRET 9.027

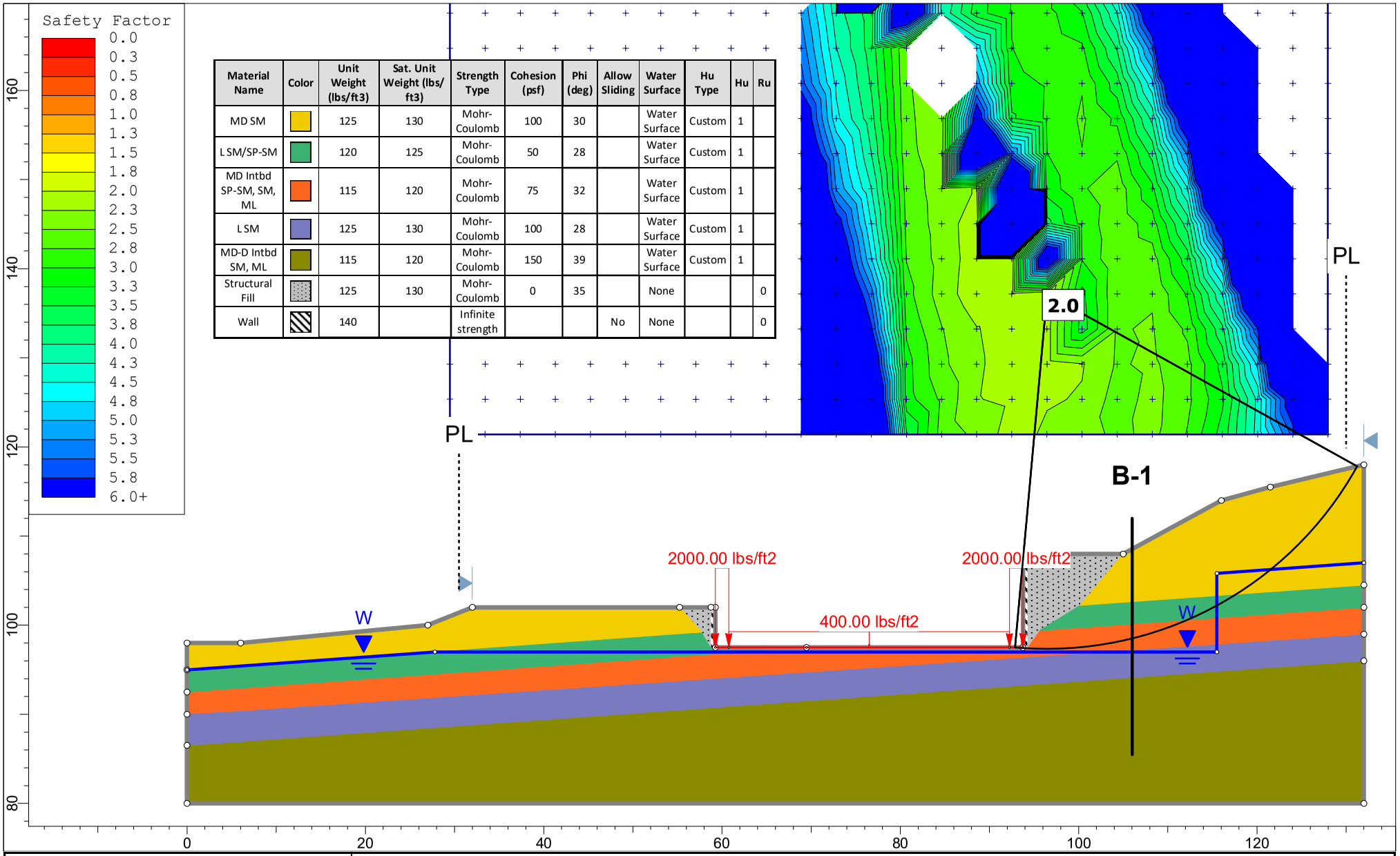


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD SM		125	130	Mohr-Coulomb	100	30	Water Surface	Custom	1
L SM/SP-SM		120	125	Mohr-Coulomb	50	28	Water Surface	Custom	1
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
L SM		125	130	Mohr-Coulomb	100	28	Water Surface	Custom	1
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39	Water Surface	Custom	1

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' During Const	Scenario	Static
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

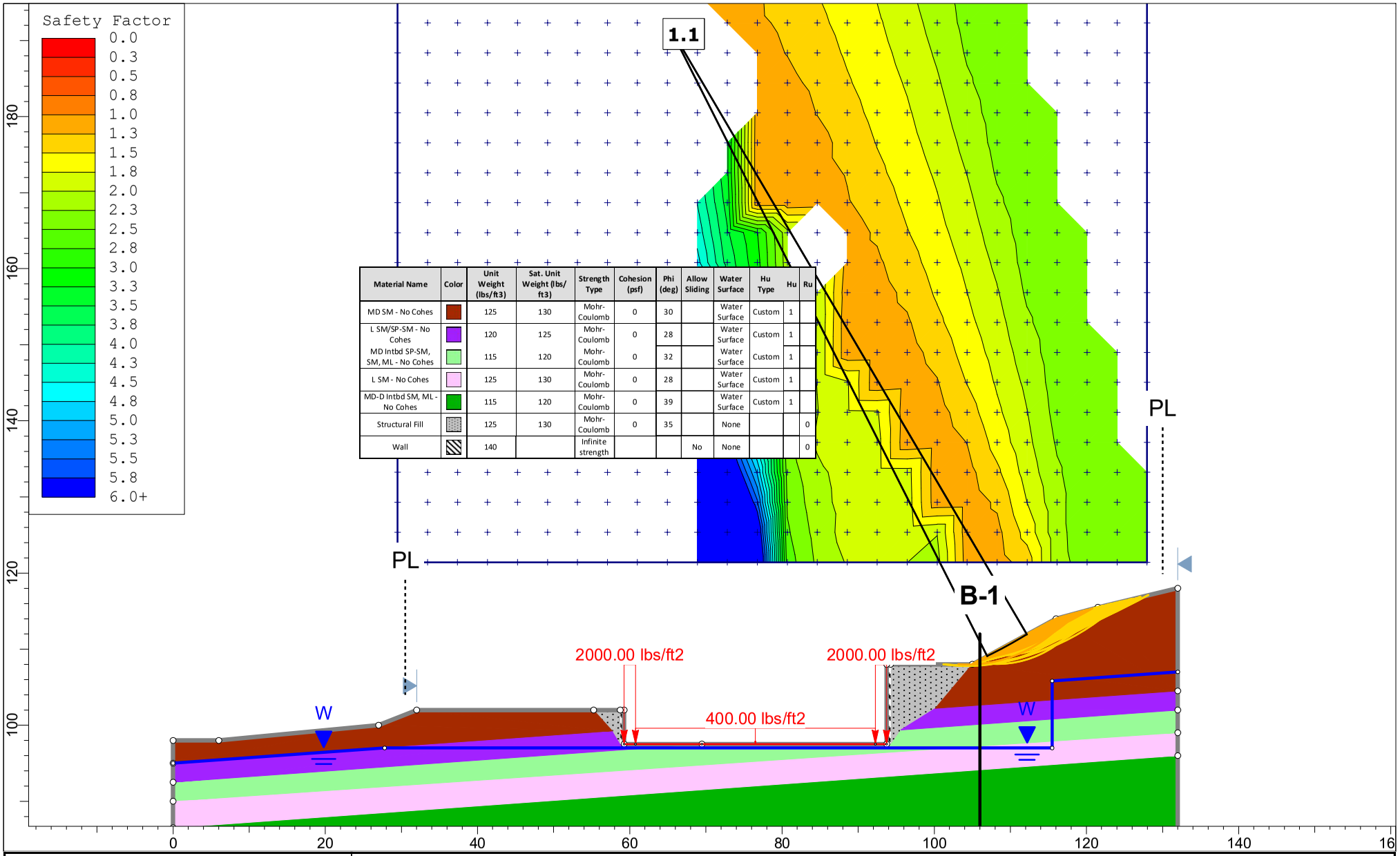


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM		125	130	Mohr-Coulomb	100	30		Water Surface	Custom	1	
LSM/SP-SM		120	125	Mohr-Coulomb	50	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
LSM		125	130	Mohr-Coulomb	100	28		Water Surface	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Post-Development	Scenario	Static
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

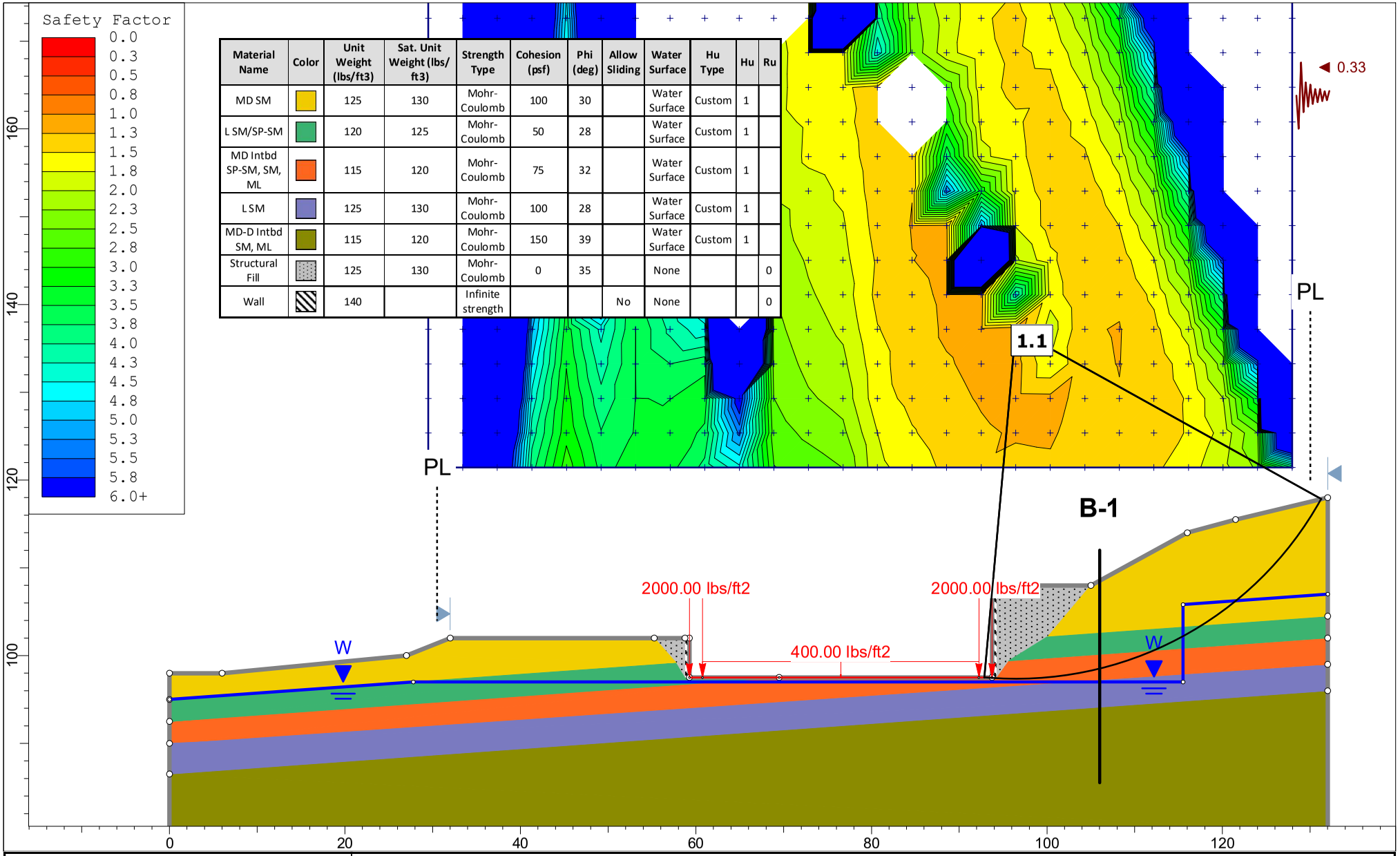


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM - No Cohes		125	130	Mohr-Coulomb	0	30		Water Surface	Custom	1	
L SM/SP-SM - No Cohes		120	125	Mohr-Coulomb	0	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32		Water Surface	Custom	1	
L SM - No Cohes		125	130	Mohr-Coulomb	0	28		Water Surface	Custom	1	
MD-D Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Post-Development	Scenario	Static - No Cohes
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

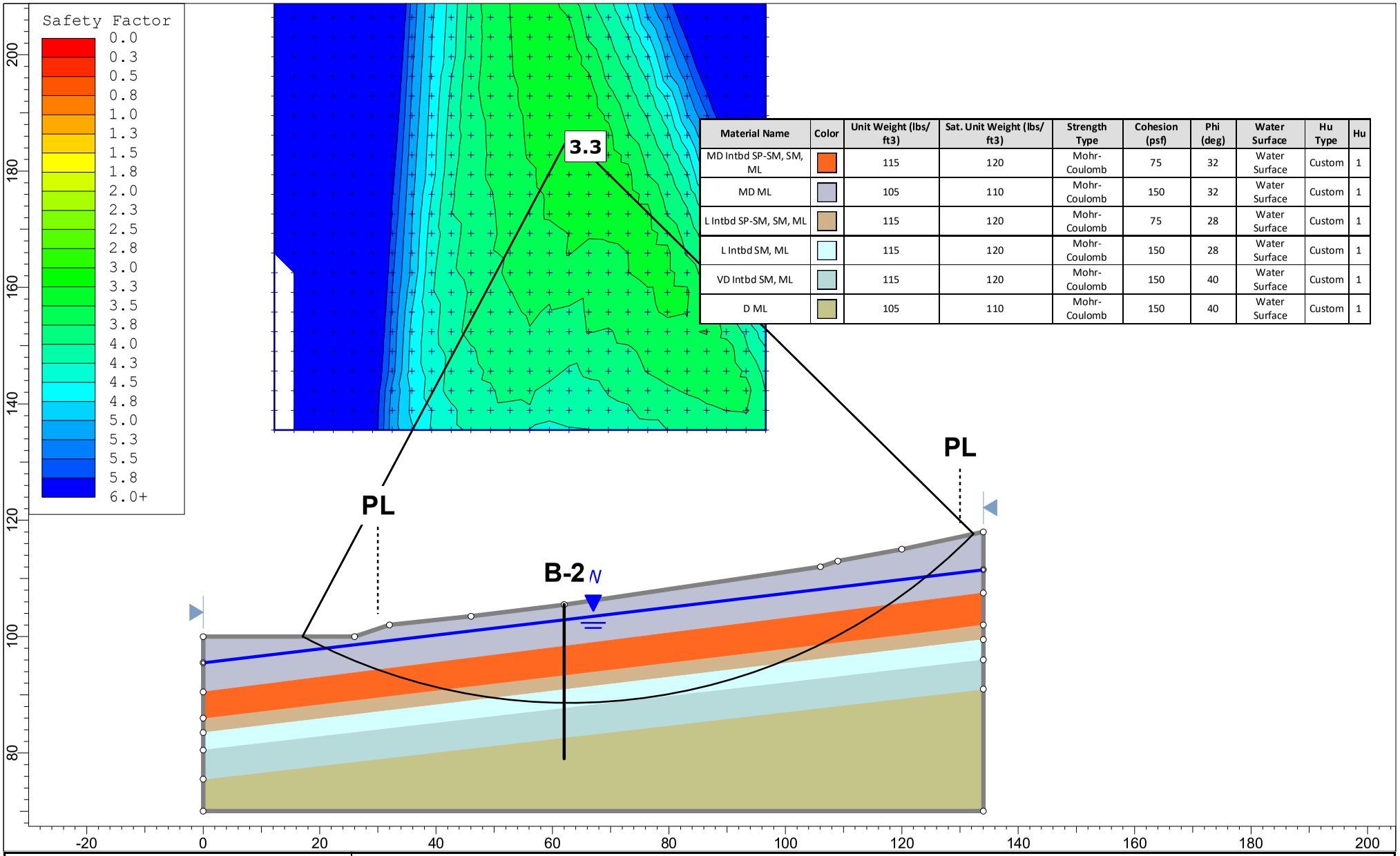


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD SM		125	130	Mohr-Coulomb	100	30		Water Surface	Custom	1	
L SM/SP-SM		120	125	Mohr-Coulomb	50	28		Water Surface	Custom	1	
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
L SM		125	130	Mohr-Coulomb	100	28		Water Surface	Custom	1	
MD-D Intbd SM, ML		115	120	Mohr-Coulomb	150	39		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	A-A' Post-Development	Scenario	Pseudostatic
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

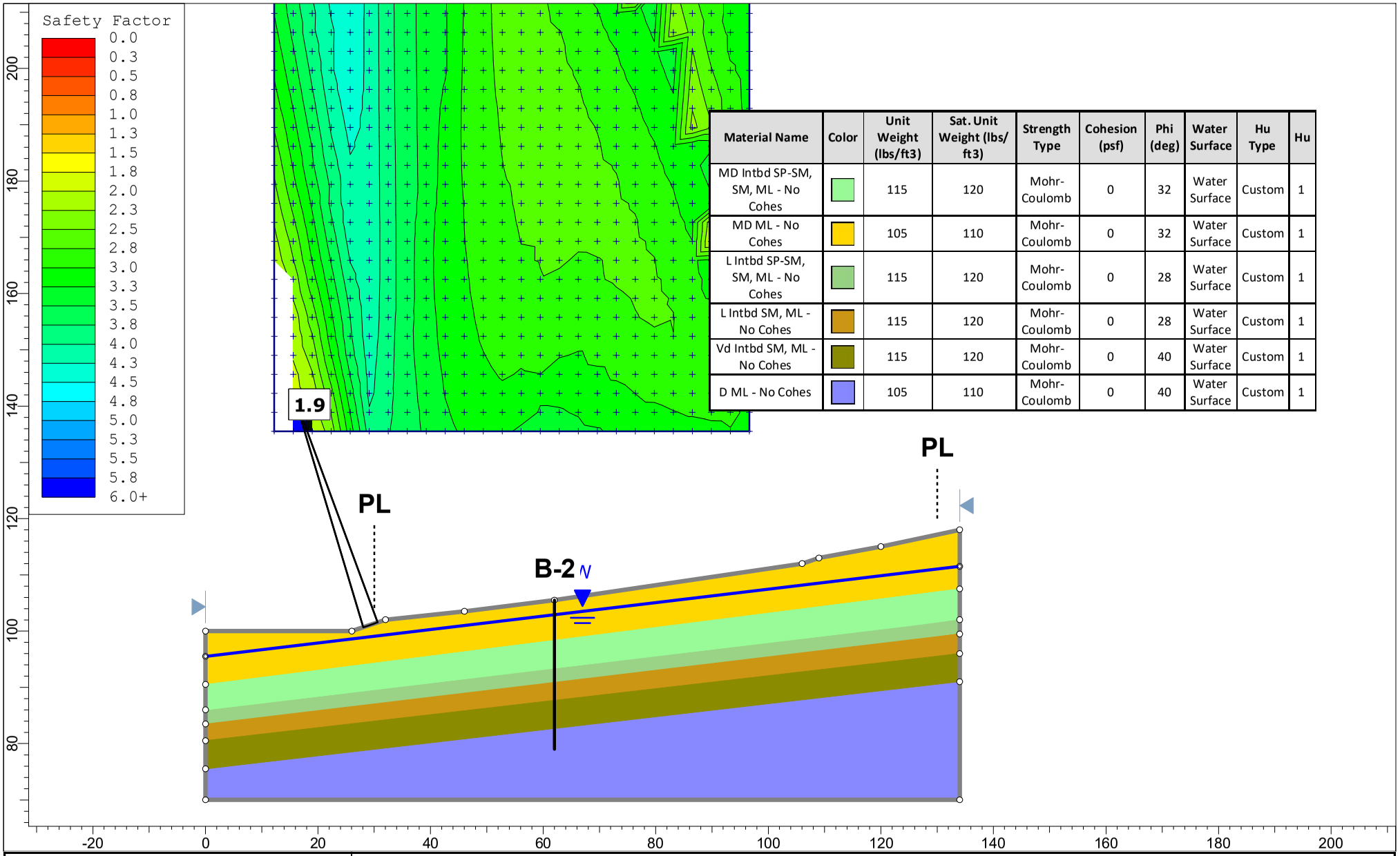


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

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Project	3036 67th Ave SE		
Group	B-B' Existing	Scenario	Static
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

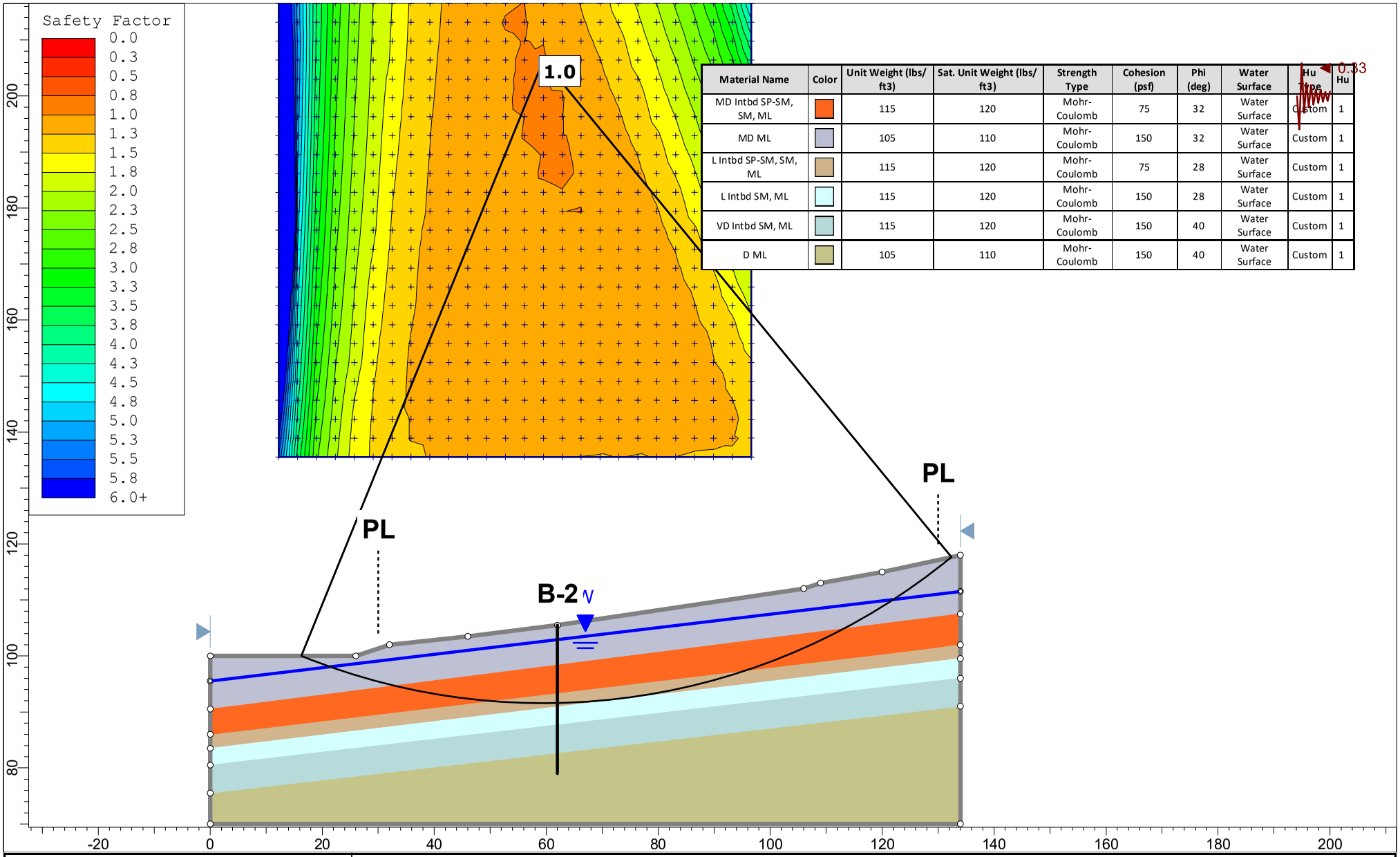


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32	Water Surface	Custom	1
MD ML - No Cohes		105	110	Mohr-Coulomb	0	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28	Water Surface	Custom	1
L Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28	Water Surface	Custom	1
Vd Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	40	Water Surface	Custom	1
D ML - No Cohes		105	110	Mohr-Coulomb	0	40	Water Surface	Custom	1

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Existing	*Scenario*	Static - No Cohes
Drawn By	JCS	*Company*	Terra Associates, Inc.
Date	2/25/2023	*File Name*	3036 67th Ave SE - All Failure Surfaces.slmd

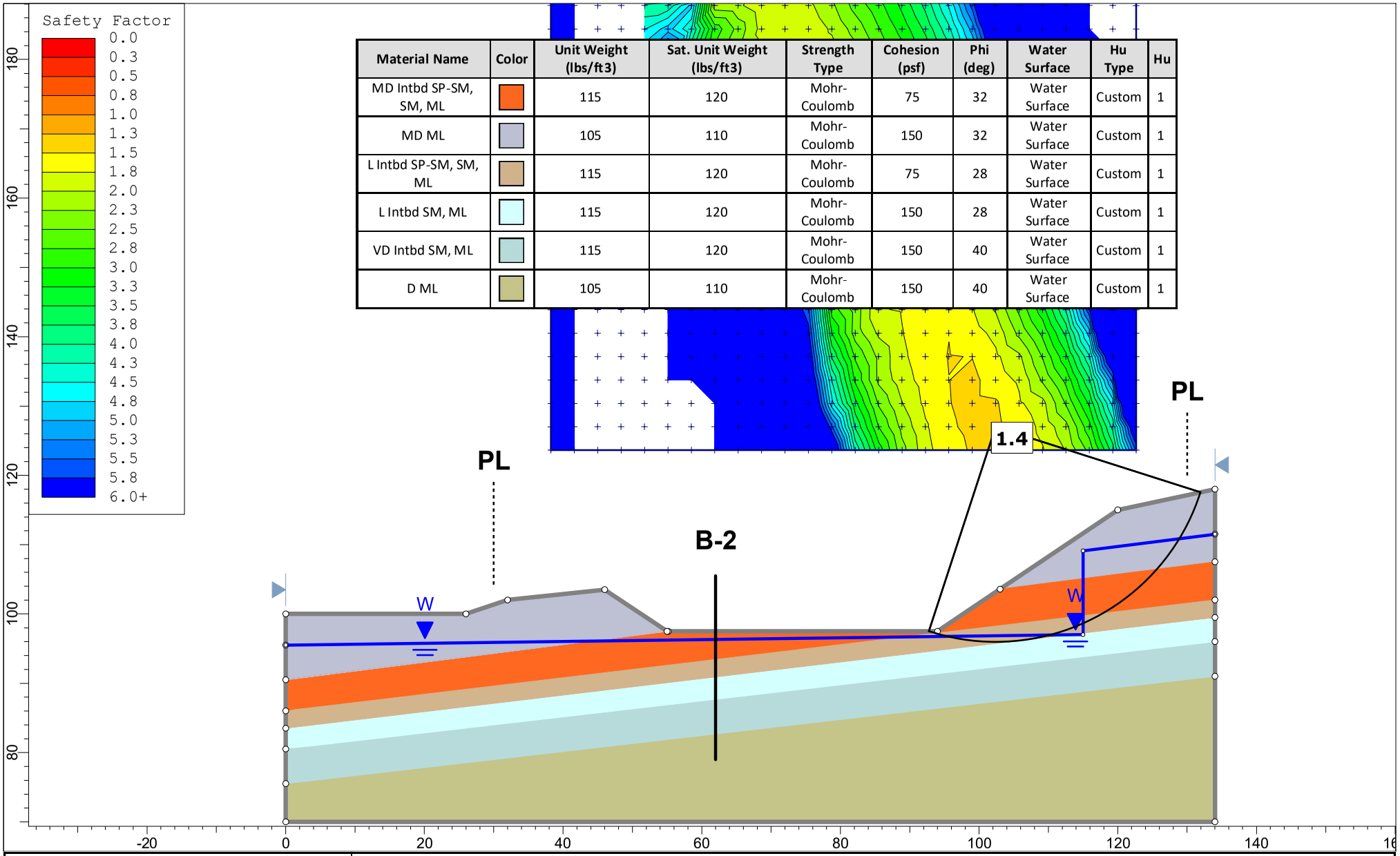


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Existing	Scenario	Pseudostatic
Drawn By	JCS	Company	Terra Associates, Inc.
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

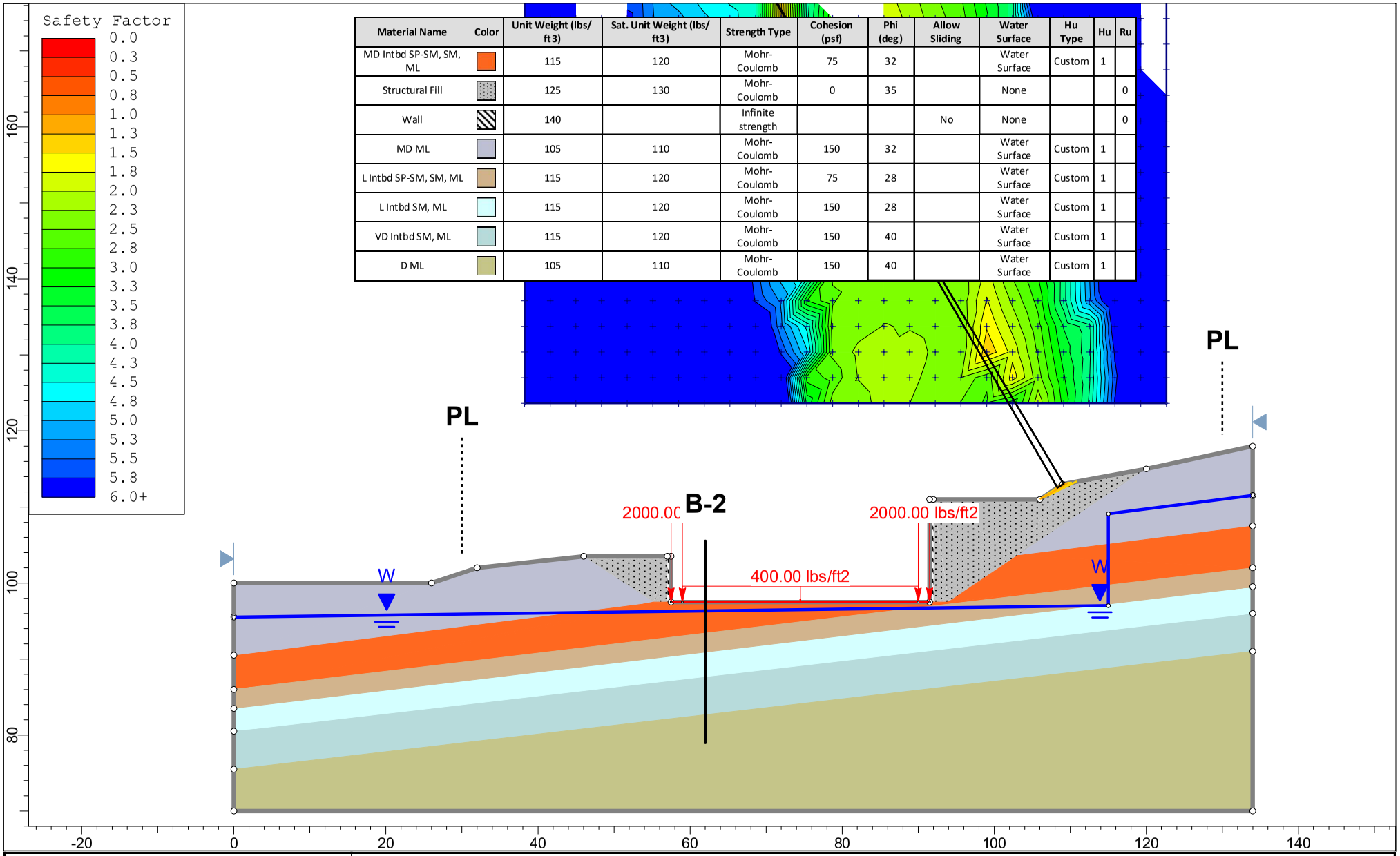


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Water Surface	Hu Type	Hu
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32	Water Surface	Custom	1
MD ML		105	110	Mohr-Coulomb	150	32	Water Surface	Custom	1
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28	Water Surface	Custom	1
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28	Water Surface	Custom	1
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40	Water Surface	Custom	1
D ML		105	110	Mohr-Coulomb	150	40	Water Surface	Custom	1

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' During Const	Scenario	Static
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

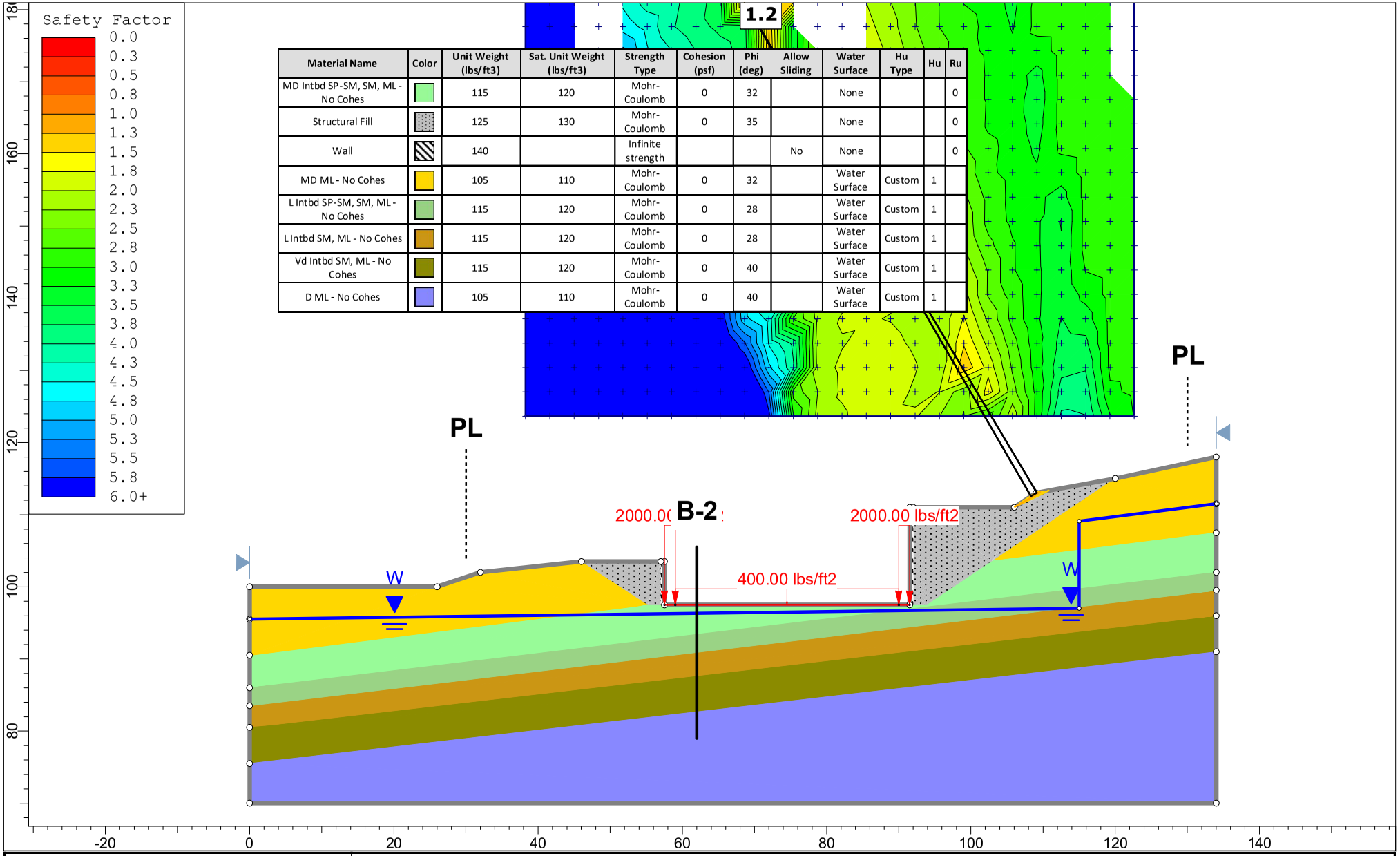


Material Name	Color	Unit Weight (lbs/ ft3)	Sat. Unit Weight (lbs/ ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom	1	
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Post Development	Scenario	Static
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

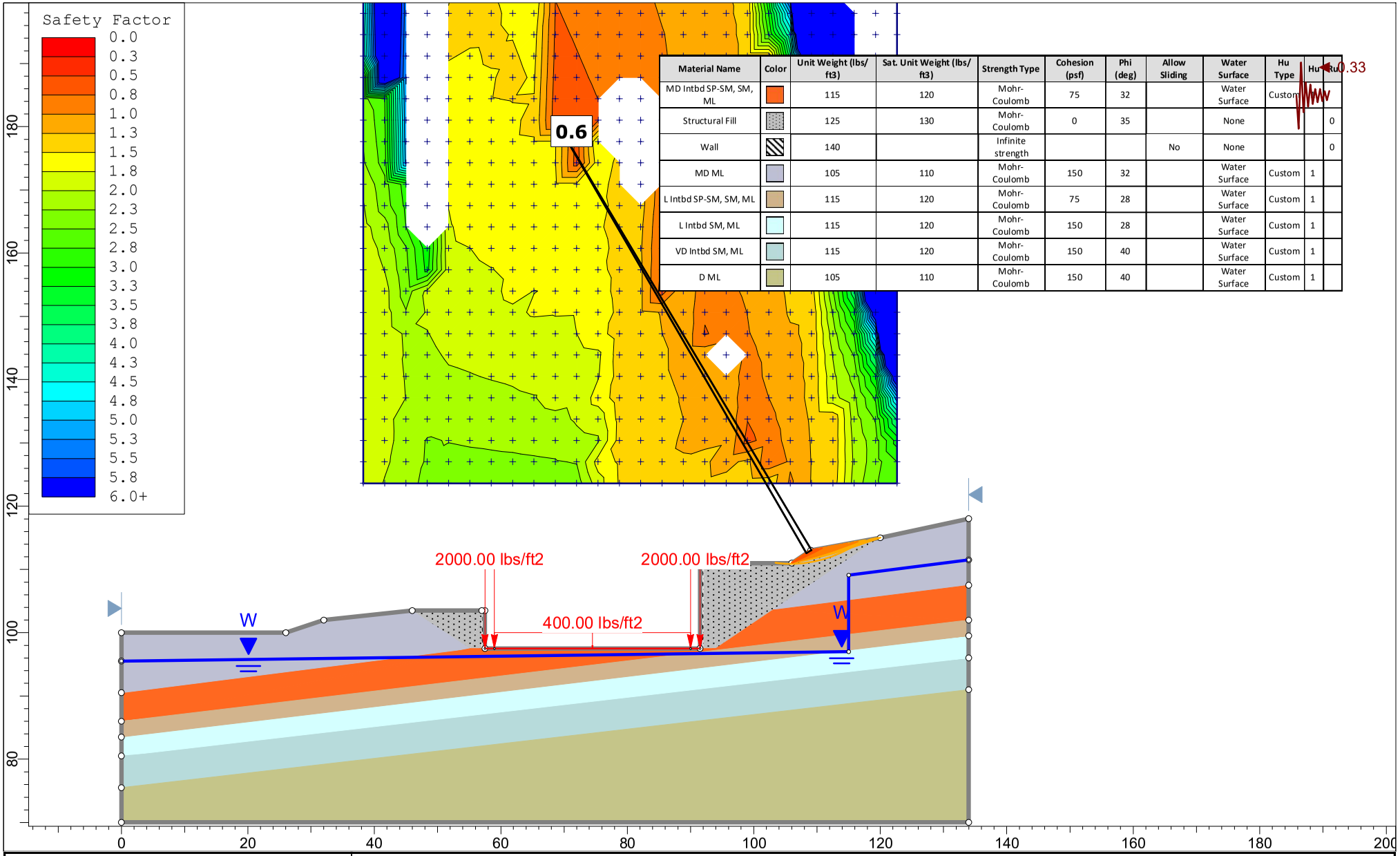


Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	32		None			0
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML - No Cohes		105	110	Mohr-Coulomb	0	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28		Water Surface	Custom	1	
L Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	28		Water Surface	Custom	1	
Vd Intbd SM, ML - No Cohes		115	120	Mohr-Coulomb	0	40		Water Surface	Custom	1	
D ML - No Cohes		105	110	Mohr-Coulomb	0	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Post Development	*Scenario*	Static - No Cohes
Drawn By	JCS	*Company*	Terra Associates
Date	2/25/2023	*File Name*	3036 67th Ave SE - All Failure Surfaces.slmd



Material Name	Color	Unit Weight (lbs/ft3)	Sat. Unit Weight (lbs/ft3)	Strength Type	Cohesion (psf)	Phi (deg)	Allow Sliding	Water Surface	Hu Type	Hu	Ru
MD Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	32		Water Surface	Custom		
Structural Fill		125	130	Mohr-Coulomb	0	35		None			0
Wall		140		Infinite strength			No	None			0
MD ML		105	110	Mohr-Coulomb	150	32		Water Surface	Custom	1	
L Intbd SP-SM, SM, ML		115	120	Mohr-Coulomb	75	28		Water Surface	Custom	1	
L Intbd SM, ML		115	120	Mohr-Coulomb	150	28		Water Surface	Custom	1	
VD Intbd SM, ML		115	120	Mohr-Coulomb	150	40		Water Surface	Custom	1	
D ML		105	110	Mohr-Coulomb	150	40		Water Surface	Custom	1	

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SLIDEINTERPRET 9.027

Project	3036 67th Ave SE		
Group	B-B' Post Development	Scenario	Pseudostatic
Drawn By	JCS	Company	Terra Associates
Date	2/25/2023	File Name	3036 67th Ave SE - All Failure Surfaces.slmd

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3036 67th Ave SE - All Failure Surfaces
3036 67th Ave SE
Terra Associates
Date Created: 2/25/2023
Software Version: 9.027

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Slide2 Analysis Information

3036 67th Ave SE - All Failure Surfaces

Project Summary

File Name:	3036 67th Ave SE - All Failure Surfaces.slmd
Slide2 Modeler Version:	9.027
Project Title:	3036 67th Ave SE
Analysis:	Cross Section A-A'
Author:	JCS
Company:	Terra Associates
Date Created:	2/25/2023

Currently Open Scenarios

Group Name	Scenario Name	Global Minimum	Compute Time
A-A' Existing	Master Scenario	Bishop Simplified: 2.184160	00h:00m:00.234s
	Static	Bishop Simplified: 2.184160	00h:00m:00.207s
	Static - No Cohes	Bishop Simplified: 0.328922	00h:00m:00.203s
	Pseudostatic	Bishop Simplified: 1.064230	00h:00m:00.221s
A-A' During Const	Master Scenario	Bishop Simplified: 1.420830	00h:00m:00.225s
	Static	Bishop Simplified: 1.420830	00h:00m:00.221s
A-A' Post-Development	Master Scenario	Bishop Simplified: 1.984170	00h:00m:00.194s
	Static	Bishop Simplified: 1.984170	00h:00m:00.226s
	Static - No Cohes	Bishop Simplified: 1.059080	00h:00m:00.193s
	Pseudostatic	Bishop Simplified: 1.053790	00h:00m:00.204s
B-B' Existing	Master Scenario	Bishop Simplified: 3.297380	00h:00m:00.221s
	Static	Bishop Simplified: 3.297380	00h:00m:00.217s
	Static - No Cohes	Bishop Simplified: 1.875550	00h:00m:00.222s
	Pseudostatic	Bishop Simplified: 0.983231	00h:00m:00.217s
B-B' During Const	Master Scenario	Bishop Simplified: 1.435670	00h:00m:00.247s
	Static	Bishop Simplified: 1.435670	00h:00m:00.246s
B-B' Post Development	Master Scenario	Bishop Simplified: 1.188690	00h:00m:00.284s
	Static	Bishop Simplified: 1.188690	00h:00m:00.281s
	Static - No Cohes	Bishop Simplified: 1.188690	00h:00m:00.301s
	Pseudostatic	Bishop Simplified: 0.615955	00h:00m:00.284s

General Settings

Units of Measurement:	Imperial Units
Time Units:	days
Permeability Units:	feet/second
Data Output:	Standard
Failure Direction:	Right to Left

Analysis Options

All Open Scenarios

Slices Type:	Vertical
Analysis Methods Used	
	Bishop simplified
Number of slices:	50
Tolerance:	0.005
Maximum number of iterations:	75
Check malpha < 0.2:	Yes
Create Interslice boundaries at intersections with water tables and piezos:	Yes
Initial trial value of FS:	1
Steffensen Iteration:	Yes

Groundwater Analysis

All Open Scenarios

Groundwater Method:	Water Surfaces
Pore Fluid Unit Weight [lbs/ft3]:	62.4
Use negative pore pressure cutoff:	Yes
Maximum negative pore pressure [psf]:	0
Advanced Groundwater Method:	None

Random Numbers

All Open Scenarios

Pseudo-random Seed:	10116
Random Number Generation Method:	Park and Miller v.3

Surface Options

A-A' Existing - Master Scenario

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Existing - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Existing - Static - No Cohes

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Existing - Pseudostatic

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' During Const - Master Scenario

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' During Const - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Post-Development - Master Scenario

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Post-Development - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Post-Development - Static - No Cohes

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	81
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

A-A' Post-Development - Pseudostatic

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Existing - Master Scenario

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Existing - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Existing - Static - No Cohes

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Existing - Pseudostatic

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' During Const - Master Scenario

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' During Const - Static

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation:	Not Defined
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

B-B' Post Development

Surface Type:	Circular
Search Method:	Grid Search
Radius Increment:	10
Composite Surfaces:	Disabled
Reverse Curvature:	Invalid Surfaces
Minimum Elevation [ft]:	71
Minimum Depth:	Not Defined
Minimum Area:	Not Defined
Minimum Weight:	Not Defined

Seismic Loading

A-A' Existing - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Existing - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

A-A' During Const

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

A-A' Post-Development - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

B-B' Existing - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Existing - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

B-B' During Const

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Master Scenario

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Static

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Static - No Cohes

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No

B-B' Post Development - Pseudostatic

Advanced seismic analysis:	No
Staged pseudostatic analysis:	No
Seismic Load Coefficient (Horizontal):	0.33

Loading

A-A' Existing

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

A-A' Post-Development

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

B-B' Post Development

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	2000
Orientation:	Normal to boundary

Distribution:	Constant
Magnitude [psf]:	400
Orientation:	Normal to boundary

Materials

MD SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	100
Friction Angle [deg]	30
Water Surface	Assigned per scenario
Hu Value	1
L SM/SP-SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	120
Saturated Unit Weight [lbs/ft3]	125
Cohesion [psf]	50
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
MD Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	75
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Hu Value	1
L SM	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	100
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
MD-D Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	39
Water Surface	Assigned per scenario
Hu Value	1
MD SM - No Cohes	

Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0
Friction Angle [deg]	30
Water Surface	Assigned per scenario
Ru Value	0
L SM/SP-SM - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	120
Saturated Unit Weight [lbs/ft3]	125
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
MD Intbd SP-SM, SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Hu Value	1
L SM - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Hu Value	1
MD-D Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	39
Water Surface	Assigned per scenario
Hu Value	1
Structural Fill	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	125
Saturated Unit Weight [lbs/ft3]	130
Cohesion [psf]	0

Friction Angle [deg]	35
Water Surface	Assigned per scenario
Ru Value	0
Wall	
Color	
Strength Type	Infinite strength
Unit Weight [lbs/ft3]	140
Allow Sliding Along Boundary	No
Water Surface	Assigned per scenario
Ru Value	0
Ru Value	0
MD ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	150
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Ru Value	0
L Intbd SP-SM, SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	75
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
L Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
VD Intbd SM, ML	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	150
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Ru Value	0
D ML	
Color	
Strength Type	Mohr-Coulomb

Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	150
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Ru Value	0
MD ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	0
Friction Angle [deg]	32
Water Surface	Assigned per scenario
Ru Value	0
L Intbd SP-SM, SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
L Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	28
Water Surface	Assigned per scenario
Ru Value	0
Vd Intbd SM, ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	115
Saturated Unit Weight [lbs/ft3]	120
Cohesion [psf]	0
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Ru Value	0
D ML - No Cohes	
Color	
Strength Type	Mohr-Coulomb
Unsaturated Unit Weight [lbs/ft3]	105
Saturated Unit Weight [lbs/ft3]	110
Cohesion [psf]	0
Friction Angle [deg]	40
Water Surface	Assigned per scenario
Ru Value	0

Materials In Use

Material	A-A' Existing	Static	Static - No Cohes	Pseudostatic	A-A' During Const	Static	A-A' Post-Development	Static	Static - No Cohes	Pseudostatic	B-B' Existing	Static	Static - No Cohes	Pseudostatic	B-B' During Const	Static	B-B' Post Development	Static	Static - No Cohes	Pseudostatic
MD S	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
L SM	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD I SM, S	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L SM	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD-I SM, I	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD S Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
L SM No C	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD I SM, S No C	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L SM Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
MD-I SM, I Cohe	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Struc	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓
Wall	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓	✗	✗	✗	✗	✗	✗	✓	✓	✓	✓
MD N	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L Int SM, I	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
L Int	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
VD I ML	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
D ML	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✗	✓	✓	✓	✓	✓	✗	✓
MD N Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L Int SM, I Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
L Int - No	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
Vd Ir ML -	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗
D ML Cohe	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✗	✗	✗	✓	✗

Global Minimums

A-A' Existing - Master Scenario

Method: bishop simplified

FS	2.184160
Center:	52.687, 131.385
Radius:	38.702
Left Slip Surface Endpoint:	82.000, 106.116
Right Slip Surface Endpoint:	83.524, 108.000
Left Slope Intercept:	82.000 108.000
Right Slope Intercept:	83.524 108.000
Resisting Moment:	11943.5 lb-ft
Driving Moment:	5468.24 lb-ft
Total Slice Area:	1.46666 ft2
Surface Horizontal Width:	1.52418 ft
Surface Average Height:	0.962262 ft

A-A' Existing - Static

Method: bishop simplified

FS	2.184160
Center:	52.687, 131.385
Radius:	38.702
Left Slip Surface Endpoint:	82.000, 106.116
Right Slip Surface Endpoint:	83.524, 108.000
Left Slope Intercept:	82.000 108.000
Right Slope Intercept:	83.524 108.000
Resisting Moment:	11943.5 lb-ft
Driving Moment:	5468.24 lb-ft
Total Slice Area:	1.46666 ft2
Surface Horizontal Width:	1.52418 ft
Surface Average Height:	0.962262 ft

A-A' Existing - Static - No Cohes

Method: bishop simplified

FS	0.328922
Center:	48.749, 135.323
Radius:	54.323
Left Slip Surface Endpoint:	96.029, 108.572
Right Slip Surface Endpoint:	96.893, 110.160
Resisting Moment:	1113.97 lb-ft
Driving Moment:	3386.74 lb-ft
Total Slice Area:	0.569275 ft2
Surface Horizontal Width:	0.864012 ft
Surface Average Height:	0.658874 ft

A-A' Existing - Pseudostatic

Method: bishop simplified

FS	1.064230
Center:	25.120, 143.200
Radius:	48.712
Left Slip Surface Endpoint:	6.776, 98.074
Right Slip Surface Endpoint:	56.569, 106.000
Resisting Moment:	788783 lb-ft
Driving Moment:	741176 lb-ft
Total Slice Area:	225.382 ft2
Surface Horizontal Width:	49.7935 ft
Surface Average Height:	4.52633 ft

A-A' During Const

Method: bishop simplified

FS	1.420830
Center:	99.944, 135.323
Radius:	35.439
Left Slip Surface Endpoint:	98.525, 99.913
Right Slip Surface Endpoint:	130.677, 117.678
Resisting Moment:	449034 lb-ft
Driving Moment:	316035 lb-ft
Total Slice Area:	157.413 ft2
Surface Horizontal Width:	32.153 ft
Surface Average Height:	4.89576 ft

A-A' Post-Development - Master Scenario

Method: bishop simplified

FS	1.984170
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.18315e+06 lb-ft
Driving Moment:	596295 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

A-A' Post-Development - Static

Method: bishop simplified

FS	1.984170
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.18315e+06 lb-ft
Driving Moment:	596295 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

A-A' Post-Development - Static - No Cohes

Method: bishop simplified

FS	1.059080
Center:	64.939, 192.305
Radius:	93.241
Left Slip Surface Endpoint:	106.963, 109.071
Right Slip Surface Endpoint:	112.168, 111.910
Resisting Moment:	1100.39 lb-ft
Driving Moment:	1039.01 lb-ft
Total Slice Area:	0.186223 ft2
Surface Horizontal Width:	5.20472 ft
Surface Average Height:	0.0357796 ft

A-A' Post-Development - Pseudostatic

Method: bishop simplified

FS	1.053790
Center:	96.444, 137.171
Radius:	39.834
Left Slip Surface Endpoint:	92.847, 97.500
Right Slip Surface Endpoint:	131.264, 117.825
Resisting Moment:	1.08917e+06 lb-ft
Driving Moment:	1.03357e+06 lb-ft
Total Slice Area:	348.242 ft2
Surface Horizontal Width:	38.4174 ft
Surface Average Height:	9.06469 ft

B-B' Existing - Master Scenario

Method: bishop simplified

FS	3.297380
Center:	62.862, 186.142
Radius:	97.566
Left Slip Surface Endpoint:	17.051, 100.000
Right Slip Surface Endpoint:	132.339, 117.644
Resisting Moment:	6.77182e+06 lb-ft
Driving Moment:	2.0537e+06 lb-ft
Total Slice Area:	1413.41 ft2
Surface Horizontal Width:	115.289 ft
Surface Average Height:	12.2598 ft

B-B' Existing - Static

Method: bishop simplified

FS	3.297380
Center:	62.862, 186.142
Radius:	97.566
Left Slip Surface Endpoint:	17.051, 100.000
Right Slip Surface Endpoint:	132.339, 117.644
Resisting Moment:	6.77182e+06 lb-ft
Driving Moment:	2.0537e+06 lb-ft
Total Slice Area:	1413.41 ft2
Surface Horizontal Width:	115.289 ft
Surface Average Height:	12.2598 ft

B-B' Existing - Static - No Cohes

Method: bishop simplified

FS	1.875550
Center:	15.596, 142.253
Radius:	43.395
Left Slip Surface Endpoint:	28.038, 100.679
Right Slip Surface Endpoint:	30.587, 101.529
Resisting Moment:	100.666 lb-ft
Driving Moment:	53.6727 lb-ft
Total Slice Area:	0.0372603 ft2
Surface Horizontal Width:	2.54934 ft
Surface Average Height:	0.0146157 ft

B-B' Existing - Pseudostatic

Method: bishop simplified

FS	0.983231
Center:	59.486, 206.399
Radius:	114.843
Left Slip Surface Endpoint:	16.263, 100.000
Right Slip Surface Endpoint:	132.375, 117.652
Resisting Moment:	6.38107e+06 lb-ft
Driving Moment:	6.4899e+06 lb-ft
Total Slice Area:	1153.03 ft2
Surface Horizontal Width:	116.112 ft
Surface Average Height:	9.93032 ft

B-B' During Const

Method: bishop simplified

FS	1.435670
Center:	102.388, 126.997
Radius:	31.036
Left Slip Surface Endpoint:	92.734, 97.500
Right Slip Surface Endpoint:	131.955, 117.562
Resisting Moment:	648136 lb-ft
Driving Moment:	451451 lb-ft
Total Slice Area:	336.913 ft2
Surface Horizontal Width:	39.2207 ft
Surface Average Height:	8.59019 ft

B-B' Post Development - Master Scenario

Method: bishop simplified

FS	1.188690
Center:	68.627, 181.015
Radius:	79.142
Left Slip Surface Endpoint:	108.317, 112.545
Right Slip Surface Endpoint:	109.133, 113.024
Resisting Moment:	136.64 lb-ft
Driving Moment:	114.95 lb-ft
Total Slice Area:	0.0228832 ft2
Surface Horizontal Width:	0.815665 ft
Surface Average Height:	0.0280547 ft

B-B' Post Development - Static

Method: bishop simplified

FS	1.188690
Center:	68.627, 181.015
Radius:	79.142
Left Slip Surface Endpoint:	108.317, 112.545
Right Slip Surface Endpoint:	109.133, 113.024
Resisting Moment:	136.64 lb-ft
Driving Moment:	114.95 lb-ft
Total Slice Area:	0.0228832 ft2
Surface Horizontal Width:	0.815665 ft
Surface Average Height:	0.0280547 ft

B-B' Post Development - Static - No Cohes

Method: bishop simplified

FS	1.188690
Center:	68.627, 181.015
Radius:	79.142
Left Slip Surface Endpoint:	108.317, 112.545
Right Slip Surface Endpoint:	109.133, 113.024
Resisting Moment:	136.64 lb-ft
Driving Moment:	114.95 lb-ft
Total Slice Area:	0.0228832 ft2
Surface Horizontal Width:	0.815665 ft
Surface Average Height:	0.0280547 ft

B-B' Post Development - Pseudostatic

Method: bishop simplified

FS	0.615955
Center:	68.627, 181.015
Radius:	79.142
Left Slip Surface Endpoint:	108.317, 112.545
Right Slip Surface Endpoint:	109.133, 113.024
Resisting Moment:	110.434 lb-ft
Driving Moment:	179.289 lb-ft
Total Slice Area:	0.0228832 ft2
Surface Horizontal Width:	0.815665 ft
Surface Average Height:	0.0280547 ft

Global Minimum Support Data

All Open Scenarios

No Supports Present

Valid and Invalid Surfaces

A-A' Existing - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	13625
Number of Invalid Surfaces:	571
Error Codes	
Error Code -106 reported for 163 surfaces	
Error Code -107 reported for 58 surfaces	
Error Code -108 reported for 96 surfaces	
Error Code -112 reported for 2 surfaces	
Error Code -1000 reported for 252 surfaces	

A-A' Existing - Static

Method: bishop simplified

Number of Valid Surfaces:	13625
Number of Invalid Surfaces:	571
Error Codes	
Error Code -106 reported for 163 surfaces	
Error Code -107 reported for 58 surfaces	
Error Code -108 reported for 96 surfaces	
Error Code -112 reported for 2 surfaces	
Error Code -1000 reported for 252 surfaces	

A-A' Existing - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	13706
Number of Invalid Surfaces:	490
Error Codes	
Error Code -106 reported for 166 surfaces	
Error Code -107 reported for 58 surfaces	
Error Code -108 reported for 14 surfaces	
Error Code -1000 reported for 252 surfaces	

A-A' Existing - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	13385
Number of Invalid Surfaces:	811
Error Codes	
Error Code -103 reported for 372 surfaces	
Error Code -106 reported for 147 surfaces	
Error Code -108 reported for 40 surfaces	
Error Code -1000 reported for 252 surfaces	

A-A' During Const - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	9747
Number of Invalid Surfaces:	4449

Error Codes

Error Code -106 reported for 63 surfaces
Error Code -107 reported for 3658 surfaces
Error Code -108 reported for 371 surfaces
Error Code -1000 reported for 357 surfaces

A-A' During Const - Static

Method: bishop simplified

Number of Valid Surfaces:	9672
Number of Invalid Surfaces:	4524

Error Codes

Error Code -103 reported for 118 surfaces
Error Code -106 reported for 63 surfaces
Error Code -107 reported for 3619 surfaces
Error Code -108 reported for 367 surfaces
Error Code -1000 reported for 357 surfaces

A-A' Post-Development - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	4484
Number of Invalid Surfaces:	9712

Error Codes

Error Code -99 reported for 4869 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 163 surfaces
Error Code -107 reported for 240 surfaces
Error Code -108 reported for 2430 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Static

Method: bishop simplified

Number of Valid Surfaces:	4464
Number of Invalid Surfaces:	9732

Error Codes

Error Code -99 reported for 4849 surfaces
Error Code -102 reported for 15 surfaces
Error Code -103 reported for 40 surfaces
Error Code -106 reported for 163 surfaces
Error Code -107 reported for 240 surfaces
Error Code -108 reported for 2430 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	4590
Number of Invalid Surfaces:	9606

Error Codes

Error Code -99 reported for 4869 surfaces
Error Code -102 reported for 15 surfaces
Error Code -106 reported for 165 surfaces
Error Code -107 reported for 240 surfaces
Error Code -108 reported for 2322 surfaces
Error Code -1000 reported for 1995 surfaces

A-A' Post-Development - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	6962
Number of Invalid Surfaces:	7234

Error Codes

Error Code -99 reported for 4874 surfaces
Error Code -102 reported for 15 surfaces
Error Code -103 reported for 40 surfaces
Error Code -106 reported for 190 surfaces
Error Code -107 reported for 4 surfaces
Error Code -108 reported for 116 surfaces
Error Code -1000 reported for 1995 surfaces

B-B' Existing - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	13827
Number of Invalid Surfaces:	369

Error Codes

Error Code -106 reported for 6 surfaces
Error Code -108 reported for 363 surfaces

B-B' Existing - Static

Method: bishop simplified

Number of Valid Surfaces:	13811
Number of Invalid Surfaces:	385

Error Codes

Error Code -103 reported for 16 surfaces
Error Code -106 reported for 6 surfaces
Error Code -108 reported for 363 surfaces

B-B' Existing - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	13827
Number of Invalid Surfaces:	369

Error Codes

Error Code -106 reported for 6 surfaces
Error Code -108 reported for 363 surfaces

B-B' Existing - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	14174
Number of Invalid Surfaces:	22

Error Codes

Error Code -103 reported for 16 surfaces
Error Code -106 reported for 6 surfaces

B-B' During Const - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	9419
Number of Invalid Surfaces:	4777

Error Codes

Error Code -102 reported for 21 surfaces
Error Code -106 reported for 38 surfaces
Error Code -107 reported for 3980 surfaces
Error Code -108 reported for 318 surfaces
Error Code -1000 reported for 420 surfaces

B-B' During Const - Static

Method: bishop simplified

Number of Valid Surfaces:	9382
Number of Invalid Surfaces:	4814

Error Codes

Error Code -102 reported for 21 surfaces
Error Code -103 reported for 122 surfaces
Error Code -106 reported for 38 surfaces
Error Code -107 reported for 3899 surfaces
Error Code -108 reported for 314 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Master Scenario

Method: bishop simplified

Number of Valid Surfaces:	5966
Number of Invalid Surfaces:	8230

Error Codes

Error Code -99 reported for 7379 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 116 surfaces
Error Code -107 reported for 134 surfaces
Error Code -108 reported for 160 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Static

Method: bishop simplified

Number of Valid Surfaces:	5966
Number of Invalid Surfaces:	8230

Error Codes

Error Code -99 reported for 7379 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 116 surfaces
Error Code -107 reported for 134 surfaces
Error Code -108 reported for 160 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Static - No Cohes

Method: bishop simplified

Number of Valid Surfaces:	6111
Number of Invalid Surfaces:	8085

Error Codes

Error Code -99 reported for 7379 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 119 surfaces
Error Code -107 reported for 134 surfaces
Error Code -108 reported for 12 surfaces
Error Code -1000 reported for 420 surfaces

B-B' Post Development - Pseudostatic

Method: bishop simplified

Number of Valid Surfaces:	6186
Number of Invalid Surfaces:	8010

Error Codes

Error Code -99 reported for 7381 surfaces
Error Code -102 reported for 21 surfaces
Error Code -106 reported for 118 surfaces
Error Code -108 reported for 68 surfaces
Error Code -112 reported for 2 surfaces
Error Code -1000 reported for 420 surfaces

Error Code Descriptions

The following errors were encountered during the computation:

-99 = Slip surface intersects an infinite strength material. If infinite strength regions are defined for a model, a large number of potential slip surfaces may show this error code. This is Normal.

-102 = Two surface / slope intersections, but resulting arc is actually outside soil region.

-103 = Two surface / slope intersections, but one or more surface / nonslope external polygon intersections lie between them. This usually occurs when the slip surface extends past the bottom of the soil region, but may also occur on a benched slope model with two sets of Slope Limits.

-106 = Average slice width is less than 0.0001 * (maximum horizontal extent of soil region). This limitation is imposed to avoid numerical errors which may result from too many slices, or too small a slip region.

-107 = Total driving moment or total driving force is negative. This will occur if the wrong failure direction is specified, or if high external or anchor loads are applied against the failure direction.

-108 = Total driving moment or total driving force < 0.1. This is to limit the calculation of extremely high safety factors if the driving force is very small (0.1 is an arbitrary number).

-112 = The coefficient M-Alpha = cos(alpha)(1+tan(alpha)tan(phi)/F) < 0.2 for the final iteration of the safety factor calculation. This screens out some slip surfaces which may not be valid in the context of the analysis, in particular, deep seated slip surfaces with many high negative base angle slices in the passive zone.

-1000 = No valid slip surface is generated

Slice Data

A-A' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.18416

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0304837	7.11262	49.2715	MD SM	100	30	82.2247	179.592	137.857	0	137.857	233.356	233.356
2	0.0304837	6.97755	49.3407	MD SM	100	30	81.2818	177.532	134.29	0	134.29	228.925	228.925
3	0.0304837	6.84214	49.41	MD SM	100	30	80.3376	175.47	130.718	0	130.718	224.483	224.483
4	0.0304837	6.70641	49.4794	MD SM	100	30	79.392	173.405	127.141	0	127.141	220.03	220.03
5	0.0304837	6.57033	49.5489	MD SM	100	30	78.4452	171.337	123.559	0	123.559	215.566	215.566
6	0.0304837	6.43393	49.6185	MD SM	100	30	77.4971	169.266	119.972	0	119.972	211.091	211.091
7	0.0304837	6.29719	49.6882	MD SM	100	30	76.5476	167.192	116.38	0	116.38	206.605	206.605
8	0.0304837	6.16011	49.758	MD SM	100	30	75.5968	165.116	112.783	0	112.783	202.108	202.108
9	0.0304837	6.02269	49.828	MD SM	100	30	74.6448	163.036	109.182	0	109.182	197.599	197.599
10	0.0304837	5.88493	49.898	MD SM	100	30	73.6914	160.954	105.575	0	105.575	193.08	193.08
11	0.0304837	5.74683	49.9681	MD SM	100	30	72.7366	158.868	101.963	0	101.963	188.549	188.549
12	0.0304837	5.60838	50.0383	MD SM	100	30	71.7805	156.78	98.3462	0	98.3462	184.007	184.007
13	0.0304837	5.46959	50.1086	MD SM	100	30	70.8232	154.689	94.7245	0	94.7245	179.454	179.454
14	0.0304837	5.33045	50.179	MD SM	100	30	69.8645	152.595	91.0976	0	91.0976	174.889	174.889
15	0.0304837	5.19096	50.2496	MD SM	100	30	68.9045	150.498	87.4658	0	87.4658	170.313	170.313
16	0.0304837	5.05113	50.3202	MD SM	100	30	67.9431	148.399	83.829	0	83.829	165.726	165.726
17	0.0304837	4.91094	50.3909	MD SM	100	30	66.9805	146.296	80.1873	0	80.1873	161.127	161.127
18	0.0304837	4.7704	50.4618	MD SM	100	30	66.0165	144.191	76.5402	0	76.5402	156.516	156.516
19	0.0304837	4.6295	50.5327	MD SM	100	30	65.0511	142.082	72.8883	0	72.8883	151.893	151.893
20	0.0304837	4.48825	50.6038	MD SM	100	30	64.0845	139.971	69.2313	0	69.2313	147.259	147.259
21	0.0304837	4.34664	50.6749	MD SM	100	30	63.1165	137.856	65.5694	0	65.5694	142.614	142.614
22	0.0304837	4.20467	50.7462	MD SM	100	30	62.1471	135.739	61.9022	0	61.9022	137.956	137.956
23	0.0304837	4.06234	50.8176	MD SM	100	30	61.1765	133.619	58.2302	0	58.2302	133.287	133.287
24	0.0304837	3.91965	50.889	MD SM	100	30	60.2045	131.496	54.5529	0	54.5529	128.606	128.606
25	0.0304837	3.77659	50.9606	MD SM	100	30	59.2311	129.37	50.8707	0	50.8707	123.912	123.912
26	0.0304837	3.63316	51.0323	MD SM	100	30	58.2564	127.241	47.1833	0	47.1833	119.207	119.207
27	0.0304837	3.48937	51.1042	MD SM	100	30	57.2803	125.109	43.4909	0	43.4909	114.49	114.49
28	0.0304837	3.34521	51.1761	MD SM	100	30	56.303	122.975	39.7933	0	39.7933	109.76	109.76
29	0.0304837	3.20068	51.2481	MD SM	100	30	55.3242	120.837	36.0906	0	36.0906	105.018	105.018
30	0.0304837	3.05577	51.3203	MD SM	100	30	54.3441	118.696	32.3828	0	32.3828	100.265	100.265
31	0.0304837	2.91049	51.3926	MD SM	100	30	53.3627	116.553	28.67	0	28.67	95.4985	95.4985
32	0.0304837	2.76484	51.4649	MD SM	100	30	52.3799	114.406	24.9521	0	24.9521	90.72	90.72
33	0.0304837	2.6188	51.5374	MD SM	100	30	51.3958	112.257	21.229	0	21.229	85.9291	85.9291
34	0.0304837	2.47238	51.61	MD SM	100	30	50.4103	110.104	17.5008	0	17.5008	81.1256	81.1256
35	0.0304837	2.32559	51.6828	MD SM	100	30	49.4234	107.949	13.7674	0	13.7674	76.3096	76.3096
36	0.0304837	2.1784	51.7556	MD SM	100	30	48.4352	105.79	10.0289	0	10.0289	71.481	71.481
37	0.0304837	2.03084	51.8286	MD SM	100	30	47.4456	103.629	6.28528	0	6.28528	66.6398	66.6398
38	0.0304837	1.88288	51.9017	MD SM	100	30	46.4547	101.464	2.53651	0	2.53651	61.7859	61.7859
39	0.0304837	1.73454	51.9749	MD SM	100	30	45.4624	99.2971	-1.21743	0	-1.21743	56.9192	56.9192
40	0.0304837	1.5858	52.0482	MD SM	100	30	44.4687	97.1268	-4.97653	0	-4.97653	52.0396	52.0396
41	0.0304837	1.43667	52.1216	MD SM	100	30	43.4737	94.9535	-8.74077	0	-8.74077	47.1472	47.1472
42	0.0304837	1.28715	52.1952	MD SM	100	30	42.4773	92.7772	-12.5102	0	-12.5102	42.2417	42.2417
43	0.0304837	1.13723	52.2689	MD SM	100	30	41.4795	90.598	-16.2848	0	-16.2848	37.3233	37.3233
44	0.0304837	0.986906	52.3427	MD SM	100	30	40.4804	88.4157	-20.0645	0	-20.0645	32.3918	32.3918
45	0.0304837	0.836184	52.4166	MD SM	100	30	39.4799	86.2305	-23.8494	0	-23.8494	27.4471	27.4471
46	0.0304837	0.685058	52.4907	MD SM	100	30	38.478	84.0422	-27.6397	0	-27.6397	22.489	22.489
47	0.0304837	0.533527	52.5649	MD SM	100	30	37.4748	81.851	-31.435	0	-31.435	17.5178	17.5178
48	0.0304837	0.381589	52.6392	MD SM	100	30	36.4702	79.6568	-35.2354	0	-35.2354	12.5333	12.5333
49	0.0304837	0.229242	52.7136	MD SM	100	30	35.4642	77.4595	-39.0413	0	-39.0413	7.53501	7.53501
50	0.0304837	0.0764827	52.7882	MD SM	100	30	34.4569	75.2593	-42.8523	0	-42.8523	2.52346	2.52346

A-A' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.18416

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0304837	7.11262	49.2715	MD SM	100	30	82.2247	179.592	137.857	0	137.857	233.356	233.356
2	0.0304837	6.97755	49.3407	MD SM	100	30	81.2818	177.532	134.29	0	134.29	228.925	228.925
3	0.0304837	6.84214	49.41	MD SM	100	30	80.3376	175.47	130.718	0	130.718	224.483	224.483
4	0.0304837	6.70641	49.4794	MD SM	100	30	79.392	173.405	127.141	0	127.141	220.03	220.03
5	0.0304837	6.57033	49.5489	MD SM	100	30	78.4452	171.337	123.559	0	123.559	215.566	215.566
6	0.0304837	6.43393	49.6185	MD SM	100	30	77.4971	169.266	119.972	0	119.972	211.091	211.091
7	0.0304837	6.29719	49.6882	MD SM	100	30	76.5476	167.192	116.38	0	116.38	206.605	206.605
8	0.0304837	6.16011	49.758	MD SM	100	30	75.5968	165.116	112.783	0	112.783	202.108	202.108
9	0.0304837	6.02269	49.828	MD SM	100	30	74.6448	163.036	109.182	0	109.182	197.599	197.599
10	0.0304837	5.88493	49.898	MD SM	100	30	73.6914	160.954	105.575	0	105.575	193.08	193.08
11	0.0304837	5.74683	49.9681	MD SM	100	30	72.7366	158.868	101.963	0	101.963	188.549	188.549
12	0.0304837	5.60838	50.0383	MD SM	100	30	71.7805	156.78	98.3462	0	98.3462	184.007	184.007
13	0.0304837	5.46959	50.1086	MD SM	100	30	70.8232	154.689	94.7245	0	94.7245	179.454	179.454
14	0.0304837	5.33045	50.179	MD SM	100	30	69.8645	152.595	91.0976	0	91.0976	174.889	174.889
15	0.0304837	5.19096	50.2496	MD SM	100	30	68.9045	150.498	87.4658	0	87.4658	170.313	170.313
16	0.0304837	5.05113	50.3202	MD SM	100	30	67.9431	148.399	83.829	0	83.829	165.726	165.726
17	0.0304837	4.91094	50.3909	MD SM	100	30	66.9805	146.296	80.1873	0	80.1873	161.127	161.127
18	0.0304837	4.7704	50.4618	MD SM	100	30	66.0165	144.191	76.5402	0	76.5402	156.516	156.516
19	0.0304837	4.6295	50.5327	MD SM	100	30	65.0511	142.082	72.8883	0	72.8883	151.893	151.893
20	0.0304837	4.48825	50.6038	MD SM	100	30	64.0845	139.971	69.2313	0	69.2313	147.259	147.259
21	0.0304837	4.34664	50.6749	MD SM	100	30	63.1165	137.856	65.5694	0	65.5694	142.614	142.614
22	0.0304837	4.20467	50.7462	MD SM	100	30	62.1471	135.739	61.9022	0	61.9022	137.956	137.956
23	0.0304837	4.06234	50.8176	MD SM	100	30	61.1765	133.619	58.2302	0	58.2302	133.287	133.287
24	0.0304837	3.91965	50.889	MD SM	100	30	60.2045	131.496	54.5529	0	54.5529	128.606	128.606
25	0.0304837	3.77659	50.9606	MD SM	100	30	59.2311	129.37	50.8707	0	50.8707	123.912	123.912
26	0.0304837	3.63316	51.0323	MD SM	100	30	58.2564	127.241	47.1833	0	47.1833	119.207	119.207
27	0.0304837	3.48937	51.1042	MD SM	100	30	57.2803	125.109	43.4909	0	43.4909	114.49	114.49
28	0.0304837	3.34521	51.1761	MD SM	100	30	56.303	122.975	39.7933	0	39.7933	109.76	109.76
29	0.0304837	3.20068	51.2481	MD SM	100	30	55.3242	120.837	36.0906	0	36.0906	105.018	105.018
30	0.0304837	3.05577	51.3203	MD SM	100	30	54.3441	118.696	32.3828	0	32.3828	100.265	100.265
31	0.0304837	2.91049	51.3926	MD SM	100	30	53.3627	116.553	28.67	0	28.67	95.4985	95.4985
32	0.0304837	2.76484	51.4649	MD SM	100	30	52.3799	114.406	24.9521	0	24.9521	90.72	90.72
33	0.0304837	2.6188	51.5374	MD SM	100	30	51.3958	112.257	21.229	0	21.229	85.9291	85.9291
34	0.0304837	2.47238	51.61	MD SM	100	30	50.4103	110.104	17.5008	0	17.5008	81.1256	81.1256
35	0.0304837	2.32559	51.6828	MD SM	100	30	49.4234	107.949	13.7674	0	13.7674	76.3096	76.3096
36	0.0304837	2.1784	51.7556	MD SM	100	30	48.4352	105.79	10.0289	0	10.0289	71.481	71.481
37	0.0304837	2.03084	51.8286	MD SM	100	30	47.4456	103.629	6.28528	0	6.28528	66.6398	66.6398
38	0.0304837	1.88288	51.9017	MD SM	100	30	46.4547	101.464	2.53651	0	2.53651	61.7859	61.7859
39	0.0304837	1.73454	51.9749	MD SM	100	30	45.4624	99.2971	-1.21743	0	-1.21743	56.9192	56.9192
40	0.0304837	1.5858	52.0482	MD SM	100	30	44.4687	97.1268	-4.97653	0	-4.97653	52.0396	52.0396
41	0.0304837	1.43667	52.1216	MD SM	100	30	43.4737	94.9535	-8.74077	0	-8.74077	47.1472	47.1472
42	0.0304837	1.28715	52.1952	MD SM	100	30	42.4773	92.7772	-12.5102	0	-12.5102	42.2417	42.2417
43	0.0304837	1.13723	52.2689	MD SM	100	30	41.4795	90.598	-16.2848	0	-16.2848	37.3233	37.3233
44	0.0304837	0.986906	52.3427	MD SM	100	30	40.4804	88.4157	-20.0645	0	-20.0645	32.3918	32.3918
45	0.0304837	0.836184	52.4166	MD SM	100	30	39.4799	86.2305	-23.8494	0	-23.8494	27.4471	27.4471
46	0.0304837	0.685058	52.4907	MD SM	100	30	38.478	84.0422	-27.6397	0	-27.6397	22.489	22.489
47	0.0304837	0.533527	52.5649	MD SM	100	30	37.4748	81.851	-31.435	0	-31.435	17.5178	17.5178
48	0.0304837	0.381589	52.6392	MD SM	100	30	36.4702	79.6568	-35.2354	0	-35.2354	12.5333	12.5333
49	0.0304837	0.229242	52.7136	MD SM	100	30	35.4642	77.4595	-39.0413	0	-39.0413	7.53501	7.53501
50	0.0304837	0.0764827	52.7882	MD SM	100	30	34.4569	75.2593	-42.8523	0	-42.8523	2.52346	2.52346

A-A' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 0.328922

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0172802	0.340249	60.517	MD SM - No Cohes	0	30	8.48867	2.79211	4.83609	0	4.83609	19.8501	19.8501
2	0.0172802	1.0207	60.554	MD SM - No Cohes	0	30	25.4358	8.3664	14.491	0	14.491	59.5477	59.5477
3	0.0172802	1.70105	60.5911	MD SM - No Cohes	0	30	42.3416	13.9271	24.1225	0	24.1225	99.2396	99.2396
4	0.0172802	2.38129	60.6282	MD SM - No Cohes	0	30	59.2064	19.4743	33.7304	0	33.7304	138.926	138.926
5	0.0172802	2.783	60.6654	MD SM - No Cohes	0	30	69.1149	22.7334	39.3753	0	39.3753	162.363	162.363
6	0.0172802	2.7305	60.7027	MD SM - No Cohes	0	30	67.7331	22.2789	38.5881	0	38.5881	159.3	159.3
7	0.0172802	2.67147	60.7399	MD SM - No Cohes	0	30	66.1923	21.7721	37.7104	0	37.7104	155.856	155.856
8	0.0172802	2.61234	60.7772	MD SM - No Cohes	0	30	64.6524	21.2656	36.8331	0	36.8331	152.407	152.407
9	0.0172802	2.55311	60.8146	MD SM - No Cohes	0	30	63.1134	20.7594	35.9563	0	35.9563	148.952	148.952
10	0.0172802	2.49377	60.852	MD SM - No Cohes	0	30	61.5751	20.2534	35.0799	0	35.0799	145.491	145.491
11	0.0172802	2.43433	60.8894	MD SM - No Cohes	0	30	60.0373	19.7476	34.2038	0	34.2038	142.023	142.023
12	0.0172802	2.37478	60.9269	MD SM - No Cohes	0	30	58.5008	19.2422	33.3284	0	33.3284	138.55	138.55
13	0.0172802	2.31514	60.9644	MD SM - No Cohes	0	30	56.9646	18.7369	32.4533	0	32.4533	135.07	135.07
14	0.0172802	2.25539	61.002	MD SM - No Cohes	0	30	55.4296	18.232	31.5786	0	31.5786	131.584	131.584
15	0.0172802	2.19553	61.0396	MD SM - No Cohes	0	30	53.8951	17.7273	30.7045	0	30.7045	128.093	128.093
16	0.0172802	2.13557	61.0773	MD SM - No Cohes	0	30	52.3617	17.2229	29.8309	0	29.8309	124.595	124.595
17	0.0172802	2.07551	61.115	MD SM - No Cohes	0	30	50.8288	16.7187	28.9576	0	28.9576	121.091	121.091
18	0.0172802	2.01534	61.1528	MD SM - No Cohes	0	30	49.2971	16.2149	28.0849	0	28.0849	117.581	117.581
19	0.0172802	1.95506	61.1906	MD SM - No Cohes	0	30	47.766	15.7113	27.2127	0	27.2127	114.065	114.065
20	0.0172802	1.89468	61.2284	MD SM - No Cohes	0	30	46.2356	15.2079	26.3409	0	26.3409	110.542	110.542
21	0.0172802	1.83419	61.2663	MD SM - No Cohes	0	30	44.7063	14.7049	25.4696	0	25.4696	107.013	107.013
22	0.0172802	1.7736	61.3042	MD SM - No Cohes	0	30	43.1777	14.2021	24.5988	0	24.5988	103.478	103.478
23	0.0172802	1.7129	61.3422	MD SM - No Cohes	0	30	41.65	13.6996	23.7285	0	23.7285	99.937	99.937
24	0.0172802	1.65209	61.3802	MD SM - No Cohes	0	30	40.1232	13.1974	22.8586	0	22.8586	96.3894	96.3894
25	0.0172802	1.59117	61.4183	MD SM - No Cohes	0	30	38.5973	12.6955	21.9893	0	21.9893	92.8356	92.8356
26	0.0172802	1.53014	61.4564	MD SM - No Cohes	0	30	37.0723	12.1939	21.1204	0	21.1204	89.2755	89.2755
27	0.0172802	1.46901	61.4946	MD SM - No Cohes	0	30	35.5482	11.6926	20.2521	0	20.2521	85.7091	85.7091
28	0.0172802	1.40776	61.5328	MD SM - No Cohes	0	30	34.0248	11.1915	19.3842	0	19.3842	82.1357	82.1357
29	0.0172802	1.34641	61.5711	MD SM - No Cohes	0	30	32.5022	10.6907	18.5169	0	18.5169	78.5561	78.5561
30	0.0172802	1.28495	61.6094	MD SM - No Cohes	0	30	30.9809	10.1903	17.6501	0	17.6501	74.9705	74.9705
31	0.0172802	1.22337	61.6477	MD SM - No Cohes	0	30	29.4603	9.69013	16.7838	0	16.7838	71.3781	71.3781
32	0.0172802	1.16169	61.6861	MD SM - No Cohes	0	30	27.9406	9.19027	15.918	0	15.918	67.7792	67.7792

33	0.0172802	1.09989	61.7246	MD SM - No Cohes	0	30	26.4218	8.69072	15.0528	0	15.0528	64.1739	64.1739
34	0.0172802	1.03798	61.7631	MD SM - No Cohes	0	30	24.904	8.19147	14.188	0	14.188	60.562	60.562
35	0.0172802	0.975961	61.8016	MD SM - No Cohes	0	30	23.3871	7.69252	13.3238	0	13.3238	56.9435	56.9435
36	0.0172802	0.913828	61.8402	MD SM - No Cohes	0	30	21.8711	7.19389	12.4602	0	12.4602	53.3185	53.3185
37	0.0172802	0.851582	61.8789	MD SM - No Cohes	0	30	20.3561	6.69557	11.5971	0	11.5971	49.6868	49.6868
38	0.0172802	0.789223	61.9176	MD SM - No Cohes	0	30	18.842	6.19756	10.7345	0	10.7345	46.0485	46.0485
39	0.0172802	0.72675	61.9563	MD SM - No Cohes	0	30	17.3289	5.69987	9.87247	0	9.87247	42.4036	42.4036
40	0.0172802	0.664162	61.9951	MD SM - No Cohes	0	30	15.8168	5.20249	9.01097	0	9.01097	38.7519	38.7519
41	0.0172802	0.60146	62.0339	MD SM - No Cohes	0	30	14.3056	4.70544	8.15007	0	8.15007	35.0935	35.0935
42	0.0172802	0.538643	62.0728	MD SM - No Cohes	0	30	12.7955	4.20871	7.28969	0	7.28969	31.4284	31.4284
43	0.0172802	0.47571	62.1118	MD SM - No Cohes	0	30	11.2863	3.7123	6.42991	0	6.42991	27.7565	27.7565
44	0.0172802	0.412661	62.1507	MD SM - No Cohes	0	30	9.77809	3.21623	5.57068	0	5.57068	24.0779	24.0779
45	0.0172802	0.349496	62.1898	MD SM - No Cohes	0	30	8.2709	2.72048	4.712	0	4.712	20.3924	20.3924
46	0.0172802	0.286214	62.2289	MD SM - No Cohes	0	30	6.76473	2.22507	3.85393	0	3.85393	16.7001	16.7001
47	0.0172802	0.222814	62.268	MD SM - No Cohes	0	30	5.25958	1.72999	2.99642	0	2.99642	13.0009	13.0009
48	0.0172802	0.159297	62.3072	MD SM - No Cohes	0	30	3.75545	1.23525	2.13951	0	2.13951	9.29477	9.29477
49	0.0172802	0.0956614	62.3465	MD SM - No Cohes	0	30	2.25234	0.740844	1.28318	0	1.28318	5.58172	5.58172
50	0.0172802	0.031907	62.3857	MD SM - No Cohes	0	30	0.750284	0.246785	0.427443	0	0.427443	1.86174	1.86174

A-A' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.06423

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.26807	48.7998	-21.3221	MD SM	100	30	145.693	155.05	95.3499	0	95.3499	38.4819	38.4819
2	1.04278	112.471	-19.8694	MD SM	100	30	180.148	191.719	172.959	14.0981	158.861	107.855	93.7573
3	1.04278	175.097	-18.5704	MD SM	100	30	198.793	211.561	234.699	41.4693	193.229	167.912	126.443
4	1.04278	234.168	-17.2811	MD SM	100	30	215.743	229.6	291.678	67.2045	224.473	224.559	157.355
5	1.04278	289.762	-16.0009	MD SM	100	30	231.115	245.959	344.147	91.3389	252.808	277.872	186.534
6	1.04278	341.947	-14.7287	MD SM	100	30	245.01	260.747	392.326	113.904	278.422	327.917	214.013
7	0.97962	365.069	-13.5021	L SM/SP-SM	50	28	188.691	200.811	417.971	134.337	283.634	372.663	238.326
8	0.97962	403.995	-12.3199	L SM/SP-SM	50	28	198.35	211.09	455.719	152.751	302.968	412.399	259.648
9	0.97962	440.333	-11.143	L SM/SP-SM	50	28	207.077	220.378	490.28	169.846	320.434	449.492	279.646
10	0.97962	474.116	-9.9708	L SM/SP-SM	50	28	214.915	228.719	521.76	185.639	336.121	483.978	298.339
11	0.97962	505.373	-8.80283	L SM/SP-SM	50	28	221.901	236.154	550.249	200.144	350.105	515.886	315.742
12	0.97962	534.129	-7.63854	L SM/SP-SM	50	28	228.07	242.719	575.828	213.376	362.452	545.241	331.865
13	0.97962	560.407	-6.47742	L SM/SP-SM	50	28	233.453	248.448	598.571	225.345	373.226	572.065	346.72
14	0.97962	584.225	-5.31896	L SM/SP-SM	50	28	238.079	253.371	618.544	236.06	382.484	596.379	360.319
15	0.97962	605.599	-4.16268	L SM/SP-SM	50	28	241.973	257.515	635.808	245.529	390.279	618.197	372.668
16	0.97962	624.541	-3.0081	L SM/SP-SM	50	28	245.159	260.906	650.416	253.759	396.657	637.533	383.774
17	0.97962	641.059	-1.85473	L SM/SP-SM	50	28	247.66	263.567	662.416	260.754	401.662	654.396	393.642
18	0.97962	655.161	-0.702123	L SM/SP-SM	50	28	249.493	265.518	671.849	266.518	405.331	668.791	402.273
19	0.97962	666.849	0.450203	L SM/SP-SM	50	28	250.677	266.778	678.752	271.052	407.7	680.722	409.67
20	0.97962	676.124	1.60271	L SM/SP-SM	50	28	251.23	267.366	683.161	274.356	408.805	690.19	415.834
21	0.97962	700.241	2.75587	L SM/SP-SM	50	28	259.759	276.443	702.305	276.429	425.876	714.809	438.38
22	0.97962	741.222	3.91015	L SM/SP-SM	50	28	277.027	294.82	737.708	277.268	460.44	756.643	479.375
23	0.97962	779.789	5.06601	L SM/SP-SM	50	28	293.362	312.205	770.005	276.869	493.136	796.012	519.143
24	0.97962	815.913	6.22395	L SM/SP-SM	50	28	308.777	328.61	799.214	275.225	523.989	832.888	557.663
25	0.97962	849.581	7.38445	L SM/SP-SM	50	28	323.285	344.05	825.359	272.33	553.029	867.257	594.927
26	0.97962	870.24	8.54801	L SM/SP-SM	50	28	331.907	353.225	838.458	268.174	570.284	888.346	620.172
27	0.97962	871.195	9.71513	L SM/SP-SM	50	28	331.66	352.963	832.539	262.747	569.792	889.321	626.574
28	0.97962	869.384	10.8863	L SM/SP-SM	50	28	330.685	351.925	823.874	256.036	567.838	887.472	631.436
29	0.97962	865.024	12.0622	L SM/SP-SM	50	28	329.103	350.241	812.695	248.025	564.67	883.022	634.997
30	0.97962	858.085	13.2432	L SM/SP-SM	50	28	326.919	347.917	799	238.701	560.299	875.938	637.237
31	0.97962	848.529	14.43	L SM/SP-SM	50	28	324.139	344.958	782.778	228.042	554.736	866.183	638.141
32	0.97962	836.316	15.6231	L SM/SP-SM	50	28	320.767	341.37	764.018	216.03	547.988	853.717	637.687
33	0.97962	821.401	16.8232	L SM/SP-SM	50	28	316.807	337.156	742.702	202.641	540.061	838.492	635.851
34	0.97962	803.735	18.031	L SM/SP-SM	50	28	312.261	332.317	718.812	187.85	530.962	820.459	632.609
35	0.97962	783.262	19.2471	L SM/SP-SM	50	28	307.13	326.857	692.322	171.628	520.694	799.559	627.931

36	0.97962	759.921	20.4724	L SM/SP-SM	50	28	301.417	320.777	663.203	153.945	509.258	775.733	621.788
37	0.97962	733.644	21.7074	L SM/SP-SM	50	28	295.12	314.076	631.422	134.767	496.655	748.909	614.142
38	0.985502	708.414	22.957	MD SM	100	30	343.227	365.272	573.452	113.987	459.465	718.839	604.852
39	0.985502	677.611	24.222	MD SM	100	30	335.443	356.989	536.674	91.556	445.118	687.583	596.027
40	0.985502	643.73	25.4997	MD SM	100	30	327.085	348.094	497.194	67.4834	429.711	653.204	585.72
41	0.985502	606.373	26.7911	MD SM	100	30	318.019	338.445	454.716	41.7177	412.999	615.297	573.58
42	0.985502	565.422	28.0974	MD SM	100	30	308.241	328.039	409.176	14.2018	394.974	573.744	559.542
43	1.00198	530.277	29.4311	MD SM	100	30	291.772	310.513	364.619	0	364.619	529.233	529.233
44	1.00198	482.579	30.7937	MD SM	100	30	268.455	285.698	321.638	0	321.638	481.629	481.629
45	1.00198	430.805	32.1759	MD SM	100	30	243.954	259.623	276.475	0	276.475	429.958	429.958
46	1.00198	374.77	33.5794	MD SM	100	30	218.269	232.288	229.129	0	229.129	374.033	374.033
47	1.00198	314.265	35.0062	MD SM	100	30	191.398	203.691	179.599	0	179.599	313.648	313.648
48	1.00198	245.065	36.4583	MD SM	100	30	598.679	637.132	930.339	0	930.339	1372.66	1372.66
49	1.00198	152.176	37.9382	MD SM	100	30	845.606	899.919	1385.5	0	1385.5	2044.69	2044.69
50	1.00198	51.6304	39.4485	MD SM	100	30	234.324	249.375	258.724	0	258.724	451.533	451.533

A-A' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.42083

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.638628	16.2327	-1.77893	L SM/SP-SM	50	28	45.228	64.2613	26.8216	0	26.8216	25.4169	25.4169
2	0.638628	48.2567	-0.746119	L SM/SP-SM	50	28	63.7788	90.6189	76.3929	0	76.3929	75.5623	75.5623
3	0.638628	79.3984	0.286451	L SM/SP-SM	50	28	81.5642	115.889	123.919	0	123.919	124.327	124.327
4	0.638628	109.658	1.31912	L SM/SP-SM	50	28	98.5993	140.093	169.44	0	169.44	171.711	171.711
5	0.638628	139.035	2.35221	L SM/SP-SM	50	28	114.898	163.25	212.993	0	212.993	217.713	217.713
6	0.638628	167.527	3.38607	L SM/SP-SM	50	28	130.472	185.378	254.609	0	254.609	262.329	262.329
7	0.638628	195.316	4.42103	L SM/SP-SM	50	28	145.438	206.642	294.601	0	294.601	305.845	305.845
8	0.638628	222.555	5.45744	L SM/SP-SM	50	28	159.892	227.179	333.227	0	333.227	348.503	348.503
9	0.638628	248.908	6.49565	L SM/SP-SM	50	28	173.653	246.731	369.998	0	369.998	389.77	389.77
10	0.638628	274.361	7.536	L SM/SP-SM	50	28	186.725	265.304	404.927	0	404.927	429.629	429.629
11	0.638628	298.908	8.57886	L SM/SP-SM	50	28	199.114	282.907	438.035	0	438.035	468.073	468.073
12	0.638628	322.544	9.62459	L SM/SP-SM	50	28	210.827	299.55	469.335	0	469.335	505.087	505.087
13	0.638628	345.258	10.6736	L SM/SP-SM	50	28	221.87	315.239	498.843	0	498.843	540.659	540.659
14	0.638628	367.044	11.7262	L SM/SP-SM	50	28	232.247	329.983	526.571	0	526.571	574.778	574.778
15	0.638628	387.889	12.7828	L SM/SP-SM	50	28	241.96	343.784	552.528	0	552.528	607.424	607.424
16	0.638628	407.783	13.8439	L SM/SP-SM	50	28	251.015	356.649	576.722	0	576.722	638.581	638.581
17	0.638628	426.714	14.9099	L SM/SP-SM	50	28	259.41	368.578	599.158	0	599.158	668.23	668.23
18	0.638628	444.666	15.9811	L SM/SP-SM	50	28	267.149	379.574	619.839	0	619.839	696.347	696.347
19	0.638628	461.626	17.0582	L SM/SP-SM	50	28	274.232	389.637	638.765	0	638.765	722.91	722.91
20	0.638628	477.576	18.1415	L SM/SP-SM	50	28	280.657	398.766	655.935	0	655.935	747.893	747.893
21	0.638628	492.498	19.2315	L SM/SP-SM	50	28	286.424	406.96	671.344	0	671.344	771.264	771.264
22	0.638628	506.372	20.3288	L SM/SP-SM	50	28	291.53	414.215	684.989	0	684.989	792.996	792.996
23	0.638628	519.176	21.434	L SM/SP-SM	50	28	295.972	420.526	696.858	0	696.858	813.051	813.051
24	0.638628	530.886	22.5476	L SM/SP-SM	50	28	299.747	425.889	706.944	0	706.944	831.395	831.395
25	0.638628	541.476	23.6703	L SM/SP-SM	50	28	302.848	430.295	715.23	0	715.23	847.983	847.983
26	0.638628	550.917	24.8027	L SM/SP-SM	50	28	305.269	433.736	721.702	0	721.702	862.774	862.774
27	0.371147	323.943	25.7044	MD SM	100	30	355.558	505.188	701.806	0	701.806	872.958	872.958
28	0.649991	579.681	26.6251	MD SM	100	30	313.403	445.293	734.848	136.783	598.065	891.961	755.178
29	0.649991	584.34	27.807	MD SM	100	30	319.074	453.35	730.859	118.839	612.02	899.137	780.298
30	0.649991	587.542	29.0018	MD SM	100	30	324.166	460.585	724.371	99.8189	624.552	904.073	804.254
31	0.649991	589.237	30.2106	MD SM	100	30	328.669	466.983	715.319	79.6865	635.632	906.69	827.004
32	0.649991	589.37	31.4345	MD SM	100	30	332.568	472.523	703.63	58.4007	645.229	906.905	848.505
33	0.649991	587.88	32.6745	MD SM	100	30	335.85	477.186	689.223	35.9164	653.306	904.624	868.707
34	0.649991	584.7	33.9321	MD SM	100	30	338.498	480.948	672.004	12.1837	659.82	899.74	887.557
35	0.664222	593.072	35.2226	MD SM	100	30	336.69	478.379	655.371	0	655.371	893.079	893.079
36	0.664222	587.37	36.5483	MD SM	100	30	330.304	469.306	639.658	0	639.658	884.502	884.502
37	0.664222	579.673	37.8972	MD SM	100	30	322.942	458.846	621.54	0	621.54	872.918	872.918
38	0.664222	569.87	39.2712	MD SM	100	30	314.576	446.959	600.95	0	600.95	858.164	858.164

39	0.664222	557.835	40.6728	MD SM	100	30	305.173	433.599	577.81	0	577.81	840.049	840.049
40	0.664222	543.427	42.1045	MD SM	100	30	294.7	418.719	552.037	0	552.037	818.362	818.362
41	0.664222	526.484	43.5693	MD SM	100	30	283.118	402.263	523.535	0	523.535	792.856	792.856
42	0.664222	498.624	45.0708	MD SM	100	30	266.822	379.108	483.429	0	483.429	750.91	750.91
43	0.664222	455.357	46.6128	MD SM	100	30	244.102	346.827	427.518	0	427.518	685.763	685.763
44	0.664222	408.761	48.2	MD SM	100	30	220.375	313.115	369.126	0	369.126	615.602	615.602
45	0.664222	358.664	49.8382	MD SM	100	30	195.665	278.006	308.316	0	308.316	540.167	540.167
46	0.664222	304.699	51.534	MD SM	100	30	169.939	241.454	245.005	0	245.005	458.907	458.907
47	0.664222	246.419	53.2956	MD SM	100	30	143.163	203.41	179.112	0	179.112	371.149	371.149
48	0.664222	183.272	55.1333	MD SM	100	30	115.308	163.833	110.562	0	110.562	276.057	276.057
49	0.664222	114.555	57.0601	MD SM	100	30	86.351	122.69	39.3003	0	39.3003	172.575	172.575
50	0.664222	39.3523	59.0931	MD SM	100	30	56.2837	79.9696	-34.6936	0	-34.6936	59.3238	59.3238

A-A' Post-Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	686.247	1361.63	2059.04	0	2059.04	2003.55	2003.55
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	533.02	1057.6	1572.49	0	1572.49	1539.81	1539.81
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	459.452	911.631	1338.89	0	1338.89	1319.67	1319.67
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	454.368	901.543	1322.75	0	1322.75	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	450.679	894.224	1311.03	0	1311.03	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	446.913	886.751	1299.08	0	1299.08	1306.42	1306.42
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	442.652	878.297	1285.54	0	1285.54	1301.41	1301.41
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	437.902	868.872	1270.46	0	1270.46	1294.68	1294.68
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	432.667	858.485	1253.84	0	1253.84	1286.22	1286.22
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	427.05	847.339	1236	0	1236	1276.34	1276.34
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	421.437	836.203	1218.18	0	1218.18	1266.3	1266.3
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	415.409	824.243	1199.04	0	1199.04	1254.72	1254.72
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	408.901	811.33	1178.37	0	1178.37	1241.36	1241.36
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	401.916	797.47	1156.19	0	1156.19	1226.22	1226.22
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	394.455	782.665	1132.5	0	1132.5	1209.28	1209.28
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	387.11	768.093	1109.18	0	1109.18	1192.52	1192.52
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	390.097	774.019	1118.66	0	1118.66	1210.8	1210.8
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	396.489	786.701	1138.96	0	1138.96	1241.02	1241.02
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	402.214	798.061	1157.14	0	1157.14	1269.33	1269.33
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	407.27	808.092	1173.19	0	1173.19	1295.71	1295.71
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	411.653	816.79	1187.11	0	1187.11	1320.13	1320.13
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	415.36	824.144	1198.88	0	1198.88	1342.55	1342.55

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	418.384	830.144	1208.48	0	1208.48	1362.92	1362.92
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	420.719	834.779	1215.9	0	1215.9	1381.21	1381.21
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	422.358	838.031	1221.11	0	1221.11	1397.35	1397.35
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	360.478	715.25	1251.15	0	1251.15	1410.95	1410.95
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	360.664	715.619	1251.84	0	1251.84	1421.75	1421.75
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	360.102	714.503	1249.75	0	1249.75	1429.73	1429.73
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	358.775	711.871	1244.8	0	1244.8	1434.78	1434.78
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	310.467	616.019	1279.51	214.982	1064.53	1452.87	1237.89
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	308.774	612.66	1250.51	192.303	1058.21	1431.54	1239.24
32	0.7263	1018	31.601	L SM/SP-SM	50	28	305.382	605.929	1213.89	168.337	1045.55	1401.77	1233.43
33	0.775081	1059.43	32.878	MD SM	100	30	342.414	679.408	1145.7	142.134	1003.57	1367.03	1224.9
34	0.775081	1028.33	34.2159	MD SM	100	30	336.82	668.308	1097.87	113.538	984.334	1326.91	1213.37
35	0.775081	994.541	35.5753	MD SM	100	30	330.749	656.262	1046.75	83.2762	963.474	1283.33	1200.05
36	0.775081	957.925	36.9583	MD SM	100	30	324.183	643.235	992.173	51.2631	940.91	1236.09	1184.83
37	0.775081	918.321	38.3668	MD SM	100	30	317.1	629.18	933.97	17.4031	916.567	1185	1167.6
38	0.746929	844.254	39.7768	MD SM	100	30	305.377	605.919	876.277	0	876.277	1130.5	1130.5
39	0.746929	801.316	41.1896	MD SM	100	30	289.025	573.474	820.081	0	820.081	1073.01	1073.01
40	0.746929	755.305	42.6336	MD SM	100	30	271.868	539.432	761.118	0	761.118	1011.41	1011.41
41	0.746929	706.003	44.112	MD SM	100	30	253.873	503.727	699.276	0	699.276	945.399	945.399
42	0.746929	653.161	45.6284	MD SM	100	30	235.005	466.289	634.431	0	634.431	874.647	874.647
43	0.746929	596.485	47.187	MD SM	100	30	215.223	427.04	566.449	0	566.449	798.763	798.763
44	0.746929	535.631	48.7929	MD SM	100	30	194.485	385.892	495.18	0	495.18	717.283	717.283
45	0.746929	470.187	50.452	MD SM	100	30	172.743	342.752	420.459	0	420.459	629.656	629.656
46	0.746929	399.658	52.1716	MD SM	100	30	149.945	297.516	342.108	0	342.108	535.218	535.218
47	0.746929	323.432	53.9606	MD SM	100	30	126.033	250.071	259.931	0	259.931	433.15	433.15
48	0.746929	240.746	55.8301	MD SM	100	30	100.948	200.298	173.722	0	173.722	322.43	322.43
49	0.746929	150.625	57.7945	MD SM	100	30	74.6283	148.075	83.2684	0	83.2684	201.751	201.751
50	0.746929	51.7842	59.8728	MD SM	100	30	47.016	93.2877	-11.6261	0	-11.6261	69.3922	69.3922

A-A' Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	686.247	1361.63	2059.04	0	2059.04	2003.55	2003.55
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	533.02	1057.6	1572.49	0	1572.49	1539.81	1539.81
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	459.452	911.631	1338.89	0	1338.89	1319.67	1319.67
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	454.368	901.543	1322.75	0	1322.75	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	450.679	894.224	1311.03	0	1311.03	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	446.913	886.751	1299.08	0	1299.08	1306.42	1306.42
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	442.652	878.297	1285.54	0	1285.54	1301.41	1301.41
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	437.902	868.872	1270.46	0	1270.46	1294.68	1294.68
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	432.667	858.485	1253.84	0	1253.84	1286.22	1286.22
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	427.05	847.339	1236	0	1236	1276.34	1276.34
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	421.437	836.203	1218.18	0	1218.18	1266.3	1266.3
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	415.409	824.243	1199.04	0	1199.04	1254.72	1254.72
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	408.901	811.33	1178.37	0	1178.37	1241.36	1241.36
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	401.916	797.47	1156.19	0	1156.19	1226.22	1226.22
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	394.455	782.665	1132.5	0	1132.5	1209.28	1209.28
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	387.11	768.093	1109.18	0	1109.18	1192.52	1192.52
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	390.097	774.019	1118.66	0	1118.66	1210.8	1210.8
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	396.489	786.701	1138.96	0	1138.96	1241.02	1241.02
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	402.214	798.061	1157.14	0	1157.14	1269.33	1269.33
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	407.27	808.092	1173.19	0	1173.19	1295.71	1295.71
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	411.653	816.79	1187.11	0	1187.11	1320.13	1320.13
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	415.36	824.144	1198.88	0	1198.88	1342.55	1342.55

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	418.384	830.144	1208.48	0	1208.48	1362.92	1362.92
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	420.719	834.779	1215.9	0	1215.9	1381.21	1381.21
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	422.358	838.031	1221.11	0	1221.11	1397.35	1397.35
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	360.478	715.25	1251.15	0	1251.15	1410.95	1410.95
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	360.664	715.619	1251.84	0	1251.84	1421.75	1421.75
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	360.102	714.503	1249.75	0	1249.75	1429.73	1429.73
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	358.775	711.871	1244.8	0	1244.8	1434.78	1434.78
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	310.467	616.019	1279.51	214.982	1064.53	1452.87	1237.89
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	308.774	612.66	1250.51	192.303	1058.21	1431.54	1239.24
32	0.7263	1018	31.601	L SM/SP-SM	50	28	305.382	605.929	1213.89	168.337	1045.55	1401.77	1233.43
33	0.775081	1059.43	32.878	MD SM	100	30	342.414	679.408	1145.7	142.134	1003.57	1367.03	1224.9
34	0.775081	1028.33	34.2159	MD SM	100	30	336.82	668.308	1097.87	113.538	984.334	1326.91	1213.37
35	0.775081	994.541	35.5753	MD SM	100	30	330.749	656.262	1046.75	83.2762	963.474	1283.33	1200.05
36	0.775081	957.925	36.9583	MD SM	100	30	324.183	643.235	992.173	51.2631	940.91	1236.09	1184.83
37	0.775081	918.321	38.3668	MD SM	100	30	317.1	629.18	933.97	17.4031	916.567	1185	1167.6
38	0.746929	844.254	39.7768	MD SM	100	30	305.377	605.919	876.277	0	876.277	1130.5	1130.5
39	0.746929	801.316	41.1896	MD SM	100	30	289.025	573.474	820.081	0	820.081	1073.01	1073.01
40	0.746929	755.305	42.6336	MD SM	100	30	271.868	539.432	761.118	0	761.118	1011.41	1011.41
41	0.746929	706.003	44.112	MD SM	100	30	253.873	503.727	699.276	0	699.276	945.399	945.399
42	0.746929	653.161	45.6284	MD SM	100	30	235.005	466.289	634.431	0	634.431	874.647	874.647
43	0.746929	596.485	47.187	MD SM	100	30	215.223	427.04	566.449	0	566.449	798.763	798.763
44	0.746929	535.631	48.7929	MD SM	100	30	194.485	385.892	495.18	0	495.18	717.283	717.283
45	0.746929	470.187	50.452	MD SM	100	30	172.743	342.752	420.459	0	420.459	629.656	629.656
46	0.746929	399.658	52.1716	MD SM	100	30	149.945	297.516	342.108	0	342.108	535.218	535.218
47	0.746929	323.432	53.9606	MD SM	100	30	126.033	250.071	259.931	0	259.931	433.15	433.15
48	0.746929	240.746	55.8301	MD SM	100	30	100.948	200.298	173.722	0	173.722	322.43	322.43
49	0.746929	150.625	57.7945	MD SM	100	30	74.6283	148.075	83.2684	0	83.2684	201.751	201.751
50	0.746929	51.7842	59.8728	MD SM	100	30	47.016	93.2877	-11.6261	0	-11.6261	69.3922	69.3922

A-A' Post-Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.05908

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.104094	0.0269419	26.8244	MD SM - No Cohes	0	30	0.110608	0.117143	0.202898	0	0.202898	0.258829	0.258829
2	0.104094	0.0797608	26.8961	MD SM - No Cohes	0	30	0.327233	0.346566	0.60027	0	0.60027	0.766257	0.766257
3	0.104094	0.130448	26.9679	MD SM - No Cohes	0	30	0.534826	0.566424	0.981072	0	0.981072	1.2532	1.2532
4	0.104094	0.178999	27.0397	MD SM - No Cohes	0	30	0.733389	0.776718	1.34532	0	1.34532	1.71964	1.71964
5	0.104094	0.22541	27.1115	MD SM - No Cohes	0	30	0.922921	0.977447	1.69299	0	1.69299	2.1655	2.1655
6	0.104094	0.269678	27.1834	MD SM - No Cohes	0	30	1.10342	1.16861	2.0241	0	2.0241	2.59078	2.59078
7	0.104094	0.311797	27.2553	MD SM - No Cohes	0	30	1.2749	1.35022	2.33865	0	2.33865	2.99541	2.99541
8	0.104094	0.351763	27.3273	MD SM - No Cohes	0	30	1.43734	1.52226	2.63663	0	2.63663	3.37937	3.37937
9	0.104094	0.389573	27.3993	MD SM - No Cohes	0	30	1.59076	1.68474	2.91807	0	2.91807	3.74261	3.74261
10	0.104094	0.425223	27.4714	MD SM - No Cohes	0	30	1.73515	1.83766	3.18293	0	3.18293	4.08509	4.08509
11	0.104094	0.458707	27.5435	MD SM - No Cohes	0	30	1.87052	1.98103	3.43124	0	3.43124	4.40678	4.40678
12	0.104094	0.490022	27.6157	MD SM - No Cohes	0	30	1.99686	2.11483	3.66299	0	3.66299	4.70762	4.70762
13	0.104094	0.519163	27.6879	MD SM - No Cohes	0	30	2.11417	2.23907	3.87818	0	3.87818	4.98757	4.98757
14	0.104094	0.546127	27.7602	MD SM - No Cohes	0	30	2.22245	2.35375	4.07682	0	4.07682	5.24661	5.24661
15	0.104094	0.570908	27.8325	MD SM - No Cohes	0	30	2.32171	2.45888	4.2589	0	4.2589	5.48468	5.48468
16	0.104094	0.593503	27.9048	MD SM - No Cohes	0	30	2.41195	2.55445	4.42443	0	4.42443	5.70176	5.70176
17	0.104094	0.613907	27.9772	MD SM - No Cohes	0	30	2.49316	2.64046	4.57341	0	4.57341	5.89778	5.89778
18	0.104094	0.632115	28.0497	MD SM - No Cohes	0	30	2.56535	2.71691	4.70582	0	4.70582	6.0727	6.0727
19	0.104094	0.648124	28.1222	MD SM - No Cohes	0	30	2.62852	2.78381	4.82169	0	4.82169	6.2265	6.2265
20	0.104094	0.661928	28.1947	MD SM - No Cohes	0	30	2.68265	2.84114	4.921	0	4.921	6.35911	6.35911
21	0.104094	0.673524	28.2673	MD SM - No Cohes	0	30	2.72777	2.88893	5.00376	0	5.00376	6.47051	6.47051
22	0.104094	0.682906	28.34	MD SM - No Cohes	0	30	2.76386	2.92715	5.06998	0	5.06998	6.56065	6.56065
23	0.104094	0.690071	28.4127	MD SM - No Cohes	0	30	2.79093	2.95582	5.11963	0	5.11963	6.62948	6.62948
24	0.104094	0.695013	28.4854	MD SM - No Cohes	0	30	2.80898	2.97493	5.15273	0	5.15273	6.67696	6.67696
25	0.104094	0.697728	28.5583	MD SM - No Cohes	0	30	2.818	2.98449	5.16928	0	5.16928	6.70305	6.70305
26	0.104094	0.698212	28.6311	MD SM - No Cohes	0	30	2.818	2.98449	5.16929	0	5.16929	6.7077	6.7077
27	0.104094	0.69646	28.704	MD SM - No Cohes	0	30	2.80898	2.97493	5.15273	0	5.15273	6.69086	6.69086
28	0.104094	0.692466	28.777	MD SM - No Cohes	0	30	2.79093	2.95582	5.11963	0	5.11963	6.6525	6.6525
29	0.104094	0.686227	28.85	MD SM - No Cohes	0	30	2.76386	2.92715	5.06998	0	5.06998	6.59256	6.59256
30	0.104094	0.677738	28.923	MD SM - No Cohes	0	30	2.72776	2.88892	5.00376	0	5.00376	6.511	6.511
31	0.104094	0.666993	28.9961	MD SM - No Cohes	0	30	2.68265	2.84114	4.921	0	4.921	6.40778	6.40778
32	0.104094	0.653989	29.0693	MD SM - No Cohes	0	30	2.62851	2.7838	4.82168	0	4.82168	6.28285	6.28285

33	0.104094	0.63872	29.1425	MD SM - No Cohes	0	30	2.56534	2.7169	4.70581	0	4.70581	6.13616	6.13616
34	0.104094	0.621182	29.2157	MD SM - No Cohes	0	30	2.49315	2.64045	4.57339	0	4.57339	5.96767	5.96767
35	0.104094	0.601369	29.2891	MD SM - No Cohes	0	30	2.41194	2.55444	4.42442	0	4.42442	5.77733	5.77733
36	0.104094	0.579277	29.3624	MD SM - No Cohes	0	30	2.3217	2.45887	4.25889	0	4.25889	5.56509	5.56509
37	0.104094	0.554901	29.4359	MD SM - No Cohes	0	30	2.22244	2.35374	4.0768	0	4.0768	5.33091	5.33091
38	0.104094	0.528235	29.5093	MD SM - No Cohes	0	30	2.11415	2.23905	3.87816	0	3.87816	5.07474	5.07474
39	0.104094	0.499276	29.5829	MD SM - No Cohes	0	30	1.99684	2.11481	3.66296	0	3.66296	4.79653	4.79653
40	0.104094	0.468017	29.6564	MD SM - No Cohes	0	30	1.87049	1.981	3.4312	0	3.4312	4.49623	4.49623
41	0.104094	0.434454	29.7301	MD SM - No Cohes	0	30	1.73513	1.83764	3.18289	0	3.18289	4.17379	4.17379
42	0.104094	0.398582	29.8038	MD SM - No Cohes	0	30	1.59073	1.68471	2.91801	0	2.91801	3.82917	3.82917
43	0.104094	0.360396	29.8775	MD SM - No Cohes	0	30	1.43731	1.52223	2.63658	0	2.63658	3.46232	3.46232
44	0.104094	0.31989	29.9513	MD SM - No Cohes	0	30	1.27486	1.35018	2.33858	0	2.33858	3.07318	3.07318
45	0.104094	0.27706	30.0251	MD SM - No Cohes	0	30	1.10338	1.16857	2.02402	0	2.02402	2.66171	2.66171
46	0.104094	0.231899	30.0991	MD SM - No Cohes	0	30	0.922873	0.977396	1.6929	0	1.6929	2.22785	2.22785
47	0.104094	0.184404	30.173	MD SM - No Cohes	0	30	0.733335	0.77666	1.34521	0	1.34521	1.77156	1.77156
48	0.104094	0.134568	30.247	MD SM - No Cohes	0	30	0.534765	0.566359	0.980962	0	0.980962	1.29279	1.29279
49	0.104094	0.0823868	30.3211	MD SM - No Cohes	0	30	0.327165	0.346494	0.600146	0	0.600146	0.791487	0.791487
50	0.104094	0.0278545	30.3952	MD SM - No Cohes	0	30	0.110534	0.117064	0.20276	0	0.20276	0.267598	0.267598

A-A' Post-Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.05379

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.772907	2.77756	-4.62296	MD Intbd SP-SM, SM, ML	75	32	1322.66	1393.81	2110.55	0	2110.55	2003.59	2003.59
2	0.772907	929.959	-3.50837	MD Intbd SP-SM, SM, ML	75	32	1021.39	1076.33	1602.45	0	1602.45	1539.83	1539.83
3	0.772907	1020	-2.3951	MD Intbd SP-SM, SM, ML	75	32	875.422	922.511	1356.3	0	1356.3	1319.68	1319.68
4	0.772907	1014.5	-1.28274	MD Intbd SP-SM, SM, ML	75	32	860.927	907.236	1331.86	0	1331.86	1312.58	1312.58
5	0.772907	1012.27	-0.170864	MD Intbd SP-SM, SM, ML	75	32	849.284	894.967	1312.22	0	1312.22	1309.69	1309.69
6	0.772907	1009.73	0.940949	MD Intbd SP-SM, SM, ML	75	32	837.679	882.738	1292.65	0	1292.65	1306.41	1306.41
7	0.772907	1005.86	2.05312	MD Intbd SP-SM, SM, ML	75	32	825.324	869.718	1271.81	0	1271.81	1301.4	1301.4
8	0.772907	1000.66	3.16606	MD Intbd SP-SM, SM, ML	75	32	812.233	855.923	1249.74	0	1249.74	1294.67	1294.67
9	0.772907	994.11	4.2802	MD Intbd SP-SM, SM, ML	75	32	798.42	841.367	1226.44	0	1226.44	1286.2	1286.2
10	0.772907	986.467	5.39596	MD Intbd SP-SM, SM, ML	75	32	784.074	826.249	1202.25	0	1202.25	1276.31	1276.31
11	0.772907	978.703	6.51379	MD Intbd SP-SM, SM, ML	75	32	769.908	811.321	1178.36	0	1178.36	1266.27	1266.27
12	0.772907	969.747	7.63411	MD Intbd SP-SM, SM, ML	75	32	755.146	795.765	1153.47	0	1153.47	1254.68	1254.68
13	0.772907	959.422	8.75737	MD Intbd SP-SM, SM, ML	75	32	739.677	779.464	1127.38	0	1127.38	1241.32	1241.32
14	0.772907	947.715	9.88404	MD Intbd SP-SM, SM, ML	75	32	723.508	762.426	1100.11	0	1100.11	1226.18	1226.18
15	0.772907	934.614	11.0146	MD Intbd SP-SM, SM, ML	75	32	706.65	744.661	1071.68	0	1071.68	1209.23	1209.23
16	0.772907	921.657	12.1495	MD Intbd SP-SM, SM, ML	75	32	690.166	727.29	1043.88	0	1043.88	1192.46	1192.46
17	0.772907	935.782	13.2893	MD Intbd SP-SM, SM, ML	75	32	692.166	729.398	1047.26	0	1047.26	1210.74	1210.74
18	0.772907	959.128	14.4344	MD Intbd SP-SM, SM, ML	75	32	700.156	737.817	1060.73	0	1060.73	1240.95	1240.95
19	0.772907	981.007	15.5855	MD Intbd SP-SM, SM, ML	75	32	706.887	744.91	1072.08	0	1072.08	1269.25	1269.25
20	0.772907	1001.39	16.743	MD Intbd SP-SM, SM, ML	75	32	712.37	750.688	1081.33	0	1081.33	1295.63	1295.63
21	0.772907	1020.26	17.9077	MD Intbd SP-SM, SM, ML	75	32	716.61	755.156	1088.48	0	1088.48	1320.04	1320.04
22	0.772907	1037.58	19.08	MD Intbd SP-SM, SM, ML	75	32	719.614	758.322	1093.54	0	1093.54	1342.45	1342.45

23	0.772907	1053.32	20.2608	MD Intbd SP-SM, SM, ML	75	32	721.386	760.189	1096.53	0	1096.53	1362.82	1362.82
24	0.772907	1067.45	21.4505	MD Intbd SP-SM, SM, ML	75	32	721.925	760.757	1097.44	0	1097.44	1381.09	1381.09
25	0.772907	1079.92	22.6501	MD Intbd SP-SM, SM, ML	75	32	721.231	760.026	1096.27	0	1096.27	1397.23	1397.23
26	0.832581	1174.63	23.9074	L SM/SP-SM	50	28	620.522	653.9	1135.77	0	1135.77	1410.85	1410.85
27	0.832581	1183.61	25.2243	L SM/SP-SM	50	28	617.892	651.128	1130.56	0	1130.56	1421.64	1421.64
28	0.832581	1190.25	26.5556	L SM/SP-SM	50	28	613.953	646.978	1122.75	0	1122.75	1429.6	1429.6
29	0.832581	1194.45	27.9026	L SM/SP-SM	50	28	608.694	641.436	1112.33	0	1112.33	1434.65	1434.65
30	0.7263	1055.12	29.1784	L SM/SP-SM	50	28	524.275	552.476	1160	214.982	945.021	1452.75	1237.77
31	0.7263	1039.63	30.3822	L SM/SP-SM	50	28	519.105	547.028	1127.08	192.303	934.775	1431.42	1239.11
32	0.7263	1018	31.601	L SM/SP-SM	50	28	511.081	538.572	1087.21	168.337	918.87	1401.64	1233.3
33	0.775081	1059.43	32.878	MD SM	100	30	565.605	596.029	1001.28	142.134	859.147	1366.88	1224.75
34	0.775081	1028.33	34.2159	MD SM	100	30	553.414	583.182	950.435	113.538	836.897	1326.76	1213.22
35	0.775081	994.541	35.5753	MD SM	100	30	540.483	569.556	896.571	83.2762	813.294	1283.17	1199.89
36	0.775081	957.925	36.9583	MD SM	100	30	526.789	555.125	839.563	51.2631	788.3	1235.93	1184.66
37	0.775081	918.321	38.3668	MD SM	100	30	512.304	539.861	779.265	17.4031	761.862	1184.83	1167.43
38	0.746929	844.254	39.7768	MD SM	100	30	490.472	516.855	722.014	0	722.014	1130.32	1130.32
39	0.746929	801.316	41.1896	MD SM	100	30	461.44	486.261	669.025	0	669.025	1072.84	1072.84
40	0.746929	755.305	42.6336	MD SM	100	30	431.357	454.56	614.116	0	614.116	1011.24	1011.24
41	0.746929	706.003	44.112	MD SM	100	30	400.2	421.727	557.247	0	557.247	945.23	945.23
42	0.746929	653.161	45.6284	MD SM	100	30	367.946	387.738	498.376	0	498.376	874.483	874.483
43	0.746929	596.485	47.187	MD SM	100	30	334.572	352.569	437.463	0	437.463	798.603	798.603
44	0.746929	535.631	48.7929	MD SM	100	30	300.057	316.197	374.465	0	374.465	717.131	717.131
45	0.746929	470.187	50.452	MD SM	100	30	264.378	278.599	309.343	0	309.343	629.512	629.512
46	0.746929	399.658	52.1716	MD SM	100	30	227.52	239.758	242.068	0	242.068	535.085	535.085
47	0.746929	323.432	53.9606	MD SM	100	30	189.472	199.663	172.622	0	172.622	433.03	433.03
48	0.746929	240.746	55.8301	MD SM	100	30	150.237	158.318	101.01	0	101.01	322.327	322.327
49	0.746929	150.625	57.7945	MD SM	100	30	109.842	115.75	27.2803	0	27.2803	201.669	201.669
50	0.746929	51.7842	59.8728	MD SM	100	30	68.3518	72.0284	-48.4481	0	-48.4481	69.336	69.336

B-B' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.97945	106.401	-27.3499	MD ML	150	32	61.7203	203.515	85.6424	0	85.6424	53.718	53.718
2	1.97945	313.348	-26.0486	MD ML	150	32	83.1863	274.297	198.916	0	198.916	158.256	158.256
3	2.23261	594.295	-24.6802	MD ML	150	32	96.7053	318.874	310.58	40.3257	270.254	266.141	225.815
4	2.23261	841.007	-23.2452	MD ML	150	32	102.696	338.627	420.758	118.89	301.868	376.647	257.757
5	2.23261	1122.56	-21.8256	MD ML	150	32	112.677	371.539	547.876	193.342	354.534	502.75	309.408
6	2.23261	1507.02	-20.4199	MD ML	150	32	132.772	437.8	724.382	263.806	460.576	674.952	411.146
7	2.30514	1960	-19.0044	MD Intbd SP-SM, SM, ML	75	32	129.516	427.063	894.832	331.414	563.418	850.225	518.811
8	2.30514	2290.89	-17.5785	MD Intbd SP-SM, SM, ML	75	32	144.684	477.079	1039.61	396.145	643.462	993.77	597.625
9	2.30514	2554	-16.1638	MD Intbd SP-SM, SM, ML	75	32	154.596	509.763	1152.72	456.95	695.767	1107.91	650.959
10	2.30514	2800.09	-14.7591	MD Intbd SP-SM, SM, ML	75	32	163.714	539.828	1257.8	513.918	743.879	1214.67	700.748
11	2.30514	3029.52	-13.3634	MD Intbd SP-SM, SM, ML	75	32	172.065	567.364	1355.07	567.126	787.948	1314.2	747.072
12	2.09162	2933.92	-12.0398	L Intbd SP -SM, SM, ML	75	28	155.174	511.666	1435.76	614.509	821.249	1402.66	788.153
13	2.09162	3097.29	-10.7866	L Intbd SP -SM, SM, ML	75	28	160.604	529.573	1511.37	656.445	854.926	1480.77	824.328
14	2.09162	3251.63	-9.53857	L Intbd SP -SM, SM, ML	75	28	165.775	546.623	1582.42	695.428	886.992	1554.56	859.136
15	2.09162	3399.48	-8.29514	L Intbd SP -SM, SM, ML	75	28	170.884	563.468	1650.17	731.492	918.674	1625.25	893.76
16	2.30755	3907.91	-6.99183	L Intbd SM, ML	150	28	198.951	656.016	1717.91	766.225	951.68	1693.51	927.281
17	2.30755	4058.4	-5.62832	L Intbd SM, ML	150	28	203.426	670.772	1778.77	799.342	979.431	1758.73	959.384
18	2.30755	4193.55	-4.26801	L Intbd SM, ML	150	28	207.351	683.714	1832.78	829.004	1003.77	1817.3	988.297
19	2.30755	4313.46	-2.9101	L Intbd SM, ML	150	28	210.734	694.869	1879.98	855.229	1024.75	1869.27	1014.04
20	2.30755	4418.19	-1.55383	L Intbd SM, ML	150	28	213.582	704.262	1920.45	878.035	1042.42	1914.66	1036.62
21	2.30755	4511.14	-0.198436	L Intbd SM, ML	150	28	216.138	712.689	1955.7	897.431	1058.26	1954.95	1057.52
22	2.30755	4597.86	1.15685	L Intbd SM, ML	150	28	218.787	721.423	1988.11	913.419	1074.69	1992.53	1079.11
23	2.30755	4669.91	2.51279	L Intbd SM, ML	150	28	220.944	728.535	2014.07	925.999	1088.07	2023.76	1097.76
24	2.30755	4726.81	3.87013	L Intbd SM, ML	150	28	222.578	733.925	2033.36	935.162	1098.2	2048.42	1113.26
25	2.30755	4768.48	5.22966	L Intbd SM, ML	150	28	223.693	737.602	2046.01	940.895	1105.12	2066.49	1125.59
26	2.30755	4794.85	6.59215	L Intbd SM, ML	150	28	224.29	739.571	2052	943.178	1108.82	2077.92	1134.74
27	2.30755	4805.79	7.95839	L Intbd SM, ML	150	28	224.37	739.833	2051.3	941.986	1109.31	2082.67	1140.68
28	2.30755	4801.17	9.32921	L Intbd SM, ML	150	28	223.932	738.388	2043.88	937.286	1106.6	2080.67	1143.38
29	2.30755	4780.81	10.7054	L Intbd SM, ML	150	28	222.975	735.232	2029.7	929.041	1100.66	2071.86	1142.81
30	2.30755	4744.52	12.088	L Intbd SM, ML	150	28	221.496	730.357	2008.7	917.204	1091.49	2056.13	1138.93
31	2.30755	4692.06	13.4777	L Intbd SM, ML	150	28	219.494	723.754	1980.8	901.724	1079.07	2033.4	1131.68

32	2.30755	4623.15	14.8755	L Intbd SM, ML	150	28	216.963	715.409	1945.92	882.538	1063.38	2003.55	1121.01
33	2.30755	4537.5	16.2824	L Intbd SM, ML	150	28	213.899	705.307	1903.96	859.578	1044.38	1966.44	1106.86
34	2.30755	4434.75	17.6996	L Intbd SM, ML	150	28	210.296	693.426	1854.8	832.766	1022.03	1921.91	1089.15
35	2.30755	4314.52	19.128	L Intbd SM, ML	150	28	206.146	679.743	1798.32	802.013	996.303	1869.81	1067.8
36	2.30755	4176.35	20.5689	L Intbd SM, ML	150	28	201.442	664.232	1734.35	767.219	967.131	1809.94	1042.72
37	2.59262	4504.09	22.1143	L Intbd SP-SM, SM, ML	75	28	174.462	575.267	1666.45	725.588	940.863	1737.34	1011.76
38	2.59262	4279.4	23.7679	L Intbd SP-SM, SM, ML	75	28	167.924	553.709	1576.73	676.413	900.32	1650.68	974.271
39	2.59262	4026.77	25.4428	L Intbd SP-SM, SM, ML	75	28	160.647	529.715	1476.82	621.624	855.195	1553.25	931.623
40	2.32123	3423.06	27.0512	MD Intbd SP-SM, SM, ML	75	32	178.025	587.017	1383.86	564.464	819.399	1474.77	910.308
41	2.32123	3257.1	28.5927	MD Intbd SP-SM, SM, ML	75	32	174.856	576.566	1307.98	505.302	802.676	1403.28	897.981
42	2.32123	3008.93	30.1573	MD Intbd SP-SM, SM, ML	75	32	166.501	549.018	1199.63	441.044	758.588	1296.37	855.328
43	2.32123	2733.98	31.7471	MD Intbd SP-SM, SM, ML	75	32	157.149	518.18	1080.68	371.449	709.235	1177.92	806.471
44	2.32123	2433.98	33.3647	MD Intbd SP-SM, SM, ML	75	32	146.993	484.691	951.885	296.243	655.642	1048.68	752.437
45	2.20441	2023.83	34.9707	MD ML	150	32	157.445	519.155	808.078	217.307	590.771	918.202	700.895
46	2.20441	1741.72	36.5666	MD ML	150	32	148.815	490.698	679.839	134.609	545.23	790.223	655.614
47	2.20441	1445.39	38.1961	MD ML	150	32	140.169	462.192	545.514	45.9016	499.612	655.801	609.899
48	2.68373	1335.17	40.0492	MD ML	150	32	120.583	397.608	396.256	0	396.256	497.614	497.614
49	2.68373	837.22	42.1415	MD ML	150	32	89.3103	294.49	231.233	0	231.233	312.048	312.048
50	2.68373	288.043	44.3055	MD ML	150	32	55.5637	183.215	53.1546	0	53.1546	107.387	107.387

B-B' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	1.97945	106.401	-27.3499	MD ML	150	32	61.7203	203.515	85.6424	0	85.6424	53.718	53.718
2	1.97945	313.348	-26.0486	MD ML	150	32	83.1863	274.297	198.916	0	198.916	158.256	158.256
3	2.23261	594.295	-24.6802	MD ML	150	32	96.7053	318.874	310.58	40.3257	270.254	266.141	225.815
4	2.23261	841.007	-23.2452	MD ML	150	32	102.696	338.627	420.758	118.89	301.868	376.647	257.757
5	2.23261	1122.56	-21.8256	MD ML	150	32	112.677	371.539	547.876	193.342	354.534	502.75	309.408
6	2.23261	1507.02	-20.4199	MD ML	150	32	132.772	437.8	724.382	263.806	460.576	674.952	411.146
7	2.30514	1960	-19.0044	MD Intbd SP-SM, SM, ML	75	32	129.516	427.063	894.832	331.414	563.418	850.225	518.811
8	2.30514	2290.89	-17.5785	MD Intbd SP-SM, SM, ML	75	32	144.684	477.079	1039.61	396.145	643.462	993.77	597.625
9	2.30514	2554	-16.1638	MD Intbd SP-SM, SM, ML	75	32	154.596	509.763	1152.72	456.95	695.767	1107.91	650.959
10	2.30514	2800.09	-14.7591	MD Intbd SP-SM, SM, ML	75	32	163.714	539.828	1257.8	513.918	743.879	1214.67	700.748
11	2.30514	3029.52	-13.3634	MD Intbd SP-SM, SM, ML	75	32	172.065	567.364	1355.07	567.126	787.948	1314.2	747.072
12	2.09162	2933.92	-12.0398	L Intbd SP -SM, SM, ML	75	28	155.174	511.666	1435.76	614.509	821.249	1402.66	788.153
13	2.09162	3097.29	-10.7866	L Intbd SP -SM, SM, ML	75	28	160.604	529.573	1511.37	656.445	854.926	1480.77	824.328
14	2.09162	3251.63	-9.53857	L Intbd SP -SM, SM, ML	75	28	165.775	546.623	1582.42	695.428	886.992	1554.56	859.136
15	2.09162	3399.48	-8.29514	L Intbd SP -SM, SM, ML	75	28	170.884	563.468	1650.17	731.492	918.674	1625.25	893.76
16	2.30755	3907.91	-6.99183	L Intbd SM, ML	150	28	198.951	656.016	1717.91	766.225	951.68	1693.51	927.281
17	2.30755	4058.4	-5.62832	L Intbd SM, ML	150	28	203.426	670.772	1778.77	799.342	979.431	1758.73	959.384
18	2.30755	4193.55	-4.26801	L Intbd SM, ML	150	28	207.351	683.714	1832.78	829.004	1003.77	1817.3	988.297
19	2.30755	4313.46	-2.9101	L Intbd SM, ML	150	28	210.734	694.869	1879.98	855.229	1024.75	1869.27	1014.04
20	2.30755	4418.19	-1.55383	L Intbd SM, ML	150	28	213.582	704.262	1920.45	878.035	1042.42	1914.66	1036.62
21	2.30755	4511.14	-0.198436	L Intbd SM, ML	150	28	216.138	712.689	1955.7	897.431	1058.26	1954.95	1057.52
22	2.30755	4597.86	1.15685	L Intbd SM, ML	150	28	218.787	721.423	1988.11	913.419	1074.69	1992.53	1079.11
23	2.30755	4669.91	2.51279	L Intbd SM, ML	150	28	220.944	728.535	2014.07	925.999	1088.07	2023.76	1097.76
24	2.30755	4726.81	3.87013	L Intbd SM, ML	150	28	222.578	733.925	2033.36	935.162	1098.2	2048.42	1113.26
25	2.30755	4768.48	5.22966	L Intbd SM, ML	150	28	223.693	737.602	2046.01	940.895	1105.12	2066.49	1125.59
26	2.30755	4794.85	6.59215	L Intbd SM, ML	150	28	224.29	739.571	2052	943.178	1108.82	2077.92	1134.74
27	2.30755	4805.79	7.95839	L Intbd SM, ML	150	28	224.37	739.833	2051.3	941.986	1109.31	2082.67	1140.68
28	2.30755	4801.17	9.32921	L Intbd SM, ML	150	28	223.932	738.388	2043.88	937.286	1106.6	2080.67	1143.38
29	2.30755	4780.81	10.7054	L Intbd SM, ML	150	28	222.975	735.232	2029.7	929.041	1100.66	2071.86	1142.81
30	2.30755	4744.52	12.088	L Intbd SM, ML	150	28	221.496	730.357	2008.7	917.204	1091.49	2056.13	1138.93
31	2.30755	4692.06	13.4777	L Intbd SM, ML	150	28	219.494	723.754	1980.8	901.724	1079.07	2033.4	1131.68

32	2.30755	4623.15	14.8755	L Intbd SM, ML	150	28	216.963	715.409	1945.92	882.538	1063.38	2003.55	1121.01
33	2.30755	4537.5	16.2824	L Intbd SM, ML	150	28	213.899	705.307	1903.96	859.578	1044.38	1966.44	1106.86
34	2.30755	4434.75	17.6996	L Intbd SM, ML	150	28	210.296	693.426	1854.8	832.766	1022.03	1921.91	1089.15
35	2.30755	4314.52	19.128	L Intbd SM, ML	150	28	206.146	679.743	1798.32	802.013	996.303	1869.81	1067.8
36	2.30755	4176.35	20.5689	L Intbd SM, ML	150	28	201.442	664.232	1734.35	767.219	967.131	1809.94	1042.72
37	2.59262	4504.09	22.1143	L Intbd SP-SM, SM, ML	75	28	174.462	575.267	1666.45	725.588	940.863	1737.34	1011.76
38	2.59262	4279.4	23.7679	L Intbd SP-SM, SM, ML	75	28	167.924	553.709	1576.73	676.413	900.32	1650.68	974.271
39	2.59262	4026.77	25.4428	L Intbd SP-SM, SM, ML	75	28	160.647	529.715	1476.82	621.624	855.195	1553.25	931.623
40	2.32123	3423.06	27.0512	MD Intbd SP-SM, SM, ML	75	32	178.025	587.017	1383.86	564.464	819.399	1474.77	910.308
41	2.32123	3257.1	28.5927	MD Intbd SP-SM, SM, ML	75	32	174.856	576.566	1307.98	505.302	802.676	1403.28	897.981
42	2.32123	3008.93	30.1573	MD Intbd SP-SM, SM, ML	75	32	166.501	549.018	1199.63	441.044	758.588	1296.37	855.328
43	2.32123	2733.98	31.7471	MD Intbd SP-SM, SM, ML	75	32	157.149	518.18	1080.68	371.449	709.235	1177.92	806.471
44	2.32123	2433.98	33.3647	MD Intbd SP-SM, SM, ML	75	32	146.993	484.691	951.885	296.243	655.642	1048.68	752.437
45	2.20441	2023.83	34.9707	MD ML	150	32	157.445	519.155	808.078	217.307	590.771	918.202	700.895
46	2.20441	1741.72	36.5666	MD ML	150	32	148.815	490.698	679.839	134.609	545.23	790.223	655.614
47	2.20441	1445.39	38.1961	MD ML	150	32	140.169	462.192	545.514	45.9016	499.612	655.801	609.899
48	2.68373	1335.17	40.0492	MD ML	150	32	120.583	397.608	396.256	0	396.256	497.614	497.614
49	2.68373	837.22	42.1415	MD ML	150	32	89.3103	294.49	231.233	0	231.233	312.048	312.048
50	2.68373	288.043	44.3055	MD ML	150	32	55.5637	183.215	53.1546	0	53.1546	107.387	107.387

B-B' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.87555

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0509868	0.00455834	16.6958	MD ML - No Cohes	0	32	0.0270815	0.0507927	0.0812852	0	0.0812852	0.0894079	0.0894079
2	0.0509868	0.0134925	16.7661	MD ML - No Cohes	0	32	0.0801274	0.150283	0.240503	0	0.240503	0.264643	0.264643
3	0.0509868	0.0220612	16.8364	MD ML - No Cohes	0	32	0.130962	0.245625	0.393081	0	0.393081	0.432711	0.432711
4	0.0509868	0.0302642	16.9068	MD ML - No Cohes	0	32	0.179584	0.336818	0.539022	0	0.539022	0.593607	0.593607
5	0.0509868	0.038101	16.9771	MD ML - No Cohes	0	32	0.225995	0.423864	0.678325	0	0.678325	0.74732	0.74732
6	0.0509868	0.0455712	17.0475	MD ML - No Cohes	0	32	0.270194	0.506763	0.81099	0	0.81099	0.893842	0.893842
7	0.0509868	0.0526745	17.118	MD ML - No Cohes	0	32	0.312183	0.585515	0.937021	0	0.937021	1.03317	1.03317
8	0.0509868	0.0594103	17.1884	MD ML - No Cohes	0	32	0.351961	0.66012	1.05641	0	1.05641	1.16529	1.16529
9	0.0509868	0.0657783	17.2589	MD ML - No Cohes	0	32	0.389528	0.730579	1.16917	0	1.16917	1.29019	1.29019
10	0.0509868	0.0717781	17.3294	MD ML - No Cohes	0	32	0.424884	0.796891	1.27529	0	1.27529	1.40787	1.40787
11	0.0509868	0.0774091	17.3999	MD ML - No Cohes	0	32	0.45803	0.859058	1.37478	0	1.37478	1.51832	1.51832
12	0.0509868	0.0826711	17.4705	MD ML - No Cohes	0	32	0.488966	0.91708	1.46763	0	1.46763	1.62153	1.62153
13	0.0509868	0.0875635	17.5411	MD ML - No Cohes	0	32	0.517691	0.970956	1.55385	0	1.55385	1.71749	1.71749
14	0.0509868	0.092086	17.6117	MD ML - No Cohes	0	32	0.544208	1.02069	1.63344	0	1.63344	1.80619	1.80619
15	0.0509868	0.0962381	17.6823	MD ML - No Cohes	0	32	0.568511	1.06627	1.70639	0	1.70639	1.88763	1.88763
16	0.0509868	0.100019	17.753	MD ML - No Cohes	0	32	0.590605	1.10771	1.77271	0	1.77271	1.9618	1.9618
17	0.0509868	0.103429	17.8237	MD ML - No Cohes	0	32	0.610493	1.14501	1.8324	0	1.8324	2.02869	2.02869
18	0.0509868	0.106468	17.8944	MD ML - No Cohes	0	32	0.628168	1.17816	1.88545	0	1.88545	2.08828	2.08828
19	0.0509868	0.109134	17.9652	MD ML - No Cohes	0	32	0.643635	1.20717	1.93188	0	1.93188	2.14058	2.14058
20	0.0509868	0.111427	18.036	MD ML - No Cohes	0	32	0.65689	1.23203	1.97167	0	1.97167	2.18556	2.18556
21	0.0509868	0.113348	18.1068	MD ML - No Cohes	0	32	0.667937	1.25275	2.00482	0	2.00482	2.22322	2.22322
22	0.0509868	0.114895	18.1776	MD ML - No Cohes	0	32	0.676777	1.26933	2.03136	0	2.03136	2.25358	2.25358
23	0.0509868	0.116068	18.2485	MD ML - No Cohes	0	32	0.683405	1.28176	2.05125	0	2.05125	2.27658	2.27658
24	0.0509868	0.116866	18.3194	MD ML - No Cohes	0	32	0.687825	1.29005	2.0645	0	2.0645	2.29224	2.29224
25	0.0509868	0.11729	18.3903	MD ML - No Cohes	0	32	0.690032	1.29419	2.07114	0	2.07114	2.30055	2.30055
26	0.0509868	0.117338	18.4613	MD ML - No Cohes	0	32	0.690032	1.29419	2.07114	0	2.07114	2.3015	2.3015
27	0.0509868	0.117011	18.5323	MD ML - No Cohes	0	32	0.687825	1.29005	2.06452	0	2.06452	2.29509	2.29509
28	0.0509868	0.116307	18.6033	MD ML - No Cohes	0	32	0.683405	1.28176	2.05126	0	2.05126	2.28129	2.28129
29	0.0509868	0.115227	18.6743	MD ML - No Cohes	0	32	0.676777	1.26933	2.03136	0	2.03136	2.26009	2.26009
30	0.0509868	0.113769	18.7454	MD ML - No Cohes	0	32	0.667943	1.25276	2.00483	0	2.00483	2.23151	2.23151
31	0.0509868	0.111934	18.8165	MD ML - No Cohes	0	32	0.656895	1.23204	1.97167	0	1.97167	2.1955	2.1955
32	0.0509868	0.10972	18.8876	MD ML - No Cohes	0	32	0.643635	1.20717	1.93188	0	1.93188	2.15209	2.15209

33	0.0509868	0.107128	18.9588	MD ML - No Cohes	0	32	0.628168	1.17816	1.88547	0	1.88547	2.10126	2.10126
34	0.0509868	0.104157	19.03	MD ML - No Cohes	0	32	0.610493	1.14501	1.8324	0	1.8324	2.04297	2.04297
35	0.0509868	0.100806	19.1012	MD ML - No Cohes	0	32	0.590611	1.10772	1.77271	0	1.77271	1.97725	1.97725
36	0.0509868	0.0970753	19.1725	MD ML - No Cohes	0	32	0.568511	1.06627	1.70639	0	1.70639	1.90406	1.90406
37	0.0509868	0.0929637	19.2438	MD ML - No Cohes	0	32	0.544208	1.02069	1.63344	0	1.63344	1.82342	1.82342
38	0.0509868	0.088471	19.3151	MD ML - No Cohes	0	32	0.517691	0.970956	1.55386	0	1.55386	1.7353	1.7353
39	0.0509868	0.0835968	19.3864	MD ML - No Cohes	0	32	0.488965	0.917079	1.46763	0	1.46763	1.6397	1.6397
40	0.0509868	0.0783404	19.4578	MD ML - No Cohes	0	32	0.458029	0.859057	1.37478	0	1.37478	1.5366	1.5366
41	0.0509868	0.0727015	19.5292	MD ML - No Cohes	0	32	0.424883	0.796889	1.27529	0	1.27529	1.42599	1.42599
42	0.0509868	0.0666795	19.6007	MD ML - No Cohes	0	32	0.389526	0.730576	1.16917	0	1.16917	1.30788	1.30788
43	0.0509868	0.0602738	19.6722	MD ML - No Cohes	0	32	0.351959	0.660116	1.05641	0	1.05641	1.18223	1.18223
44	0.0509868	0.053484	19.7437	MD ML - No Cohes	0	32	0.31218	0.585509	0.93701	0	0.93701	1.04906	1.04906
45	0.0509868	0.0463096	19.8152	MD ML - No Cohes	0	32	0.27019	0.506755	0.810978	0	0.810978	0.908333	0.908333
46	0.0509868	0.03875	19.8868	MD ML - No Cohes	0	32	0.22599	0.423855	0.678309	0	0.678309	0.760057	0.760057
47	0.0509868	0.0308047	19.9584	MD ML - No Cohes	0	32	0.179577	0.336806	0.539002	0	0.539002	0.604215	0.604215
48	0.0509868	0.0224733	20.03	MD ML - No Cohes	0	32	0.130954	0.24561	0.393058	0	0.393058	0.440799	0.440799
49	0.0509868	0.0137551	20.1017	MD ML - No Cohes	0	32	0.0801184	0.150266	0.240475	0	0.240475	0.269797	0.269797
50	0.0509868	0.00464961	20.1734	MD ML - No Cohes	0	32	0.0270709	0.0507728	0.0812536	0	0.0812536	0.0911994	0.0911994

B-B' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.983231

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	2.56825	135.85	-21.4204	MD ML	150	32	247.949	243.791	150.097	0	150.097	52.8251	52.8251
2	2.56825	398.081	-20.0502	MD ML	150	32	326.812	321.332	274.188	0	274.188	154.914	154.914
3	2.30097	570.376	-18.762	MD ML	150	32	368.684	362.502	373.032	32.957	340.075	247.794	214.837
4	2.30097	764.567	-17.5538	MD ML	150	32	377.871	371.534	451.726	97.1966	354.529	332.193	234.997
5	2.30097	1038.04	-16.3536	MD ML	150	32	416.369	409.387	573.219	158.116	415.103	451.042	292.926
6	2.30097	1390.86	-15.1607	MD ML	150	32	482.628	474.535	735.141	215.778	519.363	604.37	388.592
7	2.30097	1720.98	-13.9745	MD ML	150	32	541.77	532.685	882.662	270.239	612.423	747.84	477.601
8	2.42681	2067.7	-12.7623	MD Intbd SP-SM, SM, ML	75	32	481.891	473.81	961.094	322.867	638.227	851.945	529.078
9	2.42681	2297.03	-11.5237	MD Intbd SP-SM, SM, ML	75	32	505.936	497.452	1049.6	373.536	676.065	946.449	572.913
10	2.42681	2510.47	-10.2906	MD Intbd SP-SM, SM, ML	75	32	527.057	518.219	1130.1	420.802	709.298	1034.41	613.605
11	2.42681	2708.24	-9.06228	MD Intbd SP-SM, SM, ML	75	32	545.418	536.272	1202.9	464.707	738.191	1115.9	651.198
12	2.42681	2890.48	-7.83815	MD Intbd SP-SM, SM, ML	75	32	561.167	551.757	1268.26	505.288	762.973	1191.01	685.722
13	2.42681	3059.38	-6.61761	MD Intbd SP-SM, SM, ML	75	32	575.005	565.363	1327.32	542.577	784.746	1260.61	718.036
14	2.42681	3221.2	-5.40009	MD Intbd SP-SM, SM, ML	75	32	588.737	578.864	1382.95	576.601	806.352	1327.3	750.699
15	2.29316	3179.76	-4.21841	L Intbd SP -SM, SM, ML	75	28	518.769	510.07	1424.87	606.619	818.247	1386.6	779.983
16	2.29316	3298.8	-3.07194	L Intbd SP -SM, SM, ML	75	28	527.285	518.443	1466.81	632.821	833.994	1438.52	805.696
17	2.29316	3405.17	-1.92671	L Intbd SP -SM, SM, ML	75	28	534.172	525.214	1502.88	656.154	846.729	1484.91	828.76
18	2.29316	3498.93	-0.782243	L Intbd SP -SM, SM, ML	75	28	539.482	530.435	1533.17	676.623	856.547	1525.8	849.181
19	2.29316	3580.07	0.361909	L Intbd SP -SM, SM, ML	75	28	543.259	534.149	1557.77	694.234	863.533	1561.2	866.965
20	2.29316	3651.86	1.5062	L Intbd SP -SM, SM, ML	75	28	546.303	537.142	1578.15	708.986	869.164	1592.51	883.529
21	2.29316	3719.84	2.6511	L Intbd SP -SM, SM, ML	75	28	549.906	540.685	1596.7	720.878	875.826	1622.17	901.289
22	2.29316	3775.67	3.79706	L Intbd SP -SM, SM, ML	75	28	552.149	542.89	1609.87	729.902	879.972	1646.52	916.618
23	2.29316	3818.81	4.94454	L Intbd SP -SM, SM, ML	75	28	552.95	543.678	1617.5	736.05	881.454	1665.34	929.292
24	2.29316	3849.21	6.09402	L Intbd SP -SM, SM, ML	75	28	552.341	543.079	1619.64	739.307	880.329	1678.61	939.299
25	2.29316	3866.79	7.24596	L Intbd SP -SM, SM, ML	75	28	550.35	541.121	1616.3	739.658	876.646	1686.28	946.62
26	2.29316	3871.45	8.40086	L Intbd SP -SM, SM, ML	75	28	547.004	537.831	1607.54	737.081	870.456	1688.32	951.238

27	2.29316	3863.1	9.55921	L Intbd SP-SM, SM, ML	75	28	542.324	533.23	1593.36	731.551	861.806	1684.69	953.136
28	2.29316	3841.61	10.7215	L Intbd SP-SM, SM, ML	75	28	536.335	527.341	1573.77	723.042	850.73	1675.32	952.28
29	2.29316	3806.82	11.8883	L Intbd SP-SM, SM, ML	75	28	529.053	520.181	1548.78	711.519	837.262	1660.16	948.638
30	2.29316	3758.59	13.0601	L Intbd SP-SM, SM, ML	75	28	520.498	511.77	1518.39	696.946	821.446	1639.13	942.187
31	2.29316	3696.72	14.2375	L Intbd SP-SM, SM, ML	75	28	510.685	502.121	1482.58	679.281	803.3	1612.16	932.879
32	2.29316	3621.01	15.4211	L Intbd SP-SM, SM, ML	75	28	499.628	491.25	1441.33	658.477	782.854	1579.15	920.672
33	2.29316	3531.23	16.6115	L Intbd SP-SM, SM, ML	75	28	487.341	479.169	1394.61	634.482	760.13	1540	905.519
34	2.29316	3427.12	17.8093	L Intbd SP-SM, SM, ML	75	28	473.834	465.888	1342.39	607.24	735.154	1494.61	887.369
35	2.17113	3135.71	18.9829	MD Intbd SP-SM, SM, ML	75	32	514.653	506.023	1267.37	577.585	689.783	1444.4	866.82
36	2.17113	3016.65	20.1325	MD Intbd SP-SM, SM, ML	75	32	496.867	488.535	1207.42	545.627	661.796	1389.57	843.943
37	2.17113	2884.66	21.2906	MD Intbd SP-SM, SM, ML	75	32	477.911	469.897	1142.54	510.574	631.965	1328.78	818.204
38	2.17113	2739.45	22.4579	MD Intbd SP-SM, SM, ML	75	32	457.796	450.119	1072.67	472.352	600.317	1261.9	789.548
39	2.17113	2584.31	23.6351	MD Intbd SP-SM, SM, ML	75	32	437.362	430.028	999.048	430.885	568.163	1190.45	759.561
40	2.17113	2479.77	24.8231	MD Intbd SP-SM, SM, ML	75	32	430.363	423.146	943.234	386.084	557.15	1142.3	756.215
41	2.17113	2354.3	26.0225	MD Intbd SP-SM, SM, ML	75	32	420.371	413.322	879.285	337.856	541.429	1084.52	746.662
42	2.17113	2169.82	27.2344	MD Intbd SP-SM, SM, ML	75	32	399.137	392.444	794.115	286.096	508.019	999.546	713.45
43	2.22167	2023.26	28.474	MD ML	150	32	435.243	427.944	674.805	230.002	444.803	910.866	680.864
44	2.22167	1818.09	29.7427	MD ML	150	32	414.575	407.623	581.639	169.354	412.285	818.518	649.164
45	2.22167	1596.86	31.0278	MD ML	150	32	392.815	386.228	482.649	104.607	378.042	718.936	614.329
46	2.22167	1365.81	32.3304	MD ML	150	32	371.371	365.143	379.894	35.5935	344.3	614.941	579.347
47	2.59115	1298.84	33.7638	MD ML	150	32	330.716	325.17	280.33	0	280.33	501.423	501.423
48	2.59115	964.373	35.3337	MD ML	150	32	268.298	263.799	182.116	0	182.116	372.319	372.319
49	2.59115	600.563	36.9347	MD ML	150	32	202.96	199.557	79.3071	0	79.3071	231.886	231.886
50	2.59115	205.554	38.5702	MD ML	150	32	134.739	132.48	-28.0384	0	-28.0384	79.4076	79.4076

B-B' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.43567

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.997897	17.6774	-17.1571	MD Intbd SP-SM, SM, ML	75	32	69.2241	99.383	39.0209	0	39.0209	17.6492	17.6492
2	0.860788	55.822	-15.369	L Intbd SP -SM, SM, ML	75	28	84.8712	121.847	88.1065	0	88.1065	64.7784	64.7784
3	0.860788	132.519	-13.727	L Intbd SP -SM, SM, ML	75	28	120.088	172.407	183.195	0	183.195	153.861	153.861
4	0.771269	184.503	-12.1808	L Intbd SP -SM, SM, ML	75	28	150.817	216.524	271.674	5.5069	266.168	239.12	233.613
5	0.771269	245.052	-10.7279	L Intbd SP -SM, SM, ML	75	28	176.365	253.202	351.037	15.8879	335.149	317.624	301.736
6	0.771269	303.73	-9.28189	L Intbd SP -SM, SM, ML	75	28	200.953	288.502	426.547	25.0074	401.54	393.705	368.697
7	0.771269	360.561	-7.84187	L Intbd SP -SM, SM, ML	75	28	224.623	322.485	498.333	32.8821	465.451	467.396	434.514
8	0.771269	415.568	-6.40681	L Intbd SP -SM, SM, ML	75	28	247.411	355.2	566.507	39.5261	526.981	538.725	499.199
9	0.771269	468.766	-4.97578	L Intbd SP -SM, SM, ML	75	28	269.348	386.695	631.163	44.951	586.212	607.713	562.762
10	0.771269	520.169	-3.54786	L Intbd SP -SM, SM, ML	75	28	290.461	417.006	692.387	49.1657	643.221	674.378	625.212
11	0.771269	569.787	-2.12215	L Intbd SP -SM, SM, ML	75	28	310.775	446.17	750.247	52.1772	698.069	738.731	686.554
12	0.771269	617.627	-0.697747	L Intbd SP -SM, SM, ML	75	28	330.309	474.215	804.805	53.9896	750.815	800.782	746.793
13	0.771269	663.632	0.726222	L Intbd SP -SM, SM, ML	75	28	349.053	501.125	856.031	54.6054	801.425	860.455	805.85
14	0.771269	705.729	2.15064	L Intbd SP -SM, SM, ML	75	28	366.042	525.515	901.32	54.0245	847.295	915.066	861.042
15	0.771269	744.992	3.57639	L Intbd SP -SM, SM, ML	75	28	381.819	548.166	942.14	52.2446	889.895	966.004	913.759
16	0.771269	782.47	5.00436	L Intbd SP -SM, SM, ML	75	28	396.899	569.816	979.875	49.2612	930.614	1014.63	965.368
17	0.771269	818.152	6.43546	L Intbd SP -SM, SM, ML	75	28	411.29	590.477	1014.54	45.0675	969.471	1060.93	1015.86
18	0.771269	852.026	7.87061	L Intbd SP -SM, SM, ML	75	28	424.997	610.156	1046.14	39.6545	1006.48	1104.89	1065.23
19	0.771269	884.075	9.31074	L Intbd SP -SM, SM, ML	75	28	438.024	628.858	1074.67	33.0105	1041.66	1146.48	1113.47
20	0.771269	914.276	10.7568	L Intbd SP -SM, SM, ML	75	28	450.372	646.586	1100.12	25.1215	1075	1185.68	1160.56
21	0.771269	942.606	12.2099	L Intbd SP -SM, SM, ML	75	28	462.041	663.339	1122.48	15.9706	1106.5	1222.46	1206.49
22	0.771269	969.035	13.671	L Intbd SP -SM, SM, ML	75	28	473.029	679.114	1141.71	5.53805	1136.17	1256.77	1251.23

23	0.815333	1051.4	15.1835	L Intbd SP -SM, SM, ML	75	28	481.573	691.38	1159.24	0	1159.24	1289.93	1289.93
24	0.815333	1077.35	16.7493	L Intbd SP -SM, SM, ML	75	28	487.449	699.816	1175.1	0	1175.1	1321.8	1321.8
25	0.815333	1101.01	18.3281	L Intbd SP -SM, SM, ML	75	28	492.165	706.586	1187.84	0	1187.84	1350.87	1350.87
26	0.815333	1122.32	19.9214	L Intbd SP -SM, SM, ML	75	28	495.708	711.673	1197.41	0	1197.41	1377.07	1377.07
27	0.815333	1141.21	21.531	L Intbd SP -SM, SM, ML	75	28	498.067	715.06	1203.78	0	1203.78	1400.29	1400.29
28	0.815333	1157.6	23.1586	L Intbd SP -SM, SM, ML	75	28	499.223	716.72	1206.9	0	1206.9	1420.44	1420.44
29	0.70429	1047.59	24.6928	L Intbd SP -SM, SM, ML	75	28	311.436	447.119	1344.68	644.834	699.85	1487.88	843.046
30	0.70429	1055.31	26.1324	L Intbd SP -SM, SM, ML	75	28	316.672	454.636	1343.51	629.525	713.987	1498.87	869.345
31	0.70429	1061.15	27.5901	L Intbd SP -SM, SM, ML	75	28	321.297	461.276	1339.31	612.836	726.474	1507.21	894.373
32	0.70429	1065.06	29.0674	L Intbd SP -SM, SM, ML	75	28	325.293	467.014	1331.98	594.714	737.264	1512.79	918.078
33	0.782211	1184.96	30.6504	MD Intbd SP-SM, SM, ML	75	32	367.337	527.375	1297.87	573.92	723.948	1515.55	941.627
34	0.782211	1184.36	32.3444	MD Intbd SP-SM, SM, ML	75	32	370.093	531.331	1280.47	550.195	730.279	1514.84	964.643
35	0.782211	1180.05	34.0707	MD Intbd SP-SM, SM, ML	75	32	371.562	533.441	1258.08	524.426	733.655	1509.37	984.944
36	0.782211	1152.85	35.8329	MD Intbd SP-SM, SM, ML	75	32	363.678	522.121	1212.03	496.489	715.543	1474.64	978.153
37	0.782211	1112.97	37.6353	MD Intbd SP-SM, SM, ML	75	32	351.121	504.094	1152.94	466.239	686.697	1423.68	957.441
38	0.782211	1069.35	39.4826	MD Intbd SP-SM, SM, ML	75	32	337.816	484.993	1089.64	433.507	656.13	1367.94	934.432
39	0.782211	1021.69	41.3804	MD Intbd SP-SM, SM, ML	75	32	323.721	464.756	1021.83	398.091	623.742	1307.03	908.944
40	0.782211	969.642	43.3354	MD Intbd SP-SM, SM, ML	75	32	308.781	443.307	949.167	359.755	589.412	1240.51	880.752
41	0.782211	912.765	45.3556	MD Intbd SP-SM, SM, ML	75	32	292.935	420.558	871.218	318.209	553.009	1167.81	849.603
42	0.782211	850.532	47.451	MD Intbd SP-SM, SM, ML	75	32	276.112	396.405	787.459	273.103	514.356	1088.26	815.161
43	0.813787	815.766	49.6797	MD ML	150	32	293.632	421.559	657.5	222.914	434.586	1003.49	780.576
44	0.813787	741.442	52.0625	MD ML	150	32	275.213	395.115	559.132	166.866	392.266	912.182	745.316
45	0.813787	658.821	54.5806	MD ML	150	32	255.338	366.581	451.636	105.035	346.601	810.674	705.639
46	0.813787	566.263	57.2661	MD ML	150	32	233.761	335.604	333.304	36.276	297.028	696.951	660.675
47	0.765175	439.556	60.0711	MD ML	150	32	202.147	290.216	224.393	0	224.393	575.527	575.527
48	0.765175	338.891	63.0452	MD ML	150	32	160.392	230.269	128.458	0	128.458	443.859	443.859
49	0.765175	221.377	66.3656	MD ML	150	32	115.69	166.093	25.7539	0	25.7539	290.125	290.125
50	0.765175	78.8607	70.2146	MD ML	150	32	67.6901	97.1807	-84.5286	0	-84.5286	103.638	103.638

B-B' Post Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0163133	0.00144419	30.1068	Structural Fill	0	35	0.0388887	0.0462266	0.0660184	0	0.0660184	0.0885676	0.0885676
2	0.0163133	0.00432727	30.1205	Structural Fill	0	35	0.116507	0.138491	0.197786	0	0.197786	0.265378	0.265378
3	0.0163133	0.00719976	30.1341	Structural Fill	0	35	0.193818	0.23039	0.329032	0	0.329032	0.441539	0.441539
4	0.0163133	0.0100616	30.1478	Structural Fill	0	35	0.270823	0.321925	0.459757	0	0.459757	0.617049	0.617049
5	0.0163133	0.0129129	30.1614	Structural Fill	0	35	0.347521	0.413095	0.589959	0	0.589959	0.791908	0.791908
6	0.0163133	0.0157536	30.1751	Structural Fill	0	35	0.423912	0.5039	0.719642	0	0.719642	0.966118	0.966118
7	0.0163133	0.0185837	30.1888	Structural Fill	0	35	0.499996	0.59434	0.848806	0	0.848806	1.13968	1.13968
8	0.0163133	0.0214031	30.2024	Structural Fill	0	35	0.575773	0.684416	0.977447	0	0.977447	1.31259	1.31259
9	0.0163133	0.0242119	30.2161	Structural Fill	0	35	0.651243	0.774126	1.10557	0	1.10557	1.48484	1.48484
10	0.0163133	0.0270101	30.2298	Structural Fill	0	35	0.726406	0.863472	1.23317	0	1.23317	1.65645	1.65645
11	0.0163133	0.0297977	30.2434	Structural Fill	0	35	0.801262	0.952452	1.36024	0	1.36024	1.8274	1.8274
12	0.0163133	0.0325746	30.2571	Structural Fill	0	35	0.875813	1.04107	1.4868	0	1.4868	1.9977	1.9977
13	0.0163133	0.0353409	30.2708	Structural Fill	0	35	0.950054	1.12932	1.61283	0	1.61283	2.16735	2.16735
14	0.0163133	0.0380965	30.2844	Structural Fill	0	35	1.02399	1.21721	1.73835	0	1.73835	2.33635	2.33635
15	0.0163133	0.0408415	30.2981	Structural Fill	0	35	1.09762	1.30473	1.86334	0	1.86334	2.50469	2.50469
16	0.0163133	0.0435759	30.3118	Structural Fill	0	35	1.17094	1.39188	1.98781	0	1.98781	2.67238	2.67238
17	0.0163133	0.0462996	30.3255	Structural Fill	0	35	1.24395	1.47867	2.11176	0	2.11176	2.83941	2.83941
18	0.0163133	0.0490126	30.3392	Structural Fill	0	35	1.31666	1.5651	2.2352	0	2.2352	3.0058	3.0058
19	0.0163133	0.0517149	30.3529	Structural Fill	0	35	1.38906	1.65116	2.3581	0	2.3581	3.17152	3.17152
20	0.0163133	0.0544066	30.3665	Structural Fill	0	35	1.46115	1.73686	2.48049	0	2.48049	3.3366	3.3366
21	0.0163133	0.0570876	30.3802	Structural Fill	0	35	1.53294	1.82219	2.60236	0	2.60236	3.50102	3.50102
22	0.0163133	0.059758	30.3939	Structural Fill	0	35	1.60442	1.90716	2.72371	0	2.72371	3.66479	3.66479
23	0.0163133	0.0624176	30.4076	Structural Fill	0	35	1.67559	1.99176	2.84453	0	2.84453	3.82789	3.82789
24	0.0163133	0.0650666	30.4213	Structural Fill	0	35	1.74646	2.076	2.96483	0	2.96483	3.99035	3.99035
25	0.0163133	0.0677048	30.435	Structural Fill	0	35	1.81702	2.15987	3.08461	0	3.08461	4.15214	4.15214
26	0.0163133	0.0703324	30.4487	Structural Fill	0	35	1.88727	2.24338	3.20387	0	3.20387	4.31329	4.31329
27	0.0163133	0.0729493	30.4624	Structural Fill	0	35	1.95721	2.32652	3.32262	0	3.32262	4.47377	4.47377
28	0.0163133	0.0755554	30.4761	Structural Fill	0	35	2.02685	2.4093	3.44083	0	3.44083	4.6336	4.6336
29	0.0163133	0.0781509	30.4898	Structural Fill	0	35	2.09618	2.49171	3.55853	0	3.55853	4.79277	4.79277
30	0.0163133	0.0807356	30.5035	Structural Fill	0	35	2.16521	2.57376	3.67571	0	3.67571	4.95129	4.95129
31	0.0163133	0.0833096	30.5172	Structural Fill	0	35	2.23392	2.65544	3.79236	0	3.79236	5.10914	5.10914

32	0.0163133	0.0858729	30.5309	Structural Fill	0	35	2.30233	2.73676	3.90849	0	3.90849	5.26635	5.26635
33	0.0163133	0.0884254	30.5446	Structural Fill	0	35	2.37043	2.81771	4.02411	0	4.02411	5.42289	5.42289
34	0.0163133	0.0909673	30.5584	Structural Fill	0	35	2.43823	2.8983	4.1392	0	4.1392	5.57877	5.57877
35	0.0163133	0.0934983	30.5721	Structural Fill	0	35	2.50572	2.97852	4.25377	0	4.25377	5.734	5.734
36	0.0163133	0.0960187	30.5858	Structural Fill	0	35	2.5729	3.05838	4.36782	0	4.36782	5.88857	5.88857
37	0.0163133	0.0985283	30.5995	Structural Fill	0	35	2.63977	3.13787	4.48134	0	4.48134	6.04247	6.04247
38	0.0163133	0.101027	30.6132	Structural Fill	0	35	2.70634	3.217	4.59435	0	4.59435	6.19572	6.19572
39	0.0163133	0.103515	30.627	Structural Fill	0	35	2.7726	3.29576	4.70683	0	4.70683	6.34831	6.34831
40	0.0163133	0.105993	30.6407	Structural Fill	0	35	2.83855	3.37416	4.8188	0	4.8188	6.50024	6.50024
41	0.0163133	0.108459	30.6544	Structural Fill	0	35	2.9042	3.45219	4.93024	0	4.93024	6.65151	6.65151
42	0.0163133	0.110747	30.6681	Structural Fill	0	35	2.96505	3.52453	5.03354	0	5.03354	6.79184	6.79184
43	0.0163133	0.10297	30.6819	Structural Fill	0	35	2.75645	3.27657	4.67942	0	4.67942	6.3149	6.3149
44	0.0163133	0.0892759	30.6956	Structural Fill	0	35	2.38952	2.8404	4.05651	0	4.05651	5.47506	5.47506
45	0.0163133	0.0755706	30.7093	Structural Fill	0	35	2.0224	2.40401	3.43329	0	3.43329	4.63455	4.63455
46	0.0163133	0.0618546	30.7231	Structural Fill	0	35	1.65511	1.96741	2.80975	0	2.80975	3.79338	3.79338
47	0.0163133	0.0481277	30.7368	Structural Fill	0	35	1.28762	1.53058	2.18589	0	2.18589	2.95155	2.95155
48	0.0163133	0.0343901	30.7506	Structural Fill	0	35	0.919945	1.09353	1.56173	0	1.56173	2.10905	2.10905
49	0.0163133	0.0206416	30.7643	Structural Fill	0	35	0.552093	0.656268	0.937246	0	0.937246	1.26589	1.26589
50	0.0163133	0.00688234	30.7781	Structural Fill	0	35	0.184053	0.218782	0.312454	0	0.312454	0.422076	0.422076

B-B' Post Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0163133	0.00144419	30.1068	Structural Fill	0	35	0.0388887	0.0462266	0.0660184	0	0.0660184	0.0885676	0.0885676
2	0.0163133	0.00432727	30.1205	Structural Fill	0	35	0.116507	0.138491	0.197786	0	0.197786	0.265378	0.265378
3	0.0163133	0.00719976	30.1341	Structural Fill	0	35	0.193818	0.23039	0.329032	0	0.329032	0.441539	0.441539
4	0.0163133	0.0100616	30.1478	Structural Fill	0	35	0.270823	0.321925	0.459757	0	0.459757	0.617049	0.617049
5	0.0163133	0.0129129	30.1614	Structural Fill	0	35	0.347521	0.413095	0.589959	0	0.589959	0.791908	0.791908
6	0.0163133	0.0157536	30.1751	Structural Fill	0	35	0.423912	0.5039	0.719642	0	0.719642	0.966118	0.966118
7	0.0163133	0.0185837	30.1888	Structural Fill	0	35	0.499996	0.59434	0.848806	0	0.848806	1.13968	1.13968
8	0.0163133	0.0214031	30.2024	Structural Fill	0	35	0.575773	0.684416	0.977447	0	0.977447	1.31259	1.31259
9	0.0163133	0.0242119	30.2161	Structural Fill	0	35	0.651243	0.774126	1.10557	0	1.10557	1.48484	1.48484
10	0.0163133	0.0270101	30.2298	Structural Fill	0	35	0.726406	0.863472	1.23317	0	1.23317	1.65645	1.65645
11	0.0163133	0.0297977	30.2434	Structural Fill	0	35	0.801262	0.952452	1.36024	0	1.36024	1.8274	1.8274
12	0.0163133	0.0325746	30.2571	Structural Fill	0	35	0.875813	1.04107	1.4868	0	1.4868	1.9977	1.9977
13	0.0163133	0.0353409	30.2708	Structural Fill	0	35	0.950054	1.12932	1.61283	0	1.61283	2.16735	2.16735
14	0.0163133	0.0380965	30.2844	Structural Fill	0	35	1.02399	1.21721	1.73835	0	1.73835	2.33635	2.33635
15	0.0163133	0.0408415	30.2981	Structural Fill	0	35	1.09762	1.30473	1.86334	0	1.86334	2.50469	2.50469
16	0.0163133	0.0435759	30.3118	Structural Fill	0	35	1.17094	1.39188	1.98781	0	1.98781	2.67238	2.67238
17	0.0163133	0.0462996	30.3255	Structural Fill	0	35	1.24395	1.47867	2.11176	0	2.11176	2.83941	2.83941
18	0.0163133	0.0490126	30.3392	Structural Fill	0	35	1.31666	1.5651	2.2352	0	2.2352	3.0058	3.0058
19	0.0163133	0.0517149	30.3529	Structural Fill	0	35	1.38906	1.65116	2.3581	0	2.3581	3.17152	3.17152
20	0.0163133	0.0544066	30.3665	Structural Fill	0	35	1.46115	1.73686	2.48049	0	2.48049	3.3366	3.3366
21	0.0163133	0.0570876	30.3802	Structural Fill	0	35	1.53294	1.82219	2.60236	0	2.60236	3.50102	3.50102
22	0.0163133	0.059758	30.3939	Structural Fill	0	35	1.60442	1.90716	2.72371	0	2.72371	3.66479	3.66479
23	0.0163133	0.0624176	30.4076	Structural Fill	0	35	1.67559	1.99176	2.84453	0	2.84453	3.82789	3.82789
24	0.0163133	0.0650666	30.4213	Structural Fill	0	35	1.74646	2.076	2.96483	0	2.96483	3.99035	3.99035
25	0.0163133	0.0677048	30.435	Structural Fill	0	35	1.81702	2.15987	3.08461	0	3.08461	4.15214	4.15214
26	0.0163133	0.0703324	30.4487	Structural Fill	0	35	1.88727	2.24338	3.20387	0	3.20387	4.31329	4.31329
27	0.0163133	0.0729493	30.4624	Structural Fill	0	35	1.95721	2.32652	3.32262	0	3.32262	4.47377	4.47377
28	0.0163133	0.0755554	30.4761	Structural Fill	0	35	2.02685	2.4093	3.44083	0	3.44083	4.6336	4.6336
29	0.0163133	0.0781509	30.4898	Structural Fill	0	35	2.09618	2.49171	3.55853	0	3.55853	4.79277	4.79277
30	0.0163133	0.0807356	30.5035	Structural Fill	0	35	2.16521	2.57376	3.67571	0	3.67571	4.95129	4.95129
31	0.0163133	0.0833096	30.5172	Structural Fill	0	35	2.23392	2.65544	3.79236	0	3.79236	5.10914	5.10914

32	0.0163133	0.0858729	30.5309	Structural Fill	0	35	2.30233	2.73676	3.90849	0	3.90849	5.26635	5.26635
33	0.0163133	0.0884254	30.5446	Structural Fill	0	35	2.37043	2.81771	4.02411	0	4.02411	5.42289	5.42289
34	0.0163133	0.0909673	30.5584	Structural Fill	0	35	2.43823	2.8983	4.1392	0	4.1392	5.57877	5.57877
35	0.0163133	0.0934983	30.5721	Structural Fill	0	35	2.50572	2.97852	4.25377	0	4.25377	5.734	5.734
36	0.0163133	0.0960187	30.5858	Structural Fill	0	35	2.5729	3.05838	4.36782	0	4.36782	5.88857	5.88857
37	0.0163133	0.0985283	30.5995	Structural Fill	0	35	2.63977	3.13787	4.48134	0	4.48134	6.04247	6.04247
38	0.0163133	0.101027	30.6132	Structural Fill	0	35	2.70634	3.217	4.59435	0	4.59435	6.19572	6.19572
39	0.0163133	0.103515	30.627	Structural Fill	0	35	2.7726	3.29576	4.70683	0	4.70683	6.34831	6.34831
40	0.0163133	0.105993	30.6407	Structural Fill	0	35	2.83855	3.37416	4.8188	0	4.8188	6.50024	6.50024
41	0.0163133	0.108459	30.6544	Structural Fill	0	35	2.9042	3.45219	4.93024	0	4.93024	6.65151	6.65151
42	0.0163133	0.110747	30.6681	Structural Fill	0	35	2.96505	3.52453	5.03354	0	5.03354	6.79184	6.79184
43	0.0163133	0.10297	30.6819	Structural Fill	0	35	2.75645	3.27657	4.67942	0	4.67942	6.3149	6.3149
44	0.0163133	0.0892759	30.6956	Structural Fill	0	35	2.38952	2.8404	4.05651	0	4.05651	5.47506	5.47506
45	0.0163133	0.0755706	30.7093	Structural Fill	0	35	2.0224	2.40401	3.43329	0	3.43329	4.63455	4.63455
46	0.0163133	0.0618546	30.7231	Structural Fill	0	35	1.65511	1.96741	2.80975	0	2.80975	3.79338	3.79338
47	0.0163133	0.0481277	30.7368	Structural Fill	0	35	1.28762	1.53058	2.18589	0	2.18589	2.95155	2.95155
48	0.0163133	0.0343901	30.7506	Structural Fill	0	35	0.919945	1.09353	1.56173	0	1.56173	2.10905	2.10905
49	0.0163133	0.0206416	30.7643	Structural Fill	0	35	0.552093	0.656268	0.937246	0	0.937246	1.26589	1.26589
50	0.0163133	0.00688234	30.7781	Structural Fill	0	35	0.184053	0.218782	0.312454	0	0.312454	0.422076	0.422076

B-B' Post Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0163133	0.00144419	30.1068	Structural Fill	0	35	0.0388887	0.0462266	0.0660184	0	0.0660184	0.0885676	0.0885676
2	0.0163133	0.00432727	30.1205	Structural Fill	0	35	0.116507	0.138491	0.197786	0	0.197786	0.265378	0.265378
3	0.0163133	0.00719976	30.1341	Structural Fill	0	35	0.193818	0.23039	0.329032	0	0.329032	0.441539	0.441539
4	0.0163133	0.0100616	30.1478	Structural Fill	0	35	0.270823	0.321925	0.459757	0	0.459757	0.617049	0.617049
5	0.0163133	0.0129129	30.1614	Structural Fill	0	35	0.347521	0.413095	0.589959	0	0.589959	0.791908	0.791908
6	0.0163133	0.0157536	30.1751	Structural Fill	0	35	0.423912	0.5039	0.719642	0	0.719642	0.966118	0.966118
7	0.0163133	0.0185837	30.1888	Structural Fill	0	35	0.499996	0.59434	0.848806	0	0.848806	1.13968	1.13968
8	0.0163133	0.0214031	30.2024	Structural Fill	0	35	0.575773	0.684416	0.977447	0	0.977447	1.31259	1.31259
9	0.0163133	0.0242119	30.2161	Structural Fill	0	35	0.651243	0.774126	1.10557	0	1.10557	1.48484	1.48484
10	0.0163133	0.0270101	30.2298	Structural Fill	0	35	0.726406	0.863472	1.23317	0	1.23317	1.65645	1.65645
11	0.0163133	0.0297977	30.2434	Structural Fill	0	35	0.801262	0.952452	1.36024	0	1.36024	1.8274	1.8274
12	0.0163133	0.0325746	30.2571	Structural Fill	0	35	0.875813	1.04107	1.4868	0	1.4868	1.9977	1.9977
13	0.0163133	0.0353409	30.2708	Structural Fill	0	35	0.950054	1.12932	1.61283	0	1.61283	2.16735	2.16735
14	0.0163133	0.0380965	30.2844	Structural Fill	0	35	1.02399	1.21721	1.73835	0	1.73835	2.33635	2.33635
15	0.0163133	0.0408415	30.2981	Structural Fill	0	35	1.09762	1.30473	1.86334	0	1.86334	2.50469	2.50469
16	0.0163133	0.0435759	30.3118	Structural Fill	0	35	1.17094	1.39188	1.98781	0	1.98781	2.67238	2.67238
17	0.0163133	0.0462996	30.3255	Structural Fill	0	35	1.24395	1.47867	2.11176	0	2.11176	2.83941	2.83941
18	0.0163133	0.0490126	30.3392	Structural Fill	0	35	1.31666	1.5651	2.2352	0	2.2352	3.0058	3.0058
19	0.0163133	0.0517149	30.3529	Structural Fill	0	35	1.38906	1.65116	2.3581	0	2.3581	3.17152	3.17152
20	0.0163133	0.0544066	30.3665	Structural Fill	0	35	1.46115	1.73686	2.48049	0	2.48049	3.3366	3.3366
21	0.0163133	0.0570876	30.3802	Structural Fill	0	35	1.53294	1.82219	2.60236	0	2.60236	3.50102	3.50102
22	0.0163133	0.059758	30.3939	Structural Fill	0	35	1.60442	1.90716	2.72371	0	2.72371	3.66479	3.66479
23	0.0163133	0.0624176	30.4076	Structural Fill	0	35	1.67559	1.99176	2.84453	0	2.84453	3.82789	3.82789
24	0.0163133	0.0650666	30.4213	Structural Fill	0	35	1.74646	2.076	2.96483	0	2.96483	3.99035	3.99035
25	0.0163133	0.0677048	30.435	Structural Fill	0	35	1.81702	2.15987	3.08461	0	3.08461	4.15214	4.15214
26	0.0163133	0.0703324	30.4487	Structural Fill	0	35	1.88727	2.24338	3.20387	0	3.20387	4.31329	4.31329
27	0.0163133	0.0729493	30.4624	Structural Fill	0	35	1.95721	2.32652	3.32262	0	3.32262	4.47377	4.47377
28	0.0163133	0.0755554	30.4761	Structural Fill	0	35	2.02685	2.4093	3.44083	0	3.44083	4.6336	4.6336
29	0.0163133	0.0781509	30.4898	Structural Fill	0	35	2.09618	2.49171	3.55853	0	3.55853	4.79277	4.79277
30	0.0163133	0.0807356	30.5035	Structural Fill	0	35	2.16521	2.57376	3.67571	0	3.67571	4.95129	4.95129
31	0.0163133	0.0833096	30.5172	Structural Fill	0	35	2.23392	2.65544	3.79236	0	3.79236	5.10914	5.10914

32	0.0163133	0.0858729	30.5309	Structural Fill	0	35	2.30233	2.73676	3.90849	0	3.90849	5.26635	5.26635
33	0.0163133	0.0884254	30.5446	Structural Fill	0	35	2.37043	2.81771	4.02411	0	4.02411	5.42289	5.42289
34	0.0163133	0.0909673	30.5584	Structural Fill	0	35	2.43823	2.8983	4.1392	0	4.1392	5.57877	5.57877
35	0.0163133	0.0934983	30.5721	Structural Fill	0	35	2.50572	2.97852	4.25377	0	4.25377	5.734	5.734
36	0.0163133	0.0960187	30.5858	Structural Fill	0	35	2.5729	3.05838	4.36782	0	4.36782	5.88857	5.88857
37	0.0163133	0.0985283	30.5995	Structural Fill	0	35	2.63977	3.13787	4.48134	0	4.48134	6.04247	6.04247
38	0.0163133	0.101027	30.6132	Structural Fill	0	35	2.70634	3.217	4.59435	0	4.59435	6.19572	6.19572
39	0.0163133	0.103515	30.627	Structural Fill	0	35	2.7726	3.29576	4.70683	0	4.70683	6.34831	6.34831
40	0.0163133	0.105993	30.6407	Structural Fill	0	35	2.83855	3.37416	4.8188	0	4.8188	6.50024	6.50024
41	0.0163133	0.108459	30.6544	Structural Fill	0	35	2.9042	3.45219	4.93024	0	4.93024	6.65151	6.65151
42	0.0163133	0.110747	30.6681	Structural Fill	0	35	2.96505	3.52453	5.03354	0	5.03354	6.79184	6.79184
43	0.0163133	0.10297	30.6819	Structural Fill	0	35	2.75645	3.27657	4.67942	0	4.67942	6.3149	6.3149
44	0.0163133	0.0892759	30.6956	Structural Fill	0	35	2.38952	2.8404	4.05651	0	4.05651	5.47506	5.47506
45	0.0163133	0.0755706	30.7093	Structural Fill	0	35	2.0224	2.40401	3.43329	0	3.43329	4.63455	4.63455
46	0.0163133	0.0618546	30.7231	Structural Fill	0	35	1.65511	1.96741	2.80975	0	2.80975	3.79338	3.79338
47	0.0163133	0.0481277	30.7368	Structural Fill	0	35	1.28762	1.53058	2.18589	0	2.18589	2.95155	2.95155
48	0.0163133	0.0343901	30.7506	Structural Fill	0	35	0.919945	1.09353	1.56173	0	1.56173	2.10905	2.10905
49	0.0163133	0.0206416	30.7643	Structural Fill	0	35	0.552093	0.656268	0.937246	0	0.937246	1.26589	1.26589
50	0.0163133	0.00688234	30.7781	Structural Fill	0	35	0.184053	0.218782	0.312454	0	0.312454	0.422076	0.422076

B-B' Post Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.615955

Slice Number	Width [ft]	Weight [lbs]	Angle of Slice Base [deg]	Base Material	Base Cohesion [psf]	Base Friction Angle [deg]	Shear Stress [psf]	Shear Strength [psf]	Base Normal Stress [psf]	Pore Pressure [psf]	Effective Normal Stress [psf]	Base Vertical Stress [psf]	Effective Vertical Stress [psf]
1	0.0163133	0.00144419	30.1068	Structural Fill	0	35	0.0607968	0.0374481	0.0534817	0	0.0534817	0.088734	0.088734
2	0.0163133	0.00432727	30.1205	Structural Fill	0	35	0.182129	0.112183	0.160213	0	0.160213	0.265877	0.265877
3	0.0163133	0.00719976	30.1341	Structural Fill	0	35	0.30296	0.18661	0.266507	0	0.266507	0.442368	0.442368
4	0.0163133	0.0100616	30.1478	Structural Fill	0	35	0.423294	0.26073	0.372362	0	0.372362	0.618208	0.618208
5	0.0163133	0.0129129	30.1614	Structural Fill	0	35	0.543131	0.334544	0.477778	0	0.477778	0.793398	0.793398
6	0.0163133	0.0157536	30.1751	Structural Fill	0	35	0.662467	0.40805	0.582755	0	0.582755	0.967935	0.967935
7	0.0163133	0.0185837	30.1888	Structural Fill	0	35	0.781307	0.48125	0.687295	0	0.687295	1.14182	1.14182
8	0.0163133	0.0214031	30.2024	Structural Fill	0	35	0.899647	0.554142	0.791397	0	0.791397	1.31506	1.31506
9	0.0163133	0.0242119	30.2161	Structural Fill	0	35	1.01749	0.626728	0.895063	0	0.895063	1.48764	1.48764
10	0.0163133	0.0270101	30.2298	Structural Fill	0	35	1.13484	0.699008	0.998287	0	0.998287	1.65957	1.65957
11	0.0163133	0.0297977	30.2434	Structural Fill	0	35	1.25168	0.770981	1.10107	0	1.10107	1.83084	1.83084
12	0.0163133	0.0325746	30.2571	Structural Fill	0	35	1.36803	0.842647	1.20342	0	1.20342	2.00147	2.00147
13	0.0163133	0.0353409	30.2708	Structural Fill	0	35	1.48389	0.914007	1.30534	0	1.30534	2.17144	2.17144
14	0.0163133	0.0380965	30.2844	Structural Fill	0	35	1.59924	0.98506	1.40681	0	1.40681	2.34075	2.34075
15	0.0163133	0.0408415	30.2981	Structural Fill	0	35	1.7141	1.05581	1.50785	0	1.50785	2.50941	2.50941
16	0.0163133	0.0435759	30.3118	Structural Fill	0	35	1.82846	1.12625	1.60845	0	1.60845	2.67742	2.67742
17	0.0163133	0.0462996	30.3255	Structural Fill	0	35	1.94232	1.19638	1.70861	0	1.70861	2.84477	2.84477
18	0.0163133	0.0490126	30.3392	Structural Fill	0	35	2.05569	1.26621	1.80834	0	1.80834	3.01147	3.01147
19	0.0163133	0.0517149	30.3529	Structural Fill	0	35	2.16855	1.33573	1.90762	0	1.90762	3.17751	3.17751
20	0.0163133	0.0544066	30.3665	Structural Fill	0	35	2.28093	1.40495	2.00647	0	2.00647	3.3429	3.3429
21	0.0163133	0.0570876	30.3802	Structural Fill	0	35	2.3928	1.47386	2.10489	0	2.10489	3.50763	3.50763
22	0.0163133	0.059758	30.3939	Structural Fill	0	35	2.50418	1.54246	2.20287	0	2.20287	3.6717	3.6717
23	0.0163133	0.0624176	30.4076	Structural Fill	0	35	2.61506	1.61076	2.30041	0	2.30041	3.83512	3.83512
24	0.0163133	0.0650666	30.4213	Structural Fill	0	35	2.72546	1.67876	2.39751	0	2.39751	3.99789	3.99789
25	0.0163133	0.0677048	30.435	Structural Fill	0	35	2.83534	1.74644	2.49418	0	2.49418	4.15999	4.15999
26	0.0163133	0.0703324	30.4487	Structural Fill	0	35	2.94474	1.81383	2.59041	0	2.59041	4.32145	4.32145
27	0.0163133	0.0729493	30.4624	Structural Fill	0	35	3.05363	1.8809	2.6862	0	2.6862	4.48223	4.48223
28	0.0163133	0.0755554	30.4761	Structural Fill	0	35	3.16203	1.94767	2.78157	0	2.78157	4.64237	4.64237
29	0.0163133	0.0781509	30.4898	Structural Fill	0	35	3.26995	2.01414	2.87649	0	2.87649	4.80185	4.80185
30	0.0163133	0.0807356	30.5035	Structural Fill	0	35	3.37736	2.0803	2.97097	0	2.97097	4.96067	4.96067
31	0.0163133	0.0833096	30.5172	Structural Fill	0	35	3.48426	2.14615	3.06502	0	3.06502	5.11882	5.11882

32	0.0163133	0.0858729	30.5309	Structural Fill	0	35	3.59068	2.2117	3.15864	0	3.15864	5.27632	5.27632
33	0.0163133	0.0884254	30.5446	Structural Fill	0	35	3.69662	2.27695	3.25181	0	3.25181	5.43317	5.43317
34	0.0163133	0.0909673	30.5584	Structural Fill	0	35	3.80203	2.34188	3.34456	0	3.34456	5.58935	5.58935
35	0.0163133	0.0934983	30.5721	Structural Fill	0	35	3.90697	2.40652	3.43687	0	3.43687	5.74487	5.74487
36	0.0163133	0.0960187	30.5858	Structural Fill	0	35	4.01141	2.47085	3.52874	0	3.52874	5.89974	5.89974
37	0.0163133	0.0985283	30.5995	Structural Fill	0	35	4.11535	2.53487	3.62017	0	3.62017	6.05394	6.05394
38	0.0163133	0.101027	30.6132	Structural Fill	0	35	4.2188	2.59859	3.71117	0	3.71117	6.20748	6.20748
39	0.0163133	0.103515	30.627	Structural Fill	0	35	4.32176	2.66201	3.80174	0	3.80174	6.36037	6.36037
40	0.0163133	0.105993	30.6407	Structural Fill	0	35	4.42422	2.72512	3.89187	0	3.89187	6.51259	6.51259
41	0.0163133	0.108459	30.6544	Structural Fill	0	35	4.52617	2.78792	3.98157	0	3.98157	6.66414	6.66414
42	0.0163133	0.110747	30.6681	Structural Fill	0	35	4.62066	2.84612	4.06467	0	4.06467	6.80475	6.80475
43	0.0163133	0.10297	30.6819	Structural Fill	0	35	4.29525	2.64568	3.77842	0	3.77842	6.32691	6.32691
44	0.0163133	0.0892759	30.6956	Structural Fill	0	35	3.72318	2.29331	3.27519	0	3.27519	5.48547	5.48547
45	0.0163133	0.0755706	30.7093	Structural Fill	0	35	3.15093	1.94083	2.77179	0	2.77179	4.64337	4.64337
46	0.0163133	0.0618546	30.7231	Structural Fill	0	35	2.57847	1.58822	2.26821	0	2.26821	3.8006	3.8006
47	0.0163133	0.0481277	30.7368	Structural Fill	0	35	2.00581	1.23549	1.76446	0	1.76446	2.95717	2.95717
48	0.0163133	0.0343901	30.7506	Structural Fill	0	35	1.43295	0.882635	1.26054	0	1.26054	2.11307	2.11307
49	0.0163133	0.0206416	30.7643	Structural Fill	0	35	0.859899	0.529659	0.756434	0	0.756434	1.26831	1.26831
50	0.0163133	0.00688234	30.7781	Structural Fill	0	35	0.286644	0.17656	0.252154	0	0.252154	0.42288	0.42288

Interslice Data

A-A' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 2.18416

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	82	106.116	0	0	0
2	82.0305	106.151	-2.37511	0	0
3	82.061	106.187	-4.6643	0	0
4	82.0915	106.222	-6.86685	0	0
5	82.1219	106.258	-8.98206	0	0
6	82.1524	106.294	-11.0092	0	0
7	82.1829	106.329	-12.9476	0	0
8	82.2134	106.365	-14.7964	0	0
9	82.2439	106.401	-16.5551	0	0
10	82.2744	106.437	-18.2227	0	0
11	82.3048	106.474	-19.7986	0	0
12	82.3353	106.51	-21.2821	0	0
13	82.3658	106.546	-22.6723	0	0
14	82.3963	106.583	-23.9686	0	0
15	82.4268	106.619	-25.1701	0	0
16	82.4573	106.656	-26.2762	0	0
17	82.4877	106.693	-27.2859	0	0
18	82.5182	106.73	-28.1985	0	0
19	82.5487	106.767	-29.0134	0	0
20	82.5792	106.804	-29.7295	0	0
21	82.6097	106.841	-30.3462	0	0
22	82.6402	106.878	-30.8627	0	0
23	82.6706	106.915	-31.2781	0	0
24	82.7011	106.953	-31.5916	0	0
25	82.7316	106.99	-31.8024	0	0
26	82.7621	107.028	-31.9097	0	0
27	82.7926	107.065	-31.9127	0	0
28	82.8231	107.103	-31.8104	0	0
29	82.8535	107.141	-31.6021	0	0
30	82.884	107.179	-31.2868	0	0
31	82.9145	107.217	-30.8638	0	0
32	82.945	107.255	-30.3321	0	0
33	82.9755	107.294	-29.691	0	0
34	83.006	107.332	-28.9394	0	0
35	83.0364	107.37	-28.0765	0	0
36	83.0669	107.409	-27.1015	0	0
37	83.0974	107.448	-26.0133	0	0
38	83.1279	107.486	-24.8112	0	0
39	83.1584	107.525	-23.4942	0	0
40	83.1889	107.564	-22.0613	0	0
41	83.2193	107.603	-20.5117	0	0
42	83.2498	107.643	-18.8443	0	0
43	83.2803	107.682	-17.0583	0	0
44	83.3108	107.721	-15.1527	0	0
45	83.3413	107.761	-13.1265	0	0
46	83.3718	107.8	-10.9788	0	0
47	83.4022	107.84	-8.70853	0	0
48	83.4327	107.88	-6.31477	0	0
49	83.4632	107.92	-3.79651	0	0
50	83.4937	107.96	-1.15275	0	0
51	83.5242	108	0	0	0

A-A' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 2.18416

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	82	106.116	0	0	0
2	82.0305	106.151	-2.37511	0	0
3	82.061	106.187	-4.6643	0	0
4	82.0915	106.222	-6.86685	0	0
5	82.1219	106.258	-8.98206	0	0
6	82.1524	106.294	-11.0092	0	0
7	82.1829	106.329	-12.9476	0	0
8	82.2134	106.365	-14.7964	0	0
9	82.2439	106.401	-16.5551	0	0
10	82.2744	106.437	-18.2227	0	0
11	82.3048	106.474	-19.7986	0	0
12	82.3353	106.51	-21.2821	0	0
13	82.3658	106.546	-22.6723	0	0
14	82.3963	106.583	-23.9686	0	0
15	82.4268	106.619	-25.1701	0	0
16	82.4573	106.656	-26.2762	0	0
17	82.4877	106.693	-27.2859	0	0
18	82.5182	106.73	-28.1985	0	0
19	82.5487	106.767	-29.0134	0	0
20	82.5792	106.804	-29.7295	0	0
21	82.6097	106.841	-30.3462	0	0
22	82.6402	106.878	-30.8627	0	0
23	82.6706	106.915	-31.2781	0	0
24	82.7011	106.953	-31.5916	0	0
25	82.7316	106.99	-31.8024	0	0
26	82.7621	107.028	-31.9097	0	0
27	82.7926	107.065	-31.9127	0	0
28	82.8231	107.103	-31.8104	0	0
29	82.8535	107.141	-31.6021	0	0
30	82.884	107.179	-31.2868	0	0
31	82.9145	107.217	-30.8638	0	0
32	82.945	107.255	-30.3321	0	0
33	82.9755	107.294	-29.691	0	0
34	83.006	107.332	-28.9394	0	0
35	83.0364	107.37	-28.0765	0	0
36	83.0669	107.409	-27.1015	0	0
37	83.0974	107.448	-26.0133	0	0
38	83.1279	107.486	-24.8112	0	0
39	83.1584	107.525	-23.4942	0	0
40	83.1889	107.564	-22.0613	0	0
41	83.2193	107.603	-20.5117	0	0
42	83.2498	107.643	-18.8443	0	0
43	83.2803	107.682	-17.0583	0	0
44	83.3108	107.721	-15.1527	0	0
45	83.3413	107.761	-13.1265	0	0
46	83.3718	107.8	-10.9788	0	0
47	83.4022	107.84	-8.70853	0	0
48	83.4327	107.88	-6.31477	0	0
49	83.4632	107.92	-3.79651	0	0
50	83.4937	107.96	-1.15275	0	0
51	83.5242	108	0	0	0

A-A' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 0.328922

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	96.0286	108.572	0	0	0
2	96.0459	108.603	-0.00268682	0	0
3	96.0632	108.633	-0.011407	0	0
4	96.0804	108.664	-0.027041	0	0
5	96.0977	108.695	-0.0504708	0	0
6	96.115	108.725	-0.0796592	0	0
7	96.1323	108.756	-0.110071	0	0
8	96.1496	108.787	-0.141563	0	0
9	96.1668	108.818	-0.17406	0	0
10	96.1841	108.849	-0.207484	0	0
11	96.2014	108.88	-0.24176	0	0
12	96.2187	108.911	-0.27681	0	0
13	96.236	108.942	-0.312556	0	0
14	96.2532	108.973	-0.348922	0	0
15	96.2705	109.004	-0.385828	0	0
16	96.2878	109.035	-0.423197	0	0
17	96.3051	109.067	-0.460949	0	0
18	96.3224	109.098	-0.499006	0	0
19	96.3396	109.129	-0.537288	0	0
20	96.3569	109.161	-0.575716	0	0
21	96.3742	109.192	-0.614208	0	0
22	96.3915	109.224	-0.652686	0	0
23	96.4088	109.255	-0.691066	0	0
24	96.426	109.287	-0.72927	0	0
25	96.4433	109.319	-0.767214	0	0
26	96.4606	109.35	-0.804816	0	0
27	96.4779	109.382	-0.841996	0	0
28	96.4952	109.414	-0.878669	0	0
29	96.5124	109.446	-0.914752	0	0
30	96.5297	109.478	-0.950163	0	0
31	96.547	109.51	-0.984816	0	0
32	96.5643	109.542	-1.01863	0	0
33	96.5816	109.574	-1.05152	0	0
34	96.5988	109.606	-1.08339	0	0
35	96.6161	109.638	-1.11417	0	0
36	96.6334	109.67	-1.14377	0	0
37	96.6507	109.703	-1.1721	0	0
38	96.668	109.735	-1.19908	0	0
39	96.6852	109.767	-1.22461	0	0
40	96.7025	109.8	-1.24861	0	0
41	96.7198	109.832	-1.271	0	0
42	96.7371	109.865	-1.29168	0	0
43	96.7544	109.897	-1.31057	0	0
44	96.7716	109.93	-1.32758	0	0
45	96.7889	109.963	-1.34261	0	0
46	96.8062	109.996	-1.35558	0	0
47	96.8235	110.028	-1.36639	0	0
48	96.8408	110.061	-1.37497	0	0
49	96.8581	110.094	-1.38121	0	0
50	96.8753	110.127	-1.38502	0	0
51	96.8926	110.16	0	0	0

A-A' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.06423

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	6.77557	98.0739	0	0	0
2	8.04365	97.5789	215.836	0	0
3	9.08643	97.202	431.75	0	0
4	10.1292	96.8517	663.483	0	0
5	11.172	96.5273	905.799	0	0
6	12.2148	96.2283	1154.08	0	0
7	13.2576	95.9541	1404.27	0	0
8	14.2372	95.7189	1566.96	0	0
9	15.2168	95.505	1725.44	0	0
10	16.1964	95.312	1877.59	0	0
11	17.176	95.1398	2021.52	0	0
12	18.1557	94.9881	2155.59	0	0
13	19.1353	94.8567	2278.4	0	0
14	20.1149	94.7455	2388.73	0	0
15	21.0945	94.6543	2485.57	0	0
16	22.0741	94.583	2568.09	0	0
17	23.0538	94.5315	2635.63	0	0
18	24.0334	94.4998	2687.7	0	0
19	25.013	94.4878	2723.97	0	0
20	25.9926	94.4955	2744.25	0	0
21	26.9722	94.5229	2748.5	0	0
22	27.9519	94.57	2738.77	0	0
23	28.9315	94.637	2716.14	0	0
24	29.9111	94.7238	2679.32	0	0
25	30.8907	94.8307	2627.16	0	0
26	31.8703	94.9576	2558.7	0	0
27	32.85	95.1049	2473.2	0	0
28	33.8296	95.2726	2370.97	0	0
29	34.8092	95.461	2252.79	0	0
30	35.7888	95.6703	2119.59	0	0
31	36.7684	95.9009	1972.47	0	0
32	37.7481	96.153	1812.66	0	0
33	38.7277	96.4269	1641.61	0	0
34	39.7073	96.7231	1460.9	0	0
35	40.6869	97.042	1272.34	0	0
36	41.6665	97.384	1077.92	0	0
37	42.6462	97.7497	879.866	0	0
38	43.6258	98.1397	680.617	0	0
39	44.6113	98.5572	545.697	0	0
40	45.5968	99.0005	414.72	0	0
41	46.5823	99.4706	290.916	0	0
42	47.5678	99.9682	177.937	0	0
43	48.5533	100.494	79.8234	0	0
44	49.5553	101.06	-8.94498	0	0
45	50.5572	101.657	-91.2821	0	0
46	51.5592	102.287	-163.304	0	0
47	52.5612	102.952	-220.699	0	0
48	53.5632	103.654	-258.668	0	0
49	54.5652	104.394	-428.419	0	0
50	55.5671	105.176	-713.581	0	0
51	56.5691	106	0	0	0

A-A' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.42083

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	98.5245	99.9131	0	0	0
2	99.1631	99.8933	29.3919	0	0
3	99.8018	99.8849	70.7244	0	0
4	100.44	99.8881	122.375	0	0
5	101.079	99.9028	182.799	0	0
6	101.718	99.9291	250.528	0	0
7	102.356	99.9669	324.161	0	0
8	102.995	100.016	402.418	0	0
9	103.634	100.077	484.114	0	0
10	104.272	100.15	568.018	0	0
11	104.911	100.234	652.956	0	0
12	105.549	100.331	737.809	0	0
13	106.188	100.439	821.509	0	0
14	106.827	100.559	903.041	0	0
15	107.465	100.692	981.436	0	0
16	108.104	100.837	1055.77	0	0
17	108.743	100.994	1125.18	0	0
18	109.381	101.164	1188.83	0	0
19	110.02	101.347	1245.93	0	0
20	110.658	101.543	1295.74	0	0
21	111.297	101.752	1337.58	0	0
22	111.936	101.975	1370.78	0	0
23	112.574	102.212	1394.73	0	0
24	113.213	102.463	1408.88	0	0
25	113.852	102.728	1412.7	0	0
26	114.49	103.008	1405.73	0	0
27	115.129	103.303	1387.53	0	0
28	115.5	103.481	1394	0	0
29	116.15	103.807	1358.09	0	0
30	116.8	104.15	1314.77	0	0
31	117.45	104.51	1264.3	0	0
32	118.1	104.889	1207.03	0	0
33	118.75	105.286	1143.47	0	0
34	119.4	105.703	1074.26	0	0
35	120.05	106.14	1000.23	0	0
36	120.714	106.609	916.347	0	0
37	121.378	107.102	820.615	0	0
38	122.043	107.619	713.587	0	0
39	122.707	108.162	595.984	0	0
40	123.371	108.733	468.72	0	0
41	124.035	109.333	332.935	0	0
42	124.699	109.965	190.035	0	0
43	125.364	110.631	45.2187	0	0
44	126.028	111.333	-93.1982	0	0
45	126.692	112.076	-221.163	0	0
46	127.356	112.863	-333.971	0	0
47	128.021	113.699	-426.027	0	0
48	128.685	114.59	-490.599	0	0
49	129.349	115.544	-519.474	0	0
50	130.013	116.569	-502.454	0	0
51	130.677	117.678	0	0	0

A-A' Post-Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	658.682	0	0
3	94.3928	97.3901	1144.85	0	0
4	95.1657	97.3578	1542.98	0	0
5	95.9386	97.3405	1916.78	0	0
6	96.7115	97.3382	2267.87	0	0
7	97.4844	97.3509	2596.53	0	0
8	98.2573	97.3786	2902.77	0	0
9	99.0303	97.4213	3186.65	0	0
10	99.8032	97.4792	3448.28	0	0
11	100.576	97.5522	3687.86	0	0
12	101.349	97.6404	3905.83	0	0
13	102.122	97.744	4102.44	0	0
14	102.895	97.8631	4277.94	0	0
15	103.668	97.9978	4432.63	0	0
16	104.441	98.1482	4566.9	0	0
17	105.214	98.3146	4681.3	0	0
18	105.986	98.4972	4778.36	0	0
19	106.759	98.6961	4857.99	0	0
20	107.532	98.9117	4919.15	0	0
21	108.305	99.1442	4960.91	0	0
22	109.078	99.394	4982.34	0	0
23	109.851	99.6613	4982.61	0	0
24	110.624	99.9466	4960.95	0	0
25	111.397	100.25	4916.62	0	0
26	112.17	100.573	4848.98	0	0
27	113.002	100.942	4687.1	0	0
28	113.835	101.334	4496.16	0	0
29	114.667	101.75	4275.7	0	0
30	115.5	102.191	4025.37	0	0
31	116.226	102.597	3731.78	0	0
32	116.953	103.022	3423.38	0	0
33	117.679	103.469	3102.6	0	0
34	118.454	103.97	2793.79	0	0
35	119.229	104.497	2476.01	0	0
36	120.004	105.052	2151.85	0	0
37	120.779	105.635	1824.31	0	0
38	121.554	106.249	1496.82	0	0
39	122.301	106.87	1179.87	0	0
40	123.048	107.524	859.537	0	0
41	123.795	108.212	539.067	0	0
42	124.542	108.936	222.18	0	0
43	125.289	109.699	-86.8085	0	0
44	126.036	110.506	-382.872	0	0
45	126.783	111.358	-660.103	0	0
46	127.53	112.263	-911.503	0	0
47	128.277	113.225	-1128.68	0	0
48	129.024	114.252	-1301.45	0	0
49	129.771	115.352	-1417.26	0	0
50	130.517	116.538	-1460.31	0	0
51	131.264	117.825	0	0	0

A-A' Post-Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.98417

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	658.682	0	0
3	94.3928	97.3901	1144.85	0	0
4	95.1657	97.3578	1542.98	0	0
5	95.9386	97.3405	1916.78	0	0
6	96.7115	97.3382	2267.87	0	0
7	97.4844	97.3509	2596.53	0	0
8	98.2573	97.3786	2902.77	0	0
9	99.0303	97.4213	3186.65	0	0
10	99.8032	97.4792	3448.28	0	0
11	100.576	97.5522	3687.86	0	0
12	101.349	97.6404	3905.83	0	0
13	102.122	97.744	4102.44	0	0
14	102.895	97.8631	4277.94	0	0
15	103.668	97.9978	4432.63	0	0
16	104.441	98.1482	4566.9	0	0
17	105.214	98.3146	4681.3	0	0
18	105.986	98.4972	4778.36	0	0
19	106.759	98.6961	4857.99	0	0
20	107.532	98.9117	4919.15	0	0
21	108.305	99.1442	4960.91	0	0
22	109.078	99.394	4982.34	0	0
23	109.851	99.6613	4982.61	0	0
24	110.624	99.9466	4960.95	0	0
25	111.397	100.25	4916.62	0	0
26	112.17	100.573	4848.98	0	0
27	113.002	100.942	4687.1	0	0
28	113.835	101.334	4496.16	0	0
29	114.667	101.75	4275.7	0	0
30	115.5	102.191	4025.37	0	0
31	116.226	102.597	3731.78	0	0
32	116.953	103.022	3423.38	0	0
33	117.679	103.469	3102.6	0	0
34	118.454	103.97	2793.79	0	0
35	119.229	104.497	2476.01	0	0
36	120.004	105.052	2151.85	0	0
37	120.779	105.635	1824.31	0	0
38	121.554	106.249	1496.82	0	0
39	122.301	106.87	1179.87	0	0
40	123.048	107.524	859.537	0	0
41	123.795	108.212	539.067	0	0
42	124.542	108.936	222.18	0	0
43	125.289	109.699	-86.8085	0	0
44	126.036	110.506	-382.872	0	0
45	126.783	111.358	-660.103	0	0
46	127.53	112.263	-911.503	0	0
47	128.277	113.225	-1128.68	0	0
48	129.024	114.252	-1301.45	0	0
49	129.771	115.352	-1417.26	0	0
50	130.517	116.538	-1460.31	0	0
51	131.264	117.825	0	0	0

A-A' Post-Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.05908

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	106.963	109.071	0	0	0
2	107.067	109.123	0.000832073	0	0
3	107.171	109.176	0.0031955	0	0
4	107.275	109.229	0.00689737	0	0
5	107.379	109.282	0.0117526	0	0
6	107.483	109.335	0.0175838	0	0
7	107.587	109.389	0.0242217	0	0
8	107.692	109.443	0.0315046	0	0
9	107.796	109.496	0.039279	0	0
10	107.9	109.55	0.047399	0	0
11	108.004	109.604	0.055727	0	0
12	108.108	109.659	0.0641332	0	0
13	108.212	109.713	0.0724959	0	0
14	108.316	109.768	0.0807014	0	0
15	108.42	109.823	0.0886442	0	0
16	108.524	109.878	0.0962267	0	0
17	108.628	109.933	0.10336	0	0
18	108.732	109.988	0.109962	0	0
19	108.837	110.043	0.115961	0	0
20	108.941	110.099	0.121291	0	0
21	109.045	110.155	0.125897	0	0
22	109.149	110.211	0.12973	0	0
23	109.253	110.267	0.13275	0	0
24	109.357	110.323	0.134927	0	0
25	109.461	110.38	0.136236	0	0
26	109.565	110.436	0.136664	0	0
27	109.669	110.493	0.136205	0	0
28	109.773	110.55	0.13486	0	0
29	109.878	110.607	0.132642	0	0
30	109.982	110.665	0.129569	0	0
31	110.086	110.722	0.125671	0	0
32	110.19	110.78	0.120982	0	0
33	110.294	110.838	0.115551	0	0
34	110.398	110.896	0.109429	0	0
35	110.502	110.954	0.102682	0	0
36	110.606	111.013	0.0953799	0	0
37	110.71	111.071	0.0876044	0	0
38	110.814	111.13	0.0794449	0	0
39	110.918	111.189	0.0709999	0	0
40	111.023	111.248	0.062377	0	0
41	111.127	111.307	0.0536928	0	0
42	111.231	111.367	0.0450728	0	0
43	111.335	111.426	0.0366516	0	0
44	111.439	111.486	0.0285732	0	0
45	111.543	111.546	0.0209906	0	0
46	111.647	111.606	0.0140658	0	0
47	111.751	111.666	0.00797046	0	0
48	111.855	111.727	0.00288529	0	0
49	111.959	111.788	-0.000999587	0	0
50	112.064	111.849	-0.00348463	0	0
51	112.168	111.91	0	0	0

A-A' Post-Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 1.05379

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.847	97.5	0	0	0
2	93.6199	97.4375	1153.23	0	0
3	94.3928	97.3901	1711.67	0	0
4	95.1657	97.3578	2095.5	0	0
5	95.9386	97.3405	2449.14	0	0
6	96.7115	97.3382	2774.5	0	0
7	97.4844	97.3509	3072.29	0	0
8	98.2573	97.3786	3342.98	0	0
9	99.0303	97.4213	3587.08	0	0
10	99.8032	97.4792	3805.15	0	0
11	100.576	97.5522	3997.83	0	0
12	101.349	97.6404	4165.9	0	0
13	102.122	97.744	4310.01	0	0
14	102.895	97.8631	4430.84	0	0
15	103.668	97.9978	4529.12	0	0
16	104.441	98.1482	4605.61	0	0
17	105.214	98.3146	4661.17	0	0
18	105.986	98.4972	4696.13	0	0
19	106.759	98.6961	4709.72	0	0
20	107.532	98.9117	4701.19	0	0
21	108.305	99.1442	4669.87	0	0
22	109.078	99.394	4615.17	0	0
23	109.851	99.6613	4536.58	0	0
24	110.624	99.9466	4433.67	0	0
25	111.397	100.25	4306.09	0	0
26	112.17	100.573	4153.56	0	0
27	113.002	100.942	3863.35	0	0
28	113.835	101.334	3543.75	0	0
29	114.667	101.75	3194.91	0	0
30	115.5	102.191	2817.1	0	0
31	116.226	102.597	2379.22	0	0
32	116.953	103.022	1933.23	0	0
33	117.679	103.469	1482.66	0	0
34	118.454	103.97	1069.77	0	0
35	119.229	104.497	658.406	0	0
36	120.004	105.052	252.045	0	0
37	120.779	105.635	-145.406	0	0
38	121.554	106.249	-529.548	0	0
39	122.301	106.87	-890.776	0	0
40	123.048	107.524	-1247.87	0	0
41	123.795	108.212	-1597.24	0	0
42	124.542	108.936	-1934.84	0	0
43	125.289	109.699	-2256.07	0	0
44	126.036	110.506	-2555.72	0	0
45	126.783	111.358	-2827.79	0	0
46	127.53	112.263	-3065.31	0	0
47	128.277	113.225	-3260.12	0	0
48	129.024	114.252	-3402.55	0	0
49	129.771	115.352	-3480.93	0	0
50	130.517	116.538	-3480.95	0	0
51	131.264	117.825	0	0	0

B-B' Existing - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	17.0508	100	0	0	0
2	19.0302	98.9761	209.727	0	0
3	21.0097	98.0086	566.669	0	0
4	23.2423	96.9827	1100.98	0	0
5	25.4749	96.0237	1733.51	0	0
6	27.7075	95.1296	2474.68	0	0
7	29.9401	94.2984	3372.88	0	0
8	32.2452	93.5044	4381.54	0	0
9	34.5504	92.7742	5473.91	0	0
10	36.8555	92.106	6600.05	0	0
11	39.1607	91.4988	7740.87	0	0
12	41.4658	90.9511	8879.13	0	0
13	43.5574	90.505	9843.84	0	0
14	45.6491	90.1065	10781.7	0	0
15	47.7407	89.7551	11684.2	0	0
16	49.8323	89.4501	12544.5	0	0
17	52.1399	89.1671	13489.2	0	0
18	54.4474	88.9397	14362.6	0	0
19	56.755	88.7675	15156.2	0	0
20	59.0625	88.6502	15862.5	0	0
21	61.3701	88.5876	16475	0	0
22	63.6776	88.5796	16988.9	0	0
23	65.9852	88.6262	17400.6	0	0
24	68.2928	88.7275	17705.9	0	0
25	70.6003	88.8836	17901.5	0	0
26	72.9079	89.0948	17985	0	0
27	75.2154	89.3615	17954.8	0	0
28	77.523	89.6841	17810.3	0	0
29	79.8305	90.0632	17551.6	0	0
30	82.1381	90.4994	17180.2	0	0
31	84.4456	90.9936	16698.1	0	0
32	86.7532	91.5466	16108.5	0	0
33	89.0607	92.1596	15415.9	0	0
34	91.3683	92.8336	14625.7	0	0
35	93.6759	93.57	13744.5	0	0
36	95.9834	94.3703	12780.5	0	0
37	98.291	95.2362	11743	0	0
38	100.884	96.2897	10439.2	0	0
39	103.476	97.4315	9073.88	0	0
40	106.069	98.6649	7668.36	0	0
41	108.39	99.8503	6440.81	0	0
42	110.711	101.115	5191.41	0	0
43	113.033	102.464	3959.57	0	0
44	115.354	103.9	2771.82	0	0
45	117.675	105.429	1657.68	0	0
46	119.879	106.971	758.429	0	0
47	122.084	108.606	-25.5118	0	0
48	124.288	110.34	-663.024	0	0
49	126.972	112.596	-1233.65	0	0
50	129.656	115.025	-1555.77	0	0
51	132.339	117.644	0	0	0

B-B' Existing - Static

Global Minimum Query (bishop simplified) - Safety Factor: 3.29738

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	17.0508	100	0	0	0
2	19.0302	98.9761	209.727	0	0
3	21.0097	98.0086	566.669	0	0
4	23.2423	96.9827	1100.98	0	0
5	25.4749	96.0237	1733.51	0	0
6	27.7075	95.1296	2474.68	0	0
7	29.9401	94.2984	3372.88	0	0
8	32.2452	93.5044	4381.54	0	0
9	34.5504	92.7742	5473.91	0	0
10	36.8555	92.106	6600.05	0	0
11	39.1607	91.4988	7740.87	0	0
12	41.4658	90.9511	8879.13	0	0
13	43.5574	90.505	9843.84	0	0
14	45.6491	90.1065	10781.7	0	0
15	47.7407	89.7551	11684.2	0	0
16	49.8323	89.4501	12544.5	0	0
17	52.1399	89.1671	13489.2	0	0
18	54.4474	88.9397	14362.6	0	0
19	56.755	88.7675	15156.2	0	0
20	59.0625	88.6502	15862.5	0	0
21	61.3701	88.5876	16475	0	0
22	63.6776	88.5796	16988.9	0	0
23	65.9852	88.6262	17400.6	0	0
24	68.2928	88.7275	17705.9	0	0
25	70.6003	88.8836	17901.5	0	0
26	72.9079	89.0948	17985	0	0
27	75.2154	89.3615	17954.8	0	0
28	77.523	89.6841	17810.3	0	0
29	79.8305	90.0632	17551.6	0	0
30	82.1381	90.4994	17180.2	0	0
31	84.4456	90.9936	16698.1	0	0
32	86.7532	91.5466	16108.5	0	0
33	89.0607	92.1596	15415.9	0	0
34	91.3683	92.8336	14625.7	0	0
35	93.6759	93.57	13744.5	0	0
36	95.9834	94.3703	12780.5	0	0
37	98.291	95.2362	11743	0	0
38	100.884	96.2897	10439.2	0	0
39	103.476	97.4315	9073.88	0	0
40	106.069	98.6649	7668.36	0	0
41	108.39	99.8503	6440.81	0	0
42	110.711	101.115	5191.41	0	0
43	113.033	102.464	3959.57	0	0
44	115.354	103.9	2771.82	0	0
45	117.675	105.429	1657.68	0	0
46	119.879	106.971	758.429	0	0
47	122.084	108.606	-25.5118	0	0
48	124.288	110.34	-663.024	0	0
49	126.972	112.596	-1233.65	0	0
50	129.656	115.025	-1555.77	0	0
51	132.339	117.644	0	0	0

B-B' Existing - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.87555

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	28.0378	100.679	0	0	0
2	28.0888	100.695	0.000136776	0	0
3	28.1398	100.71	0.000525058	0	0
4	28.1908	100.725	0.00113283	0	0
5	28.2418	100.741	0.00192941	0	0
6	28.2928	100.756	0.00288542	0	0
7	28.3437	100.772	0.00397286	0	0
8	28.3947	100.788	0.00516501	0	0
9	28.4457	100.804	0.00643652	0	0
10	28.4967	100.819	0.00776337	0	0
11	28.5477	100.835	0.00912288	0	0
12	28.5987	100.851	0.0104937	0	0
13	28.6497	100.867	0.0118559	0	0
14	28.7007	100.883	0.0131908	0	0
15	28.7516	100.9	0.0144811	0	0
16	28.8026	100.916	0.0157109	0	0
17	28.8536	100.932	0.0168657	0	0
18	28.9046	100.949	0.0179322	0	0
19	28.9556	100.965	0.0188986	0	0
20	29.0066	100.982	0.0197544	0	0
21	29.0576	100.998	0.0204905	0	0
22	29.1085	101.015	0.0210992	0	0
23	29.1595	101.032	0.0215741	0	0
24	29.2105	101.048	0.0219104	0	0
25	29.2615	101.065	0.0221043	0	0
26	29.3125	101.082	0.0221538	0	0
27	29.3635	101.099	0.0220579	0	0
28	29.4145	101.116	0.0218174	0	0
29	29.4655	101.134	0.0214341	0	0
30	29.5164	101.151	0.0209115	0	0
31	29.5674	101.168	0.0202544	0	0
32	29.6184	101.185	0.019469	0	0
33	29.6694	101.203	0.0185629	0	0
34	29.7204	101.22	0.0175451	0	0
35	29.7714	101.238	0.0164261	0	0
36	29.8224	101.256	0.0152178	0	0
37	29.8733	101.273	0.0139335	0	0
38	29.9243	101.291	0.0125878	0	0
39	29.9753	101.309	0.0111971	0	0
40	30.0263	101.327	0.00977881	0	0
41	30.0773	101.345	0.00835209	0	0
42	30.1283	101.363	0.00693742	0	0
43	30.1793	101.381	0.00555676	0	0
44	30.2303	101.399	0.0042335	0	0
45	30.2812	101.418	0.00299253	0	0
46	30.3322	101.436	0.00186016	0	0
47	30.3832	101.455	0.000864208	0	0
48	30.4342	101.473	3.394e-05	0	0
49	30.4852	101.492	-0.000599893	0	0
50	30.5362	101.51	-0.00100506	0	0
51	30.5872	101.529	0	0	0

B-B' Existing - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.983231

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	16.2628	100	0	0	0
2	18.8311	98.9925	742.728	0	0
3	21.3993	98.0551	1707.08	0	0
4	23.7003	97.2735	2658.14	0	0
5	26.0012	96.5457	3603.46	0	0
6	28.3022	95.8705	4605.29	0	0
7	30.6032	95.247	5714.34	0	0
8	32.9041	94.6744	6897.52	0	0
9	35.331	94.1247	7912.07	0	0
10	37.7578	93.6299	8900.29	0	0
11	40.1846	93.1893	9847.91	0	0
12	42.6114	92.8023	10742.5	0	0
13	45.0382	92.4682	11573.1	0	0
14	47.465	92.1866	12331.7	0	0
15	49.8918	91.9572	13013.6	0	0
16	52.1849	91.7881	13394.1	0	0
17	54.4781	91.665	13694.2	0	0
18	56.7713	91.5879	13910.5	0	0
19	59.0644	91.5566	14040.1	0	0
20	61.3576	91.5711	14081	0	0
21	63.6507	91.6314	14032.5	0	0
22	65.9439	91.7375	13895.5	0	0
23	68.2371	91.8897	13669.8	0	0
24	70.5302	92.0881	13355.8	0	0
25	72.8234	92.3329	12954.7	0	0
26	75.1165	92.6245	12468.5	0	0
27	77.4097	92.9632	11900	0	0
28	79.7029	93.3493	11252.6	0	0
29	81.996	93.7835	10530.5	0	0
30	84.2892	94.2663	9738.9	0	0
31	86.5823	94.7982	8883.57	0	0
32	88.8755	95.3801	7971.23	0	0
33	91.1687	96.0126	7009.48	0	0
34	93.4618	96.6968	6006.82	0	0
35	95.755	97.4334	4972.77	0	0
36	97.9261	98.1803	4108.01	0	0
37	100.097	98.9762	3229.49	0	0
38	102.268	99.8223	2347.72	0	0
39	104.439	100.72	1474.25	0	0
40	106.611	101.67	621.083	0	0
41	108.782	102.674	-210.804	0	0
42	110.953	103.734	-1007.74	0	0
43	113.124	104.852	-1745.22	0	0
44	115.346	106.057	-2259.75	0	0
45	117.567	107.326	-2677.68	0	0
46	119.789	108.662	-2977.58	0	0
47	122.011	110.068	-3138.02	0	0
48	124.602	111.801	-3195.94	0	0
49	127.193	113.638	-3154.02	0	0
50	129.784	115.586	-2981.18	0	0
51	132.375	117.652	0	0	0

B-B' During Const

Global Minimum Query (bishop simplified) - Safety Factor: 1.43567

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	92.7344	97.5	0	0	0
2	93.7323	97.1919	80.8886	0	0
3	94.5931	96.9553	174.567	0	0
4	95.4539	96.7451	316.141	0	0
5	96.2252	96.5786	477.335	0	0
6	96.9964	96.4324	664.237	0	0
7	97.7677	96.3064	872.517	0	0
8	98.539	96.2002	1098.17	0	0
9	99.3102	96.1136	1337.47	0	0
10	100.082	96.0464	1586.95	0	0
11	100.853	95.9986	1843.4	0	0
12	101.624	95.97	2103.8	0	0
13	102.395	95.9606	2365.33	0	0
14	103.167	95.9704	2625.35	0	0
15	103.938	95.9994	2880.7	0	0
16	104.709	96.0476	3128.87	0	0
17	105.48	96.1151	3367.87	0	0
18	106.252	96.2021	3595.85	0	0
19	107.023	96.3087	3811.1	0	0
20	107.794	96.4352	4012.01	0	0
21	108.565	96.5817	4197.11	0	0
22	109.337	96.7486	4365.04	0	0
23	110.108	96.9362	4514.57	0	0
24	110.923	97.1575	4649.5	0	0
25	111.739	97.4028	4757.38	0	0
26	112.554	97.6729	4836.6	0	0
27	113.369	97.9684	4885.71	0	0
28	114.185	98.2901	4903.33	0	0
29	115	98.6389	4888.2	0	0
30	115.704	98.9627	4671.42	0	0
31	116.409	99.3082	4429.55	0	0
32	117.113	99.6762	4162.22	0	0
33	117.817	100.068	3869.18	0	0
34	118.599	100.531	3554.04	0	0
35	119.382	101.027	3208.37	0	0
36	120.164	101.556	2832.58	0	0
37	120.946	102.12	2431.58	0	0
38	121.728	102.724	2010	0	0
39	122.51	103.368	1571.27	0	0
40	123.293	104.057	1119.53	0	0
41	124.075	104.795	659.805	0	0
42	124.857	105.587	198.251	0	0
43	125.639	106.439	-257.48	0	0
44	126.453	107.398	-649.731	0	0
45	127.267	108.442	-1010.16	0	0
46	128.081	109.586	-1319.8	0	0
47	128.894	110.852	-1552.1	0	0
48	129.66	112.182	-1696.15	0	0
49	130.425	113.686	-1767.08	0	0
50	131.19	115.435	-1723.86	0	0
51	131.955	117.562	0	0	0

B-B' Post Development - Master Scenario

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	108.317	112.545	0	0	0
2	108.334	112.554	8.82274e-06	0	0
3	108.35	112.564	3.42274e-05	0	0
4	108.366	112.573	7.47801e-05	0	0
5	108.382	112.583	0.000129054	0	0
6	108.399	112.592	0.00019563	0	0
7	108.415	112.602	0.000273096	0	0
8	108.431	112.611	0.000360046	0	0
9	108.448	112.621	0.000455084	0	0
10	108.464	112.63	0.000556819	0	0
11	108.48	112.64	0.000663868	0	0
12	108.497	112.649	0.000774856	0	0
13	108.513	112.659	0.000888414	0	0
14	108.529	112.668	0.00100318	0	0
15	108.546	112.678	0.0011178	0	0
16	108.562	112.687	0.00123094	0	0
17	108.578	112.697	0.00134124	0	0
18	108.595	112.706	0.00144738	0	0
19	108.611	112.716	0.00154804	0	0
20	108.627	112.725	0.00164189	0	0
21	108.643	112.735	0.00172763	0	0
22	108.66	112.745	0.00180396	0	0
23	108.676	112.754	0.00186958	0	0
24	108.692	112.764	0.0019232	0	0
25	108.709	112.773	0.00196354	0	0
26	108.725	112.783	0.00198934	0	0
27	108.741	112.792	0.00199932	0	0
28	108.758	112.802	0.00199223	0	0
29	108.774	112.812	0.00196682	0	0
30	108.79	112.821	0.00192184	0	0
31	108.807	112.831	0.00185606	0	0
32	108.823	112.84	0.00176825	0	0
33	108.839	112.85	0.00165719	0	0
34	108.856	112.86	0.00152166	0	0
35	108.872	112.869	0.00136047	0	0
36	108.888	112.879	0.00117241	0	0
37	108.904	112.889	0.000956293	0	0
38	108.921	112.898	0.000710933	0	0
39	108.937	112.908	0.000435154	0	0
40	108.953	112.918	0.00012779	0	0
41	108.97	112.927	-0.000212323	0	0
42	108.986	112.937	-0.000586337	0	0
43	109.002	112.947	-0.000994779	0	0
44	109.019	112.956	-0.00139922	0	0
45	109.035	112.966	-0.00177127	0	0
46	109.051	112.976	-0.00210432	0	0
47	109.068	112.985	-0.00239175	0	0
48	109.084	112.995	-0.00262694	0	0
49	109.1	113.005	-0.00280324	0	0
50	109.117	113.014	-0.00291402	0	0
51	109.133	113.024	0	0	0

B-B' Post Development - Static

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	108.317	112.545	0	0	0
2	108.334	112.554	8.82274e-06	0	0
3	108.35	112.564	3.42274e-05	0	0
4	108.366	112.573	7.47801e-05	0	0
5	108.382	112.583	0.000129054	0	0
6	108.399	112.592	0.00019563	0	0
7	108.415	112.602	0.000273096	0	0
8	108.431	112.611	0.000360046	0	0
9	108.448	112.621	0.000455084	0	0
10	108.464	112.63	0.000556819	0	0
11	108.48	112.64	0.000663868	0	0
12	108.497	112.649	0.000774856	0	0
13	108.513	112.659	0.000888414	0	0
14	108.529	112.668	0.00100318	0	0
15	108.546	112.678	0.0011178	0	0
16	108.562	112.687	0.00123094	0	0
17	108.578	112.697	0.00134124	0	0
18	108.595	112.706	0.00144738	0	0
19	108.611	112.716	0.00154804	0	0
20	108.627	112.725	0.00164189	0	0
21	108.643	112.735	0.00172763	0	0
22	108.66	112.745	0.00180396	0	0
23	108.676	112.754	0.00186958	0	0
24	108.692	112.764	0.0019232	0	0
25	108.709	112.773	0.00196354	0	0
26	108.725	112.783	0.00198934	0	0
27	108.741	112.792	0.00199932	0	0
28	108.758	112.802	0.00199223	0	0
29	108.774	112.812	0.00196682	0	0
30	108.79	112.821	0.00192184	0	0
31	108.807	112.831	0.00185606	0	0
32	108.823	112.84	0.00176825	0	0
33	108.839	112.85	0.00165719	0	0
34	108.856	112.86	0.00152166	0	0
35	108.872	112.869	0.00136047	0	0
36	108.888	112.879	0.00117241	0	0
37	108.904	112.889	0.000956293	0	0
38	108.921	112.898	0.000710933	0	0
39	108.937	112.908	0.000435154	0	0
40	108.953	112.918	0.00012779	0	0
41	108.97	112.927	-0.000212323	0	0
42	108.986	112.937	-0.000586337	0	0
43	109.002	112.947	-0.000994779	0	0
44	109.019	112.956	-0.00139922	0	0
45	109.035	112.966	-0.00177127	0	0
46	109.051	112.976	-0.00210432	0	0
47	109.068	112.985	-0.00239175	0	0
48	109.084	112.995	-0.00262694	0	0
49	109.1	113.005	-0.00280324	0	0
50	109.117	113.014	-0.00291402	0	0
51	109.133	113.024	0	0	0

B-B' Post Development - Static - No Cohes

Global Minimum Query (bishop simplified) - Safety Factor: 1.18869

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	108.317	112.545	0	0	0
2	108.334	112.554	8.82274e-06	0	0
3	108.35	112.564	3.42274e-05	0	0
4	108.366	112.573	7.47801e-05	0	0
5	108.382	112.583	0.000129054	0	0
6	108.399	112.592	0.00019563	0	0
7	108.415	112.602	0.000273096	0	0
8	108.431	112.611	0.000360046	0	0
9	108.448	112.621	0.000455084	0	0
10	108.464	112.63	0.000556819	0	0
11	108.48	112.64	0.000663868	0	0
12	108.497	112.649	0.000774856	0	0
13	108.513	112.659	0.000888414	0	0
14	108.529	112.668	0.00100318	0	0
15	108.546	112.678	0.0011178	0	0
16	108.562	112.687	0.00123094	0	0
17	108.578	112.697	0.00134124	0	0
18	108.595	112.706	0.00144738	0	0
19	108.611	112.716	0.00154804	0	0
20	108.627	112.725	0.00164189	0	0
21	108.643	112.735	0.00172763	0	0
22	108.66	112.745	0.00180396	0	0
23	108.676	112.754	0.00186958	0	0
24	108.692	112.764	0.0019232	0	0
25	108.709	112.773	0.00196354	0	0
26	108.725	112.783	0.00198934	0	0
27	108.741	112.792	0.00199932	0	0
28	108.758	112.802	0.00199223	0	0
29	108.774	112.812	0.00196682	0	0
30	108.79	112.821	0.00192184	0	0
31	108.807	112.831	0.00185606	0	0
32	108.823	112.84	0.00176825	0	0
33	108.839	112.85	0.00165719	0	0
34	108.856	112.86	0.00152166	0	0
35	108.872	112.869	0.00136047	0	0
36	108.888	112.879	0.00117241	0	0
37	108.904	112.889	0.000956293	0	0
38	108.921	112.898	0.000710933	0	0
39	108.937	112.908	0.000435154	0	0
40	108.953	112.918	0.00012779	0	0
41	108.97	112.927	-0.000212323	0	0
42	108.986	112.937	-0.000586337	0	0
43	109.002	112.947	-0.000994779	0	0
44	109.019	112.956	-0.00139922	0	0
45	109.035	112.966	-0.00177127	0	0
46	109.051	112.976	-0.00210432	0	0
47	109.068	112.985	-0.00239175	0	0
48	109.084	112.995	-0.00262694	0	0
49	109.1	113.005	-0.00280324	0	0
50	109.117	113.014	-0.00291402	0	0
51	109.133	113.024	0	0	0

B-B' Post Development - Pseudostatic

Global Minimum Query (bishop simplified) - Safety Factor: 0.615955

Slice Number	X coordinate [ft]	Y coordinate - Bottom [ft]	Interslice Normal Force [lbs]	Interslice Shear Force [lbs]	Interslice Force Angle [deg]
1	108.317	112.545	0	0	0
2	108.334	112.554	3.5469e-06	0	0
3	108.35	112.564	1.30296e-05	0	0
4	108.366	112.573	2.6902e-05	0	0
5	108.382	112.583	4.36263e-05	0	0
6	108.399	112.592	6.16734e-05	0	0
7	108.415	112.602	7.95225e-05	0	0
8	108.431	112.611	9.56613e-05	0	0
9	108.448	112.621	0.000108586	0	0
10	108.464	112.63	0.000116801	0	0
11	108.48	112.64	0.00011882	0	0
12	108.497	112.649	0.000113163	0	0
13	108.513	112.659	9.83623e-05	0	0
14	108.529	112.668	7.29549e-05	0	0
15	108.546	112.678	3.54883e-05	0	0
16	108.562	112.687	-1.54822e-05	0	0
17	108.578	112.697	-8.13925e-05	0	0
18	108.595	112.706	-0.00016367	0	0
19	108.611	112.716	-0.000263734	0	0
20	108.627	112.725	-0.000382994	0	0
21	108.643	112.735	-0.000522854	0	0
22	108.66	112.745	-0.000684706	0	0
23	108.676	112.754	-0.000869934	0	0
24	108.692	112.764	-0.00107992	0	0
25	108.709	112.773	-0.00131602	0	0
26	108.725	112.783	-0.00157961	0	0
27	108.741	112.792	-0.00187202	0	0
28	108.758	112.802	-0.00219461	0	0
29	108.774	112.812	-0.00254871	0	0
30	108.79	112.821	-0.00293564	0	0
31	108.807	112.831	-0.00335673	0	0
32	108.823	112.84	-0.00381327	0	0
33	108.839	112.85	-0.00430656	0	0
34	108.856	112.86	-0.00483791	0	0
35	108.872	112.869	-0.00540859	0	0
36	108.888	112.879	-0.00601987	0	0
37	108.904	112.889	-0.00667302	0	0
38	108.921	112.898	-0.0073693	0	0
39	108.937	112.908	-0.00810995	0	0
40	108.953	112.918	-0.00889622	0	0
41	108.97	112.927	-0.00972933	0	0
42	108.986	112.937	-0.0106105	0	0
43	109.002	112.947	-0.0115396	0	0
44	109.019	112.956	-0.0124306	0	0
45	109.035	112.966	-0.0132268	0	0
46	109.051	112.976	-0.0139207	0	0
47	109.068	112.985	-0.014505	0	0
48	109.084	112.995	-0.0149724	0	0
49	109.1	113.005	-0.0153154	0	0
50	109.117	113.014	-0.0155268	0	0
51	109.133	113.024	0	0	0

Discharge Sections

Entity Information

A-A' Existing

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 80 132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 106, 112 96.1, 110 96, 108 82, 108 82, 106 54, 106 44, 104 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5
Material Boundary	0, 95 132, 104.5
Material Boundary	0, 92.5 132, 102
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 97 132, 106.5	Assigned to: MD SM L SM/SP-SM MD Intbd S SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd S SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM - Nc Cohes L SM/SP-SM No Cohes MD Intbd S SM, SM, ML No Cohes L SM - No Cohes MD-D Intbd SM, ML - Nc Cohes	Assigned to: MD SM L SM/SP-SM MD Intbd SI SM, SM, ML L SM MD-D Intbd SM, ML
Distributed Load	55.5, 106 54, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	82, 106 80.5, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	80.5, 106 55.5, 106	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

A-A' During Const

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 80 132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 124.774, 116.242 102.464, 102.404 97.664, 99.369 95, 97.5 69.319, 97.5 58, 97.5 55.851, 99 51.25, 102 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5
Material Boundary	0, 95 55.851, 99
Material Boundary	0, 92.5 69.319, 97.5
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96
Material Boundary	97.664, 99.369 132, 102
Material Boundary	102.464, 102.404 132, 104.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static
Water Table	0, 95 27.7895, 97 115.5, 97 115.5, 105.813 132, 107	Assigned to: MD SM L SM/SP-SM MD Intbd SP-SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd SP-SM, SM, ML L SM MD-D Intbd SM, ML

A-A' Post-Development

Shared Entities

Type	Coordinates (x,y)
External Boundary	132, 80 132, 96 132, 99 132, 102 132, 104.5 132, 118 121.5, 115.5 116, 114 105, 108 94.25, 108 93.75, 108 93.75, 97.5 69.4737, 97.5 59.25, 97.5 59.25, 102 58.75, 102 55.242, 102 32, 102 27, 100 6, 98 0, 98 0, 95 0, 92.5 0, 90 0, 86.5 0, 80
Material Boundary	0, 90 132, 99
Material Boundary	0, 86.5 132, 96
Material Boundary	0, 95 57.7641, 99.1573
Material Boundary	95.6122, 99.3812 132, 102
Material Boundary	100.152, 102.208 132, 104.5
Material Boundary	0, 92.5 69.4737, 97.5
Material Boundary	93.75, 97.5 94.25, 97.5 94.25, 108
Material Boundary	58.75, 102 58.75, 97.5 59.25, 97.5
Material Boundary	94.25, 97.5 95.6122, 99.3812 100.152, 102.208 105, 108
Material Boundary	55.242, 102 57.7641, 99.1573 58.75, 97.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95 27.7895, 97 115.5, 97 115.5, 105.813 132, 107	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML	Assigned to: MD SM - No Cohes L SM/SP-SM No Cohes MD Intbd SM, SM, ML No Cohes L SM - No Cohes MD-D Intbd SM, ML - No Cohes	Assigned to: MD SM L SM/SP-SM MD Intbd SM, SM, ML L SM MD-D Intbd SM, ML
Distributed Load	60.75, 97.5 59.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	93.75, 97.5 92.25, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	92.25, 97.5 69.4737, 97.5 60.75, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

B-B' Existing

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 109, 113 106, 112 62, 105.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 134, 107.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95.5 134, 111.5	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML	Assigned to: MD Intbd S SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML	Assigned to: MD Intbd S SM, SM, ML No Cohes MD ML - No Cohes L Intbd SP-S SM, ML - No Cohes L Intbd SM, - No Cohes Vd Intbd SI ML - No Col D ML - No Cohes	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SI ML D ML

B-B' During Const

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 103.017, 103.569 94, 97.5 55.1765, 97.5 55, 97.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 55.1765, 97.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91
Material Boundary	103.017, 103.569 134, 107.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static
Water Table	0, 95.5 115, 97 115, 109.09 134, 111.5	Assigned to: MD Intbd SP-SM, SM, ML MD ML L Intbd SP-SM, SM, ML L Intbd SM, ML VD Intbd SM, ML D ML	Assigned to: MD Intbd SP-SM, SM, ML MD ML L Intbd SP-SM, SM, ML L Intbd SM, ML VD Intbd SM, ML D ML

B-B' Post Development

Shared Entities

Type	Coordinates (x,y)
External Boundary	0, 70 134, 70 134, 91 134, 96 134, 99.5 134, 102 134, 107.5 134, 111.5 134, 118 120, 115 109, 113 106, 111 92, 111 91.5, 111 91.5, 97.5 57.5, 97.5 57.5, 103.5 57, 103.5 46, 103.5 32, 102 26, 100 0, 100 0, 95.5 0, 90.5 0, 86 0, 83.5 0, 80.5 0, 75.5
Material Boundary	0, 90.5 55.1765, 97.5
Material Boundary	0, 86 134, 102
Material Boundary	0, 83.5 134, 99.5
Material Boundary	0, 80.5 134, 96
Material Boundary	0, 75.5 134, 91
Material Boundary	103.017, 103.569 134, 107.5
Material Boundary	91.5, 97.5 92, 97.5 92, 111
Material Boundary	92, 97.5 94, 97.5 103.017, 103.569 120, 115
Material Boundary	46, 103.5 55.1765, 97.5 57, 97.5 57.5, 97.5
Material Boundary	57, 97.5 57, 103.5

Scenario-based Entities

Type	Coordinates (x,y)	Master Scenario	Static	Static - No Cohes	Pseudostatic
Water Table	0, 95.5 115, 97 115, 109.09 134, 111.5	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML	Assigned to: MD Intbd S SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML	Assigned to: MD ML - No Cohes L Intbd SP-S SM, ML - No Cohes L Intbd SM, - No Cohes Vd Intbd SM ML - No Col D ML - No Cohes	Assigned to: MD Intbd SI SM, SM, ML MD ML L Intbd SP-S SM, ML L Intbd SM, VD Intbd SM ML D ML
Distributed Load	59, 97.5 57.5, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	91.5, 97.5 90, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 2000 lbs/ft2Creates Excess Pore Pressure: No
Distributed Load	90, 97.5 59, 97.5	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No	Constant DistributionOrientation: Normal to boundaryMagnitude: 400 lbs/ft2Creates Excess Pore Pressure: No

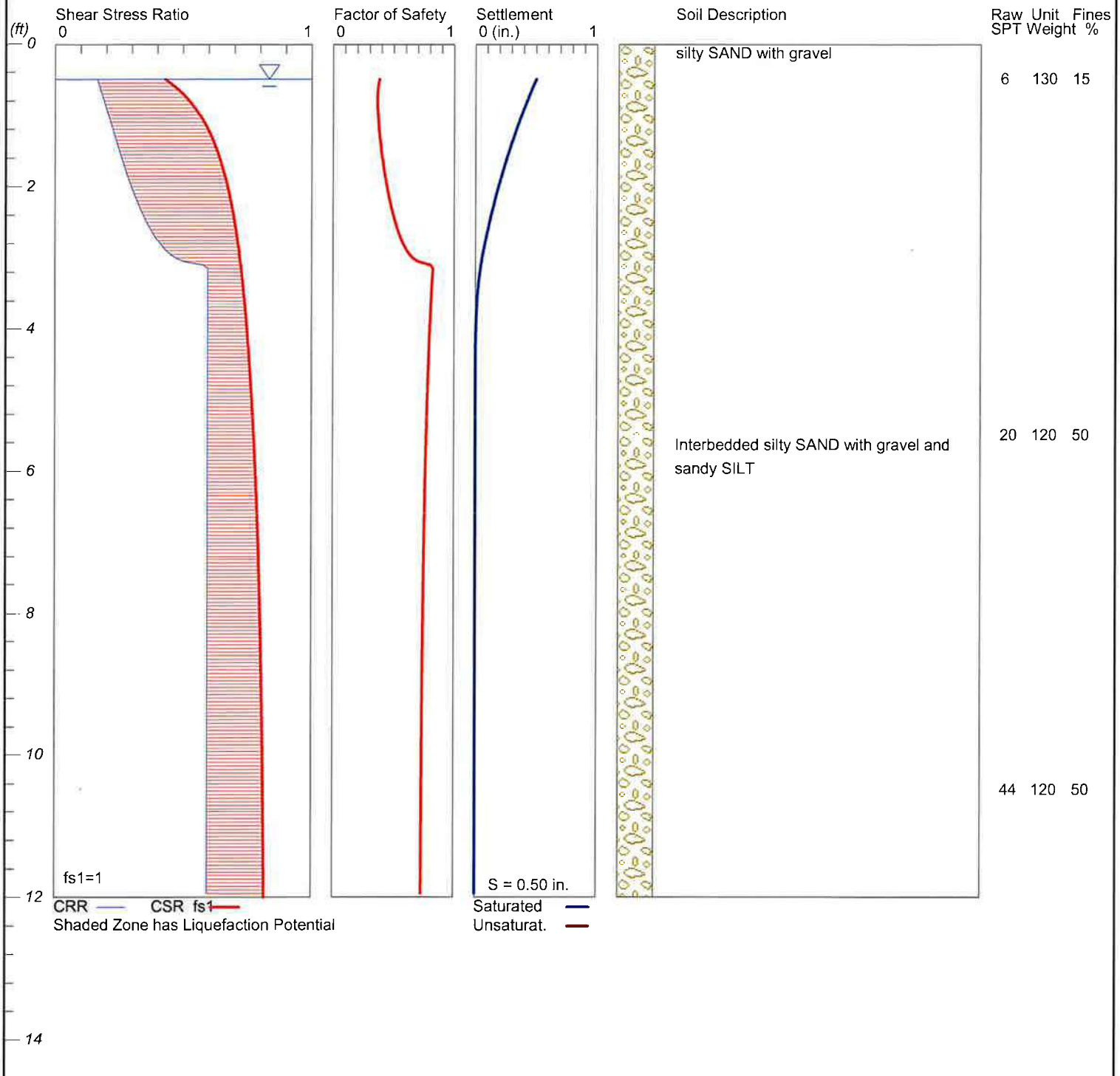
APPENDIX C
LIQUEFACTION ANALYSES

LIQUEFACTION ANALYSIS

3036 - 67th Ave SE

Hole No.=B-1 Water Depth=0.5 ft Surface Elev.=97.5

Magnitude=7
Acceleration=0.662g



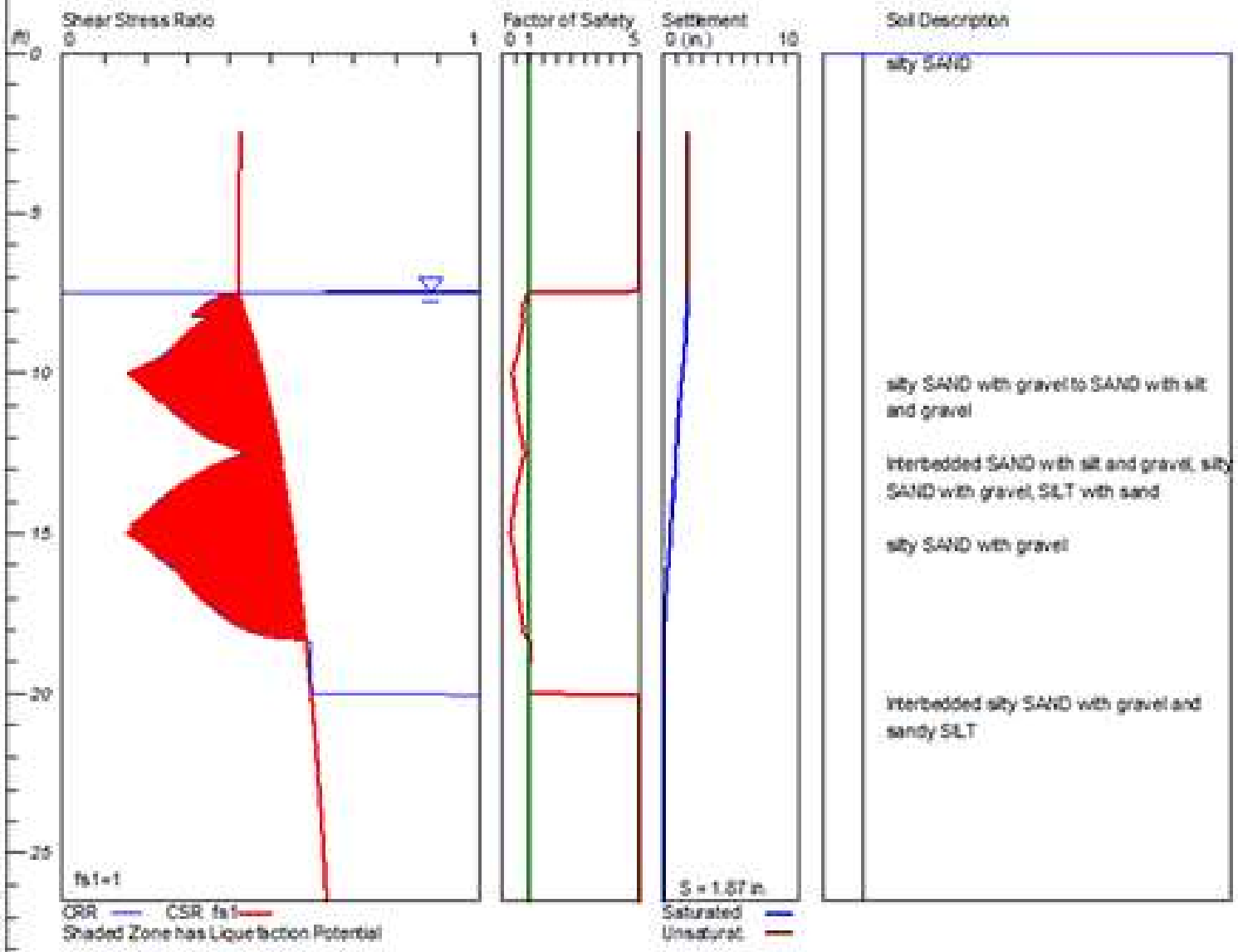
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

3036 - 67th Ave SE

Hole No.=B-1 Water Depth=7.5 ft Surface Elev.=112

Magnitude=7
Acceleration=0.662g



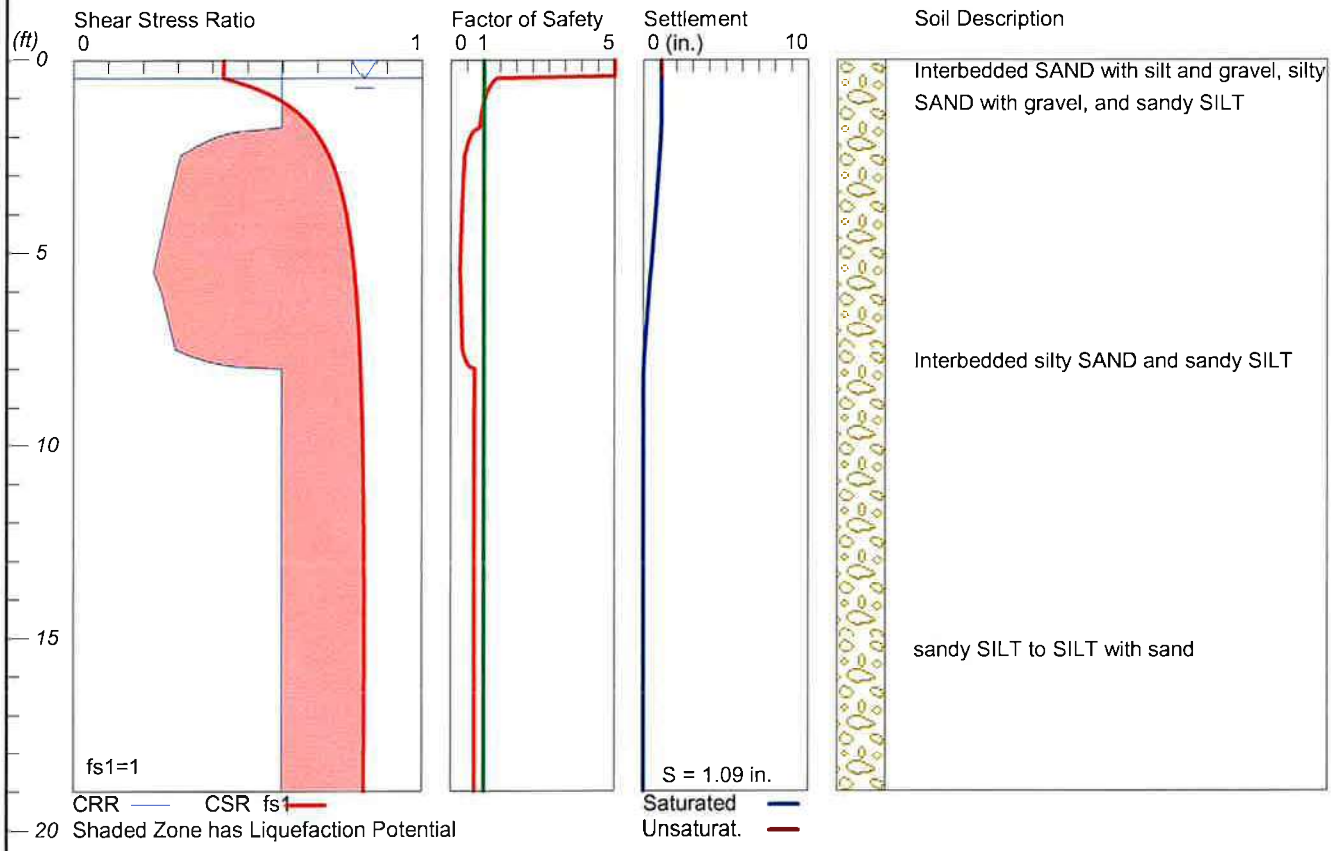
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

3036 - 67th Ave SE

Hole No.=B-2 Water Depth=0.5 ft Surface Elev.=97.5

Magnitude=7
Acceleration=0.662g



Raw SPT	Unit Weight	Fines %
23	120	30
10	120	30
7	120	30
9	120	50
50	120	50
38	120	60

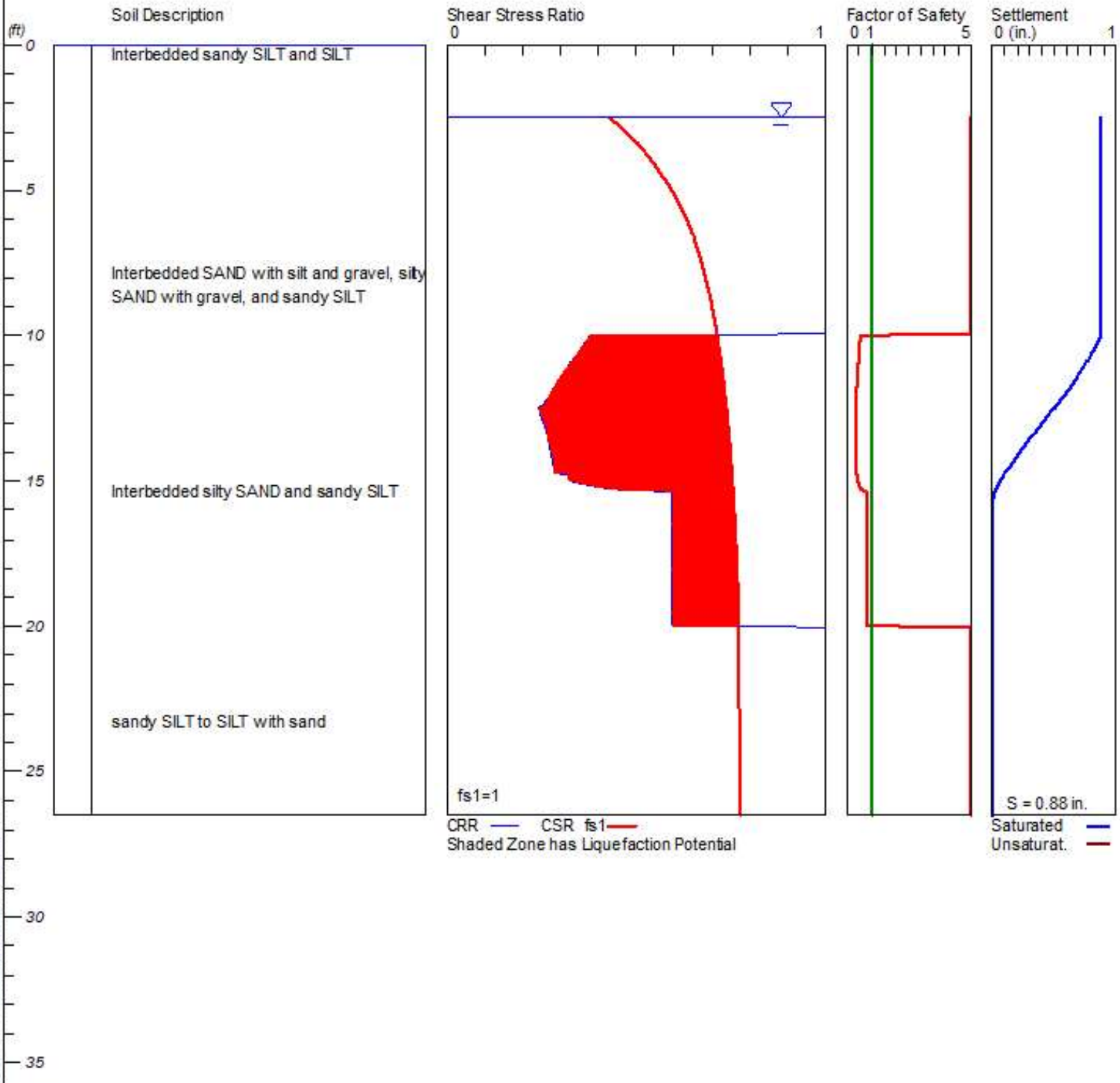
LiquefyPro CivilTech Software USA www.civiltech.com

LIQUEFACTION ANALYSIS

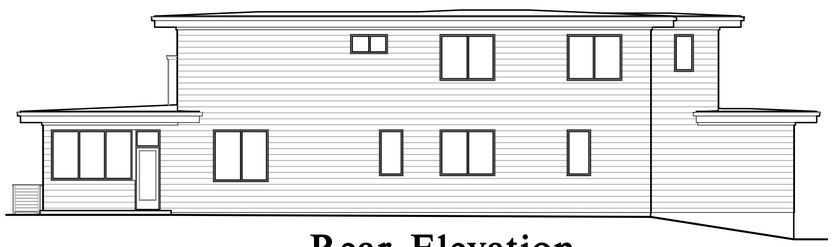
3036 - 67th Ave SE

Hole No.=B-2 Water Depth=2.5 ft Surface Elev.=105

Magnitude=7
Acceleration=0.662g



LiquefyPro CivilTech Software USA www.civiltech.com



Rear Elevation



Side Elevation



Side Elevation

DRAWING INDEX

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TP-02 TESC NOTES & DETAILS
TR-01 TREE RETENTION PLAN
SP-01 SITE PLAN
TG-01 TEMPORARY GRADING PLAN
DT-01 SITE DETAILS SURVEY
A2. LOWER FLOOR PLAN
A3. MAIN FLOOR PLAN
A4. UPPER FLOOR PLAN
A5. ROOF PLAN
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A7. ELEVATIONS/ENERGY
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S-0.0 STRUCTURAL NOTES
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SD-2 STRUCTURAL DETAILS
SD-3 STRUCTURAL DETAILS
SD-4 STRUCTURAL DETAILS



SQUARE FOOTAGE

MAIN FLOOR	2447 SF
UPPER FLOOR	1327 SF
LOWER	1312 SF
TOTAL	5086 SF
GARAGE	897 SF
PORCH/DECK	1409 SF

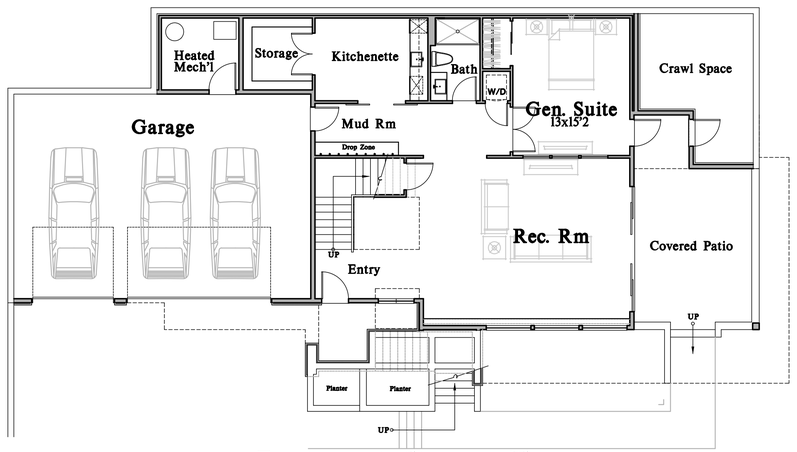
Buchan Homes

Westview Plan

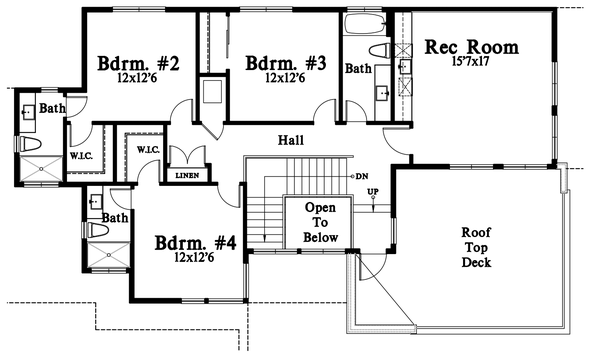
Permit no. 2210-120

3036 67th Ave SE Mercer Island , WA

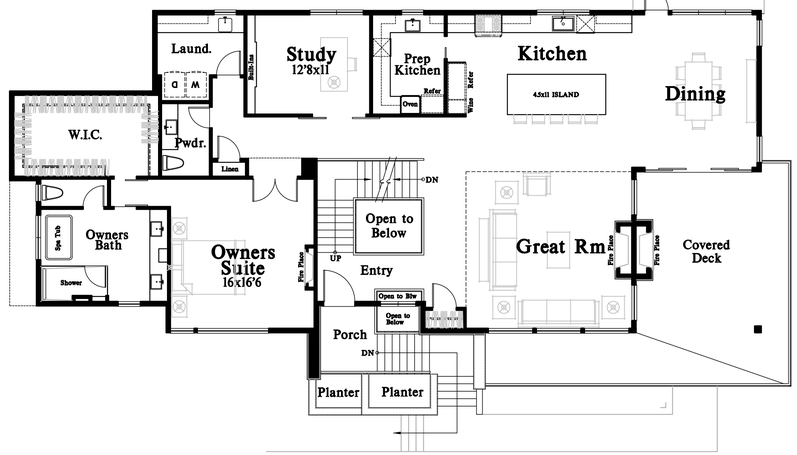
NFPA 13D FIRE SPRINKLER SYSTEM TO BE INSTALLED
NFPA "CHAPTER 29" FIRE ALARM SYSTEM REQUIRED



Lower Floor Plan



Upper Floor Plan



Main Floor Plan

REGISTERED ARCHITECT
RR79
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

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TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET

COVER SHEET

Division 1
GENERAL REQUIREMENTS

Ø1000 GENERAL

1. This coversheet has been prepared in a generic outline form following the standards set by the Construction Standards Institute (CSI). It is for the convenience of the Contractor/Owner. This outline is intended to work with a material selection list following the (CSI) format. Not all items are necessarily required to complete this specific project. Coordinate with Contractor/Owner for complete listing of specifications. Within this coversheet it will state, 'Coordinate with materials finish selection schedule'.

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6. Due to the nature of construction and the building process there will be bidder design and Contractor/Owner selection of the building products, components, and assemblies. This set of working drawings is considered a 'builder set' and does not include specifications or building materials list. Therefore it is the Contractor/Owners responsibility to provide and coordinate specifications, including product selection and installation or assembly. ARCHITECTURAL INNOVATIONS P.S. assumes no liability or responsibility for discrepancies or conflicts which occur through Contractor/Owner specified materials and their respective installation. ARCHITECTURAL INNOVATIONS P.S. assumes no liability or responsibility for any items, which may be called out or referred to by manufacturer as brand name. Items called out are done so for convenience only.

7. Do not scale these drawings for critical dimensions. Verify all dimensions and datum's before commencing work and be responsible for their accuracy. Report discrepancies and/or omissions to the architect immediately.

8. The Contractor/Owner is responsible for coordinating work with all trades to ensure proper and adequate interface of all trade works. The contractor shall be responsible for all required safety precautions and procedures required to do this work.

9. Except as specifically defined otherwise, interpretation for all definitions, abbreviations, and supplemental definitions shall follow accepted referenced standards.

10. All work within this contract shall represent that of industry standards for the respective trades in the location in which the project is built.

All references to I.R.C, I.B.C, and W.S.E.C are references to the 2018 code updates & WA state Amendments.

Ø1001 MISCELLANEOUS ASSEMBLY REQUIREMENTS

1. Provide crawl space access, minimum 18" x 24" unobstructed access through the floor, 16" x 24" through perimeter walls and below grade access, per I.R.C. section R408.4. Insulate and weather-strip per W.S.E.C R402.2.4. Allow 18" minimum space under wood joists and 12" minimum space under wood girders.
2. Provide attic access, minimum 22" x 30" with 30" minimum headroom, at unobstructed readily accessible opening per I.R.C. section R807.1. Insulate and weather-strip per W.S.E.C R402.2.4. requirements.
3. Provide ventilation per I.R.C. as follows:
   A) Crawl space ventilation: Minimum net area shall be not less than 1 s.f. per 300 s.f. under floor area. Required openings shall be evenly placed to provide cross ventilation of the space except one side of the building shall be permitted to have no ventilation openings per section R408.2.
   B) Attic ventilation: Minimum net area shall be not less than 1 s.f. per 150 s.f. of attic area or 1 s.f. per 300 s.f. of attic area if at least 40 percent, and not more than 50 percent, of the required ventilating area is provided by ventilators located in the upper portion of the space to be ventilated, and is no more than 3 feet below the ridge or highest point of the space. The balance of required ventilation to be provided by eave or cornice vents per I.R.C. section R806.2 and W.S.E.C. requirements.
4. Slope all decks, walks, driveways, exterior door landings, and patios away from building. Minimum 1/4" per foot.
5. Provide approved numbers or addresses in such a position as to be plainly visible and legible from the street or road fronting the property per I.R.C. section R319.1.
6. Garage/House separation:
   A) Garage ceilings separating attic spaces shall be protected with 1/2" GWB. When garages are beneath habitable rooms, the ceilings shall be covered with 5/8" type 'x' GWB on the garage side. Where the separation is a floor/ceiling assembly, the structure shall be protected with 1/2" GWB, per I.R.C. table R302.6.
   B) Door between garage and house shall be a self closing solid wood core, honeycomb core steel, or 20-minute fire rated door having a minimum thickness of 1-3/8" per I.R.C. section R302.5.1.
   C) Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage sheet steel or other approved material and shall have not openings into the garage per I.R.C. R302.5.2.
   D) Garage floor shall slope to facilitate the movement of liquids to a drain or toward the main vehicle entry doorway.
7. Stair assembly:
   A) Minimum headroom height 6'-8" per I.R.C. section R311.7.2.
   B) Minimum stair tread depth 10" with a 36" minimum width, measured above handrail height. Maximum riser height 7-3/4" per I.R.C. sections R311.7.5
   C) Top of handrail shall be 34" minimum and 38" maximum above tread nosing and not less than 1-1/2" from the wall. Return rail ends to wall per I.R.C. section R311.7.8.
   D) Install fire blocking between stringers at the top and bottom of each run per I.R.C. section R302.11.
   E) Cover usable space under stairs with 1/2" GWB per I.R.C. section R302.7.
8. Laundry Chutes & Dumbwaiter Shafts - provide 5/8" type 'x' GWB or 26 gage sheet metal with lock joints on all openings to shaft surfaces shall be self closing solid core door 1-3/8".
9. Fireblocking shall be provided in wood-frame construction in the following locations:
   A) In concealed spaces of stud walls and partitions, including furred spaces and parallel rows of studs or staggered studs, as follows:
      1. Vertically at the ceiling and floor levels.
      2. Horizontally at intervals not exceeding 10 feet.
   B) At all interconnection between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
   C) In concealed spaces between stair stringers at the top and bottom of the run. Enclosed spaces under stairs shall comply with Section R302.7.
   D) At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with and approved material to resist the free passage of flame and products of combustion.
   E) For the fireblocking of chimneys and fireplaces, see Section R1003.19.
   F) Fireblocking of cornices of a two-family dwelling is required at the line of dwelling unit separation.
10. Fireblocking shall consist of the following materials per I.R.C. R302.11.
   A) 2" nominal lumber.
   B) Two thickness of 1" nominal lumber with broken lap joints.
   C) One thickness of 23/32" wood structural panels with joints backed by 23/32" wood structural panels.
   D) One thickness of 3/4" particleboard with joints backed by 3/4" particleboard.
   E) One 1/2" gypsum board.
   F) One 1/4" cement-based millboard.
   G) Batts or blankets of mineral wool or glass fiber or other approved materials installed in such a manner as to be securely retained in place.
11. Structural design criteria: These notes are provided for convenience only and do not imply that complete structural analysis has been done on this structure.
   A) Truss Loading: (U.N.O.)
      Top chord live load: 25psf
      Top chord dead load: 7psf
      (15 psf, if tile)
      Bottom chord live load: 10psf without storage
      20psf if limited storage
      30psf if sleeping room
      TOTAL LOAD: 42psf
      or 52psf
      or 67psf
   B) Roof live load: 25 psf (U.N.O.)
   C) Floor live load: 40 psf (U.N.O.) Deck Live Load 60 psf U.N.O.
   D) Stair and corridor live load: 40 psf
   E) Mechanical units: weights provided by manufacturer
   F) Wind: 110 mph (U.N.O.)
   G) Seismic Design Category: D(2) (U.N.O.)
   H) Allowable soil pressure: Unless a soils report by a qualified engineer is provided, all footings and foundations shall be on assumed 1500 psf bearing capacity unless otherwise noted on drawing.
   J) Equivalent fluid pressure 35 pcf. (U.N.O.)
   K) All footings to be located below the frost line depth 18" (U.N.O.)

Ø1002 MISCELLANEOUS ASSEMBLY REQUIREMENTS CONT.

12. Prefabricated Fireplaces and Solid Fuel Burning Appliances per I.M.C. and I.R.C. Chapter 10:
   A) Solid fuel burning appliances include airtight stoves, fireplace stoves, room heaters/fireplace stoves, factory built fireplaces, and fireplace inserts, and all shall comply with the provisions of I.M.C.
   B) Metal Chimneys shall be enclosed above the story in which the appliance served is located, in walls having one hour fire resistance rating, and with a space on all sides between chimney and enclosing walls sufficient for examination and repair for entire chimney. Walls shall be without openings per I.M.C.
   C) Provide fireblocking at chimney per I.R.C. section R302.11.
   D) Install metal fireplace with hearth and surrounds per manufacturers specifications.
   E) Prefabricated fireplaces, chimneys, and related components to bear U.L. or ICBO seal of approval and be installed per manufacturers requirements.
13. Fireblocking per I.R.C. section R302.11.

Ø1060 REGULATORY REQUIREMENTS

1. All construction shall conform to the 2018 International Residential Code (I.R.C.), 2018 International Building Code (I.B.C.), 2018 International Fire Code (I.F.C.), 2018 International Mechanical Code (I.M.C.) 2018 Uniform Plumbing Code (U.P.C.), 2018 Washington State Energy Code (W.S.E.C.) and be in accordance with all State Laws and Regulations and various codes imposed by jurisdictional requirements and local authorities.
2. Arrange inspections that are mandatory due to jurisdictional requirements.

Ø1500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1. Provide Temporary Facilities - including electricity, water, and temporary toilet, per jurisdictional requirements.
2. Provide Contemporary Controls - including erosion sediment and surface water control and entrapment during construction per jurisdictional requirements.

END DIVISION 1

Division 2
SITE WORK

Ø7100 EARTHWORK

Part 3 - Execution
1. Rough grading: 4" below finish grading unless otherwise specified.
2. Finish grading: Landscaping division Ø7300.
3. Excavation, backfilling, and compacting for structures as needed.
4. Excavation, backfilling, and compacting for pavement as needed.
5. Hauling and disposal of excavated material as needed.
6. Importing of material as needed.
7. Rock removal as needed.

Ø7500 PAVING AND SURFACING

Part 2 - Product
1. Walk, road, and parking paving:
   A. Asphalt 2", class B, over 3" crushed rock or 2" ATB.
   B. Crushed rock 5/8" minus.
   C. Concrete per Division 3:
      1. Finish and color:
         Coordinate with materials finish selection schedule.
2. Unit Pavers: 1. Coordinate with materials finish selection schedule.
3. Pavement marking: 1. Coordinate with materials finish selection schedule.

Ø7300 SEWAGE AND DRAINAGE

Part 2 - Product
1. Subdrainage systems:
   A. Foundation drainage 4" SDR 35 or sched. 40 rigid PVC perforated pipe embedded in pea gravel or clean crushed rock and wrapped in filter fabric.
2. Storm sewage systems:
   A. Exterior catch basins, grates, and frames:
      1. Coordinate with materials finish selection schedule.
   B. Culverts:
      1. Coordinate with materials finish selection schedule.
   C. Drain pipe: 4" ADS non-perforated tight line.
3. Sanitary sewage systems:
   A. Sewage collection lines 8" PVC unless cast iron is noted.
   B. Septic system: Per drawings of bidders designer.

Part 3 - Execution
1. Subdrainage system:
   A. Slope to drain and surround in well draining material per details.
2. Surface drainage per I.R.C. section R403.3.

Ø1800 SITE IMPROVEMENTS

Part 2 - Product
1. Irrigation system: Bidder design
   1. Coordinate with materials finish selection schedule.
2. Fences and gates:
   1. Coordinate with materials finish selection schedule.

Ø7300 LANDSCAPING

Part 2 - Product
Bidder Design

END DIVISION 2

Division 3
CONCRETE

Ø3100 CONCRETE FORMWORK

Part 3 - Execution
1. Formwork and bracing for structural cast-in place concrete shall be by subcontractor and meet the requirements of the drawings and industry standards.
2. All formwork shall be placed in such a manner as to allow cast-in place concrete to be placed on solid substrate and to allow structural support members to sit below the frost line.

Ø3200 CONCRETE REINFORCING

Part 2 - Product
1. Reinforcing steel: Deformed bar sizes and locations per plans and details. Grade 60, F_y = 60ksi per I.R.C. section R404.1.3.3.7.1. Unless otherwise noted per Engineer.
2. Welded wire fabric: at locations per plans and details: 6x6, W1.4xW1.4WF.

Part 3 - Execution
1. A minimum lap for all bars shall be 40 diameters taken from the smallest bar. Provide corner bars to match horizontal reinforcement. Minimum coverage per details and I.R.C. section R404.1.3.3.7.4.

Ø3150 CONCRETE ACCESSORIES

Part 2 - Product
1. Anchor bolts: 1/2"ø triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors), with a minimum 7" embedment, per I.R.C. section R403.1.6., unless otherwise noted per Engineer.
2. Washers: 3"x3"x1/4" sq. triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Anchors), plate washers per I.R.C. section R602.11.1. Unless otherwise noted per Engineer.

Part 3 - Execution
1. Anchor bolts at 6'-0" o.c. max. for one story & 4'-0" o.c. for buildings over two stories in height, 12" from corners and joints, with a minimum embedment of 7". Provide a minimum of (2) bolts per plate section per I.R.C. section R403.1.6.

Ø3300 CAST-IN-PLACE CONCRETE

Part 2 - Product
1. Structural concrete: Design f'c = 2500 psi min 5-1/2 sacks of cement per cubic yard of concrete and a maximum of 6.0 gallons of water per 94lb sack of cement at 28 days. Max slump is 4", segregation of materials to be prevented. Use f'c = 3000 psi concrete at 28 days with air entrainment only for concrete exposed to weather, in accordance with I.R.C. Table R402.2. Special inspection not required unless noted otherwise per Engineer.
2. Architectural concrete: for exposed aggregate finish (washed), f'c = 3000 psi at 28 days, with 3/8" round aggregate.

Ø3300 CAST-IN-PLACE CONCRETE (cont.)

3. Admixtures:
   A. All concrete shall have water reducing admixtures except for footings.
   B. Air entrainment shall be 5-7% in all concrete exposed to weather, I.R.C. Table R402.2
   C. Coloring agent:
      1. Coordinate with materials finish selection schedule.

Part 3 - Execution

END DIVISION 3

Division 4
MASONRY

Ø4100 MORTAR

Part 2 - Product
1. Type 'M' or 'S' mortar with integral waterproofing agent per I.R.C. section R606.2.7.

Part 3 - Execution
1. Per I.R.C. section R606.2

Ø4150 MASONRY ACCESSORIES

Part 2 - Product
1. Anchors and Ties: To be corrosion-resistant metal ties per I.R.C. section R703.8.4.
2. Joint reinforcement: Standard strand no. 9 U.S. gage wire per I.R.C. section R703.8.
Part 3 - Execution
1. Per I.R.C. Chapter 7.

Ø4200 UNIT MASONRY

Part 2 - Product
1. Brick, veneer:
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   C. Pavers/planters: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
2. Concrete masonry units: grade N-1 CMU, unless otherwise indicated sizes per drawings.
   A. Special units:
      1. Coordinate with materials finish selection schedule (by others).
3. Glass masonry units: (glass block) Per I.R.C. section R609.
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Brick and Veneer:
   A. Brick veneer shall be supported on footings, foundation, or other non-combustible supports. It shall have 15# felt backing and No. 9 gauge, non corrosive ties at 1 per each 2 s.f. of veneer. Provide 1" minimum air space between veneer and backing. Provide approved flashing at base of veneer with 3/16" min. round weepholes at 33" o.c. max., located immediately above the flashing, extending from the air space to the exterior. Veneer shall support no load other than its own weight and the vertical dead load of veneer above. Provide angle iron support at doors, windows, and other openings per R606.10.
2. Concrete unit: (CMU)
   A. Concrete masonry unit walls shall be constructed to conform to ASTM C90. It shall be laid up, reinforced, and anchored as shown on drawings.

Ø4400 STONE

Part 2 - Product
1. As shown on drawings.
   A. Exterior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).
   B. Interior locations: name/mfg:
      1. Coordinate with materials finish selection schedule (by others).

Part 3 Execution
1. Stone Veneer: Adhered per manufacturer's installation instructions and in accordance with I.R.C. R703.12.1
   A. On exterior stud walls, adhered masonry veneer shall be installed:
      1. Minimum of 4 inches above the earth.
      2. Minimum of 2 inches above paved areas, or
      3. Minimum of 1/2 inch above exterior walking surfaces which are supported by the same foundation that supports the exterior wall.
   B. Flashing at foundation:
      1. A corrosion-resistant screed or flashing of a minimum 0.019-inch or 26-gage galvanized or plastic with a minimum vertical attachment flange of 3½ inches shall be installed.

END DIVISION 4

DIVISION 5
METALS

Ø5050 METAL FASTENINGS

Part 2 - Product
1. Bolts: Use sizes and shapes per dwgs, or as needed for intended purposes. Bolts, nuts and cut washers in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galvanized steel (ASTM 153 for Anchors).

Ø5100 METAL FABRICATION

Part 2 - Product
1. Handrails and guardrails: Provide in sizes and locations as shown per dwg.

END DIVISION 5

Division 6
WOOD AND PLASTICS

Ø6100 ROUGH CARPENTRY

Part 2 - Product
1. Framing Lumber: Framing lumber shall be marked in conformance with the United States Dept. of Commerce, Standard Reference No. PS 20 (DOC PS 20) standards. All Kiln dried minimum 15%.
   A. Joist and rafters: (2x6 and larger) Hem-Fir #2 or better.
   B. Beams and stringers: (4x and larger) Doug-Fir #2 or better.
   C. Post and timbers: Doug-Fir #1.
   D. Studs, plates, and misc. light framing: Hem-Fir #2 or better.
   E. * | * Joists and Engineered beams: Per manufacturer.
   F. Glue laminated beam:
      1. Simple span: 24F - V4 DF/DF
      2. Continuous or cantilever: 24F - V8 DF/DF
   G. All outdoor lumber: Hem-Fir Standard or better.
   H. Plywood/oriented strand board (OSB): APA graded.
   I. Wall sheathing: see 'TYPICAL BUILDING MATERIALS' list on the dwgs.
   J. Floor sheathing: see 'TYPICAL BUILDING MATERIALS LIST'on the dwg.
   K. Other: As noted on drawings.
   L. All wood members in contact with exposed concrete to be pressure treated members.
2. Particle Board:
   A. Underlayment:
      1. Floors: 5/8" (U.N.O.)
      2. Sheet vinyl: 1/4" (U.N.O.) see division 9
      3. Cabinet surfaces 3/4" (U.N.O.)
3. Trusses:
   A. Prefabricated connector plate wood roof trusses shall be designed and stamped by the manufacturer in accordance with the 'design specification for metal plate connected wood trusses'. Design drawings and details to be available upon request.
      B. See 'Roof Framing Notes' on drawings.
      C. Roof design, layout, loading, and bracing shall be by manufacturer.
      D. Field alterations of truss must be designed by manufacturer.
4. Fasteners and adhesives: All nails shall be common wire of sizes for intended purpose per I.R.C. table R602.3(1). Attach timber joists to flush headers and beams with Simpson 'U' hanger series or equal to suit intended purpose. Simpson connectors at other locations as outlined per drawings. Bolt heads, nuts, and cut washers per Division 5. Connectors and fasteners in contact with treated wood to be triple zinc ZMAX (G185 per ASTM A653) hot dipped galv. steel (ASTM 153 for Fasteners), stainless steel, silicone bronze, or copper as required per dwgs.
5. Post to not footing connection. Provide pressure treated post and positive connection to footing per I.R.C. section 507.3.
6. All exposed glue laminated wood, if not protected by a roof or eave, must be preservative-treated.

Part 3 - Execution
1. The following will apply unless shown on drawings. All wood framing details shall be constructed to the minimum standards in the I.R.C. All framing shall conform to the requirements of Chapters 5,6, and 8 of the I.R.C. Minimum nailing shall conform to table R602.3(1) of the I.R.C. Height and spacing of studs shall conform to table R602.3(5) of the I.R.C.

Ø6200 FINISH CARPENTRY

Part 2 - Product
1. Cabinets:
   A. Coordinate with materials finish selection schedule (by others).
2. Millwork and casing:
   A. Coordinate with materials finish selection schedule (by others).
3. Paneling:
   A. Coordinate with materials finish selection schedule (by others).
4. Stair and handrail by:
   A. Coordinate with materials finish selection schedule (by others).
   B. See division Ø6100.2.1 misc. assembly requirements.
5. Bookcases and built-in shelves:
   A. Coordinate with materials finish selection schedule (by others).
6. Plastic laminate and solid surface material:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 6

Division 7
THERMAL AND MOISTURE PROTECTION

Ø7150 WATER PROOFING & DAMP PROOFING

Part 2 - Product
1. Per I.R.C. section R406.
Part 3 - Execution
1. Per I.R.C. section R406.2

Ø7160 VAPOR AND AIR RETARDER

Part 2 - Product
1. Ground cover: 6 mil polyethylene: black, with 12" minimum lap.
2. Building wrap: see the 'TYPICAL BUILDING MATERIALS' list on the drawings.

Part 3 - Execution
1. See Division 11, Energy Requirements.

Ø7100 INSULATION

Part 2 - Product
1. Fiberglass or mineral wood batts, blocon mineral wool, and extruded polystyrene:
   A. Walls: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
   B. Ceiling: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
   C. Floor: 1. See the 'TYPICAL BUILDING MATERIALS' list on the dwgs.
   D. Slab on Grade: R-10 (per WSEC Table R402.1.1)
2. Insulating Foam: A. Standard sealant foam.

Part 3 - Execution
1. See division 11: energy requirements
2. Provide insulation markers for blown-in or sprayed insulation every 300 sq ft. Markers shall face the attic access per IECC Sec 303.1.1)
3. Crawl Space/Cantilevered floors: Insulation shall be installed to maintain permanent contact with the underside of the sub-floor decking. Insulation supports shall be installed so spacing is no more than 24" on center. Cantilevered floor vents shall be placed below the lower surface of the floor insulation.

Ø7300 ROOFING MATERIAL

Part 2 - Product
1. Shingles and roofing tiles:
   A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings
2. Membrane roofing: A. 3-ply hot mopped.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 9 of the I.R.C.

Ø7460 SIDING MATERIAL

Part 2 - Product
1. Siding: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
2. Trim: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
3. Soffits: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
4. Other: A. See the 'TYPICAL BUILDING MATERIALS' list on the drawings.

Part 3 - Execution
1. Install per manufacturer's recommendation and Chapter 7 of the I.R.C.

Ø7600 FLASHING AND SHEET METAL

Part 2 - Product
1. Min. 26 Gauge galvanized, prefinished.

Part 3 - Execution
1. Install per Chapter 7 and 9 of the I.R.C.
   A) Flashing against a vertical sidewall shall be by the step-flashing method. The flashing shall be a minimum of 4" high and 4" wide. At the end of the vertical sidewall the step flashing shall be turned out in a manner that directs water away from the wall and onto the roof and/or gutter, Per I.R.C. R903.2.1

Ø7700 ROOFING SPECIALTIES

Part 2 - Product
1. Vents:
   A. Ridge vent: manufactured by:
      1. Coordinate with materials finish selection schedule (by others).
   B. Mushroom vent: manufactured by:
      1. Coordinate with materials finish selection schedule (by others).
2. Gutters:
   A. Continuous alum. precoated:
      1. Style: K profile
      2. Color: Match fascia
3. Downspouts:
   A. 2x3 rectangular aluminum precoated:
      1. Color: Match fascia & trim
   B. Tie to 1 drain system.

Ø7800 SKYLIGHTS

Part 2 - Product
1. Skylights to conform with I.R.C. section R308.6.
2. Manufacturer: A. Coordinate with materials finish selection schedule (by others).

Ø7900 SEALANTS AND CAULKING

Part 2 - Product
1. Caulking A. Styrene butadiene caulking (SBR) 1. Color: Match siding

END DIVISION 7

Division 8
DOORS AND WINDOWS

Ø8100 WOOD DOORS (Lower Level, Main Level, Upper Level)

Part 2 - Product
1. Panel wood doors: A. Coordinate with materials finish selection schedule (by others).
2. Flush wood doors: A. Coordinate with materials finish selection schedule (by others).
3. Stile and rail/store door): A. Coordinate w/materials finish selection schedule (by others).
4. Patio door: A. Coordinate with materials finish selection schedule (by others).
5. Other: A. Coordinate with materials finish selection schedule (by others).

Ø8300 SPECIALTY DOORS

Part 2 - Product
1. Sliding glass door:
   A. Coordinate with materials finish selection schedule (by others).
2. Garage door: (take/style) (see division 1450)
   A. Coordinate with materials finish selection schedule (by others).

Ø8600 WOOD/VINYL WINDOWS

Part 2 - Product
1. Note: Egress -
   A. Every sleeping room shall have at least one operable window with a net clear opening of 5.7 s.f. The net clear opening height shall be a minimum of 24", with a minimum net clear width of 20", and a finished sill height of not more than 44" above the floor, per I.R.C. section R310.
      B. Safety glaze per I.R.C. section R308.
      C. See plans for egress and operation.
2. Manufactured by:
   A. Color: 1. Coordinate with materials finish selection schedule (by others).
   B. Style: 1. Coordinate with materials finish selection schedule (by others).

Ø8700 HARDWARE

Part 2 - Product
1. Type: A. Coordinate with materials finish selection schedule (by others).
2. Weather Stripping: A. Coordinate with materials finish selection schedule (by others).
3. Thresholds: A. Coordinate with materials finish selection schedule (by others).

Ø8800 GLAZING

Part 2 - Product
1. Glass thickness to be determined by size and wind loading per I.R.C. section R308.
2. Safety glaze per I.R.C. section R308.
3. Mirrors to be silvered 1/4" float plate glass.

END DIVISION 8

Division 9
FINISHES

Ø9250 GYPSUM WALLBOARD

Part 2 - Product
1. Walls: See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
   A. Finish: 1. Coordinate with Contractor/Owner material selections.
2. Ceiling: See the 'TYPICAL BUILDING MATERIALS' list on the drawings.
   A. Finish: 1. Coordinate with materials finish selection schedule.
3. Wall and ceiling finishes shall have a flame spread index of not greater than 200, and a smoke-developed index of not greater than 450 per I.R.C. R302.9.
4. Code required areas:
   A. Type 'X' GWB as required.
      1. See division Ø1060 misc. assembly requirements.
   B. Waterproof GWB as req'd at wet or damp locations per I.R.C. section R702.4.2.
5. Wonderboard or durock at all tile locations (U.N.O.)
6. Metal corner bead profile:
   1. Coordinate with materials finish selection schedule.

Part 3 - Execution
1. Apply as required in I.R.C. Chapter 7 and Table R702.3.5). Nail or screw in place per table.

Ø9300 TILE

Part 2 - Product
1. Ceramic, quarry, and marble tiles:
   A. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. Refer to manufacturer's recommendations.

Ø9550 WOOD FLOORING

Part 2 - Products 1. Type:
   A. Coordinate with materials finish selection schedule (by others).

Ø9650 RESILIENT FLOORING

Part 2 - Products 1. Type:
   A. Coordinate with materials finish selection schedule (by others).

Ø9680 CARPETING

Part 2 - Products 1. Carpet and Pad:
   A. Coordinate with materials finish selection schedule (by others).

Ø9900 PAINTING

Part 2 - Products
1. Painting over prepared surface per manufacturer's recommendations
   A. Coordinate with materials finish selection schedule (by others).

Ø9950 WALL COVERINGS

Part 2 - Products
1. Type: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 9

Division 10
SPECIALTIES

Ø1000 LOUVERS AND VENTS

Part 2 - Products
1. Hardware cloth screen 1/4" x 1/4" on soffit vents as detailed.
2. Combine 2" perforated metal soffit vent as detailed.
3. Roof vent. (See Division Ø7100)
4. Other vents as noted per plans.

Ø1300 PREFABRICATED FIREPLACES

Part 2 - Products
1. Location/Model/Accessory:
   A. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. See division Ø1060.12 for misc. assembly requirements for fireplaces.

Ø1400 IDENTIFYING DEVICES

Part 2 - Products
1. Building numbers:
   A. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. Install in location per jurisdictional requirements.

Ø1800 TOILET AND BATH ACCESSORIES

Part 2 - Products
1. Toilet and bath accessories:
   A. Coordinate with materials finish selection schedule (by others).

Ø2400 WARDROBE AND CLOSET SPECIALTIES

Part 2 - Products
1. Storage Closet:
   A. Coordinate with materials finish selection schedule (by others).
2. Clothes Closets:
   A. Coordinate with materials finish selection schedule (by others).
3. Pantry.

END DIVISION 10

Division 11
EQUIPMENT

1610 MAINTENANCE EQUIPMENT

Part 2 - Products
1. Vacuum system:
   A. Coordinate with materials finish selection schedule (by others).

1450 RESIDENTIAL EQUIPMENT

Part 2 - Products
1. Garage door opener(s).
   A. Coordinate with materials finish selection schedule (by others).
2. Ironing board cabinet (or drawer):
   A. Coordinate with materials finish selection schedule (by others).
3. Free-standing appliances:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 11

Division 12
FURNISHINGS

2500 WINDOW TREATMENT

Part 2 - Products
1. Window treatment: A. Coordinate with materials finish selection schedule (by others).

END DIVISION 12

Division 13
SPECIAL CONSTRUCTION

1350 POOLS

Part 2 - Products 1. Bidder design

1356 HOT TUB

Part 2 - Products
1. By:
   A. Coordinate with materials finish selection schedule (by others).

END DIVISION 13

Division 14
CONVEYING SYSTEMS

1400 DUMBWAITER

Part 2 - Products
1. Dumbwaiter: A. Manufacturer/model number:
   1. Coordinate with materials finish selection schedule (by others).

END DIVISION 14

Division 15
MECHANICAL

1000 GENERAL

Part 1 - General
1. Mechanical system to be bidder design.
2. Regulatory requirements:
   A. Refer to Division 1 General Requirements.
   B. See plans for total maximum btu.
   C. Heating and cooling equipment shall be sized based on building loads calculated in accordance with ACCA manual J or other approved heating and cooling calculation methodologies. Per M1401.3
3. Contractor work out plumbing and HVAC diagram layout.
   A. Coordinate with other trades.

1400 PLUMBING

Part 2 - Product
1. Pipes and Fittings:
   A. Waste + soil: ABS plastic of sizes req'd for the intended purpose.
      1. Provide cast iron with compression neoprene joints per locations shown on the drawings.
      2. Provide clean-outs at bends.
   B. Vents: ABS
   C. Gas: Per code, verify location of appliances.
      1. Provide an approved earthquake shutoff valve installed in the building supply line immediately after the gas meter. The valve shall be located outside of the structure and be accessible.
   D. Water Line:
      1. Below Grade: 1 1/4" type K, with/hard solder
      2. Above Grade: Type L, w/soft solder
2. Plumbing equipment:
   A. Hot water heater: (Dual's in tandem)
      1. Size per U.P.C. 5th and Table 5@1) and jurisdictional amendments.
      2. Coordinate with owner's material selection (by others).
   B. Hose bib, frost proof type: Mansfield units
   C. Main shut-off valve in garage.
   D. Plumbing fixtures 1. Coordinate with owners material selection (by others).
3. Irrigation: (bidder design)
   A. Provide 1" connection in main line in garage by main shut-off valve with separate shut-off and drain valve.

1400 PLUMBING (cont.)
4. Automatic Sprinkler System: (bidder design)

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

1500 HVAC

Part 2 - Product
1. Forced Air:
   A. Furnace system:
      1. Coordinate with materials finish selection schedule (by others).
   B. Duct work and insulation:
      1. Coordinate with materials finish selection schedule (by others).
   C. Air cleaner:
      1. Coordinate with materials finish selection schedule (by others).
   D. Controls:
      1. Coordinate with materials finish selection schedule (by others).
   E. Registers with adjustable supply:
      1. Coordinate with materials finish selection schedule (by others).
   F. Provide firestopping at '15' vent location per I.R.C. sections R302.11.
2. Fans: see division 11 energy requirements.
3. See floor plans for ukote house requirements.
4. Vents:
   1. Coordinate with materials finish selection schedule (by others).
5. Exhaust Ducts:
   A. Terminate outside building and equip with backdraft dampers per I.R.C. section M1601.3.3.
6. Dryer Ducts:
   A. Clothe Dryers shall be exhausted in accordance with manufactures instructions & I.R.C. M1502.
   B. Protective shield plates shall be placed per I.R.C. M1502.5.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with industry standards. Refer to general requirements.

END DIVISION 15

Division 16
ELECTRICAL

1600 GENERAL

Part 1 - General
1. Electrical systems to be bidder designed.
2. Regulatory requirements: refer to Division 1 - General Requirements.
3. Contractor to provide electrical diagramming layouts, design circuitry. follow lighting plan if provided.
   A. Coordinate with other trades.

1620 POWER

Part 2 - Product
1. Wire and Boxes.
   A. Volts: 12 & 4 /3 Wire
      1. GFI = Damp Locations
   B. Low voltage: standard type
2. Panels: Circuit breaker box fully labeled
   A. Capacity Bidder Design
   B. Circuitry Bidder Design
3. Grounding:
   A. Provide (1) 2 1/2" schedule 80 PVC conduit at concrete stem wall for electrical service and (1) 5/8" diameter x 8'0" long galvanized rod (4 Ulter ground) for electrical grounding.
4. Smoke Detectors:
   A. Provide and install per I.R.C. section R314.
5. Fire alarm:
   A. Provide and install per N.E.C. and as required by governing fire marshal.

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements and I.R.C.

1620 COMMUNICATIONS

Part 2 - Product
1. Intrusion alarm and security detection systems:
   A. Coordinate with materials finish selection schedule (by others).
2. Phone system:
   A. Coordinate with materials finish selection schedule (by others).
3. Intercommunication systems:
   A. Coordinate with materials finish selection schedule (by others).
4. Stereo system:
   A. Coordinate with materials finish selection schedule (by others).

1650
LIGHTING

Part 2 - Product
1. Fixtures: 1. Coordinate with materials finish selection schedule (by others).
Note: A minimum of 90% of all luminaries shall be high efficiency per W.S.E.C. R404.1.
2. Control: A. Switches: 1. Coordinate with materials finish selection schedule.
3. Dimmers: 1. Coordinate with materials finish selection schedule (by others).
4. Boxes: 1. Coordinate with materials finish selection schedule (by others).
5. Other: 1. Coordinate with materials finish selection schedule (by others).

Part 3 - Execution
1. The installer to design the system to appropriate jurisdictional requirements and function in a manner consistent with the industry standards. Refer to general requirements.

END DIVISION 16

Division 17
ENERGY REQUIREMENTS

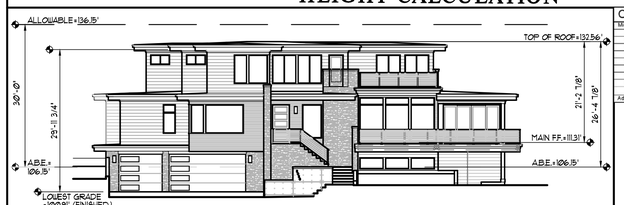
WASHINGTON STATE ENERGY CODE:
General Notes:
1. Per WSEC R402.4, The building Envelope shall be constructed to limit the air leakage rate not to exceed 5 air changes per hour. The results of the test shall be signed by the party conducting the test and provided to the code official (R402.4.1.2).
2. Per WSEC R403.1.1, at least one thermostat per dwelling unit shall be capable of controlling the heating and cooling system on a daily schedule.
3. Per WSEC R403.3.2, ducts, air handlers, and filter boxes shall be sealed.

REGISTERED ARCHITECT
RR79
STATE OF WASHINGTON
CHRISTOPHER R. KAPLER
ORIGINAL SIGNATURE REQUIRED

ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kaplerhomeplans.com

Date	By	Description
10/01/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/

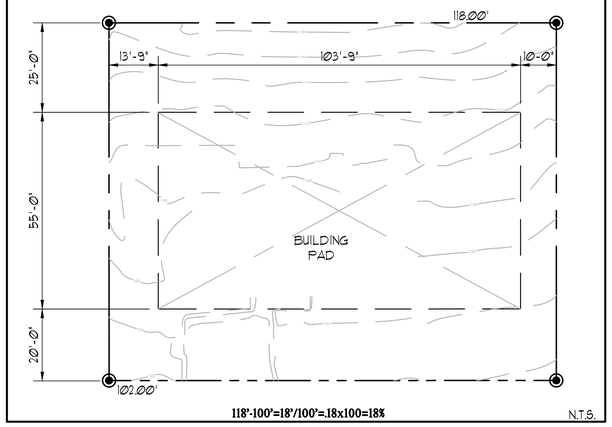
HEIGHT CALCULATION

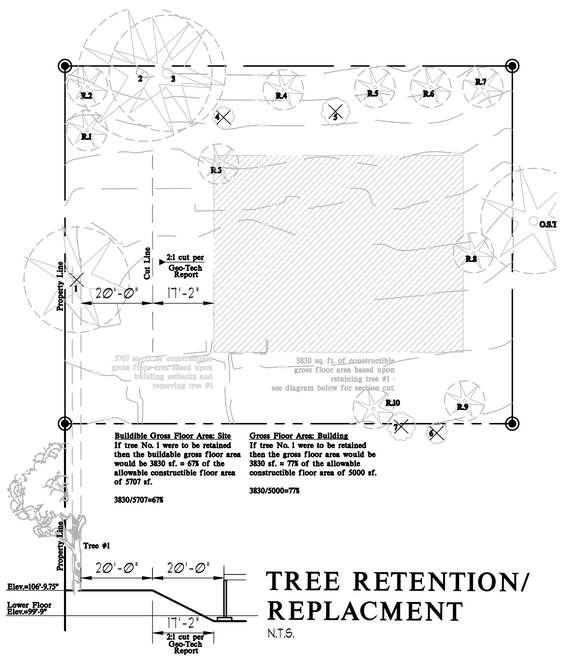


City of Mercer Island Avg. Grade Calculations

Midpoint	Datum Elevation	F or E	Wall Segment Length			
A	= 107.20	E	a =	24.00	A*a	= 2572.80
B	= 105.90	E	b =	16.00	B*b	= 1729.00
C	= 109.36	E	c =	9.00	C*c	= 984.24
D	= 110.90	E	d =	68.00	D*d	= 7480.00
E	= 107.80	E	e =	36.00	E*e	= 3880.80
F	= 104.71	F	f =	38.00	F*f	= 3979.98
G	= 99.00	F	g =	3.00	G*g	= 297.00
H	= 99.00	F	h =	46.00	H*h	= 4554.00
	845.07			240.00		25475.82
Address	3036 67st Ave SE			106.15		AVG. GRADE

LOT SLOPE CALCULATION





TREE RETENTION/ REPLACMENT

N.T.S.

TREE IDENTIFICATION

TAG	TREE/SPECIES	SIZE (DBH)	RETAINED
1.	CEDRUS DOEDORA, DEODAR CEDAR	35.4	NO
2.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	29"	YES
3.	PSEUDOTSUGA MENZIESII, DOUGLAS FIR	35"	YES
4.	APPLE SPECIES	9.2"	NO
5.	APPLE SPECIES	12.9"	NO
6.	PRUNUS, CHERRY	6.4"	NO
7.	PRUNUS, PLUM	10.5"	NO
O.S.T.	CEDRUS ATLANTICA, ATLAS CEDAR	est. 30"	YES

TOTAL DBH = 138.4"

TOTAL RETAINED = 100.4"/46%

NOTE: DBH DOES NOT INCLUDE OFF SITE TREE

- Tree protection fencing (TPF) shall consist of chain link fencing, or other fencing as may be required or approved by the City of Mercer Island, installed at the dripline radius of Tree #2 and Tree #3 and shall be staked into place, as required by the City. Plan Sheet A1.1 details the location of the Tree Protection Fencing.
- Signage shall be installed at intervals of 20' or less along the fence line declaring the fenced area as a "TREE PROTECTION ZONE - NO TOOLS, EQUIPMENT, OR CONSTRUCTION RELATED MATERIALS MAY BE PLACED WITHIN THE TREE PROTECTION ZONE". Signage shall be a minimum of 8.5" by 11.0" and shall be resistant to weather conditions.
- An ISA certified arborist shall verify the location of the fencing. The fencing shall be installed prior to any site clearing or grading and shall remain in place until the construction phase is completed.
- An ISA certified arborist shall be on-site for any excavation in the backyard area or anywhere near these protected trees.
- Any roots that are encountered and in need of removal shall be assessed by the Project Arborist. Severing of encountered roots shall be undertaken as detailed in ANSI Standard A300 (Part 8)-2013, Root Management.
- Any roots that are encountered and severed shall be covered with moist compost or mulch material as soon as is reasonable following the root exposure and severance.
- Protected trees shall be re-assessed after completion of the construction activity.
- The Ivy in Tree #2 and #3 should be removed, as much as possible.

REPLACEMENT TREE IDENT.

TAG	TREE/SPECIES	NATIVE
R.1	JAPANESE MAPLE	
R.2	WESTERN RED CEDAR	YES
R.3	VINE MAPLE	YES
R.4	VINE MAPLE	YES
R.5	VINE MAPLE	YES
R.6	VINE MAPLE	YES
R.7	VINE MAPLE	YES
R.8	NATIVE DOGWOOD, EDDIES WHITE WONDER	YES
R.9	RED MAPLE	NO
R.10	AMELANCHIER SERVICEBERRY	YES

9/10 NATIVE : 90% NATIVE

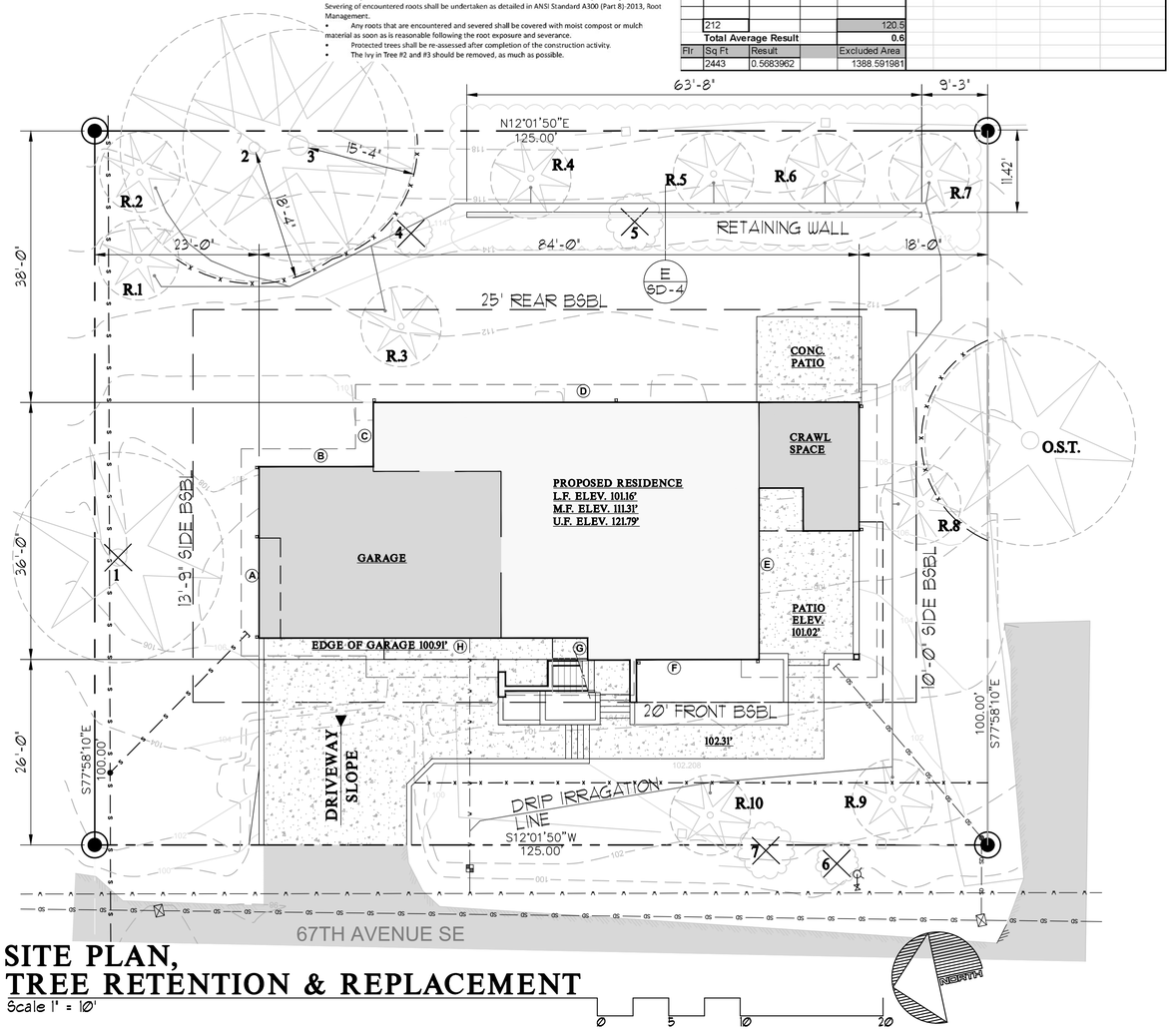
City of Mercer Island GFA Calculations

Lower Level Area Calculation

Wall	Length	Percentage	Finish or Existing	Result
A	24	77.0%	E/F	18.5
B	16	96.0%	F	15.4
C	9	100.0%	E/F	9.0
D	54	100.0%	E	54.0
E	36	26.0%	F	9.4
F	24	59.0%	E/F	14.2
G	3	0.0%	E/F	0.0
H	46	0.0%	F	0.0
	212			120.5
	Total Average Result			0.6

Flr	Sq Ft	Result	Excluded Area
	2443	0.5683962	1388.591981

Lot Size =	12,500 x 40% =	5,000 S.F.	
Main Floor	2548	(2504+44)	AREA >16'
Upper Floor	1333	(1407-74)	STAIRS
Lower Floor	1087	(2443-1356)	EXCLUDED
Total G.F.A.	4968 /39.7%		



SITE PLAN, TREE RETENTION & REPLACEMENT

Scale 1" = 10'

VICINITY MAP



SITE INFO

STREET ADDRESSES:
3036 67th AVE SE

PARCEL #:
2174501025

LEGAL DESCRIPTION:
EAST SEATTLE ADD LOTS 15 THRU 18 TGW SLY 5 FT OF LOT 19

PLAT BLOCK: 6

PLAT LOT: 15 THRU 19

ZONING

ZONING: R-8.4

SINGLE FAMILY RESIDENTIAL SETBACKS.
FRONT YARD - 20'-0"
REAR YARD - 25'
TOTAL SIDE YARD(S) - 17% OF 120'-0" = 20.4' COMBINED
INTERIOR SIDE YARD - 33% OF 20.4'= 6.73' MIN.

HEIGHT LIMIT
30' ABOVE AVERAGE BUILDING ELEVATION
35' DOWNHILL HIGHEST PLATE FROM EXISTING GRADE

LOT COVERAGE
35% MAX OF GROSS LOT AREA

G.F.A.
40% MAX. OF NET LOT AREA

SITE CALCULATIONS

LOT AREA
12,500 SF GROSS LOT AREA

G.F.A. CALCULATION
12,500 SF GROSS LOT AREA
x 40%
5,000 SF ALLOWABLE G.F.A.

2,548 SF MAIN FLOOR (see G.F.A. calculations below)
1,333 SF UPPER FLOOR (see G.F.A. calculations below)
1,087 SF LOWER FLOOR/GARAGE (see G.F.A. calculations below)
4,968 SF/39.7% TOTAL G.F.A.

LOT COVERAGE CALCULATION
12,500 SF GROSS LOT AREA
x 35%
4,375 SF ALLOWABLE LOT COVERAGE

3,023 SF STRUCTURE (including eaves)
344 SF COVERED PATIO/DECKS (including eaves)
666 SF DRIVEWAY (excluding portion under eaves)
4,033 SF/32% TOTAL LOT COVERAGE

HARDSCAPE SURFACE CALCULATION
12,500 SF GROSS LOT AREA
x .09%
1,125 SF ALLOWABLE HARDSCAPE COVERAGE

419 SF FRONT WALKWAY AND STEPS(excluding portion under deck)
139 SF REAR PATIO (excluding portion u/ eaves)
175 SF MAIN FLOOR DECK(excluding portion under eaves)
35 SF REAR RETAINING WALL
41 SF FRONT RETAINING WALLS
809 SF/6.5% TOTAL HARDSCAPE SURFACE AREA

LEGEND

- DESIGNATES WATER
- DESIGNATES SEWER
- DESIGNATES STORM
- DESIGNATES EXISTING GRADE
- DESIGNATES FINISHED GRADE
- DESIGNATES TREE DRIPLINE
- DESIGNATES TREE FENCING
- DESIGNATES EXISTING WOOD FENCE
- EXISTING FENCE TO BE REMOVED

DEMO EXISTING STRUCTURES AND HARDSCAPE

SEE ADDITIONAL STORM & UTILITY PLAN

REGISTERED ARCHITECT STATE OF WASHINGTON BRIAN KAPLER 22006 ORIGINAL SIGNATURE REQUIRED

Date	By	Description
9/26/22	REY	UPDATED SITE PLAN
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS
3/4/24	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
3036 67th AveSE Mercer Island , WA

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TITLE

JOB NO. : 21076.03
STARTING NO. : START

SHEET
A1.1

SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

3036 67TH AVE SE MERCER ISLAND SITE PLAN

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARING

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

VERTICAL DATUM & CONTROL INTERVAL

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

POINT ID NO. 47746;
ELEVATION: 112.571 FEET – NAVD 88

2.0' CONTOUR INTERVAL – THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.

SURVEY NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.
2. INSTRUMENTATION FOR THIS SURVEY WAS A 3–SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332–130–090.
3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN AUGUST 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.
4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS–BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.
5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

SITE DATA

HIGHEST ELEVATION OF LOT:	118.25	
LOWEST ELEVATION OF LOT:	98.66	
LOT SLOPE:	19.3%	
TOTAL SITE AREA:	12,500	SF
ALLOWED LOT COVERAGE:	40%	
PROPOSED LOT COVERAGE *	3,899	SF (31.2%)
PROPOSED HARDSCAPE	581	SF (4.6%)
PROJECT IMPERVIOUS AREA:	4,480	SF (35.8%)

* LOT COVERAGE INCLUDES THE COMBINATION OF BUILDINGS, INCLUDING EAVES AND ROOF OVERHANGS, AND VEHICULAR DRIVING SURFACES AS DEFINED PER MIMC 19.16.010

OWNER / ARCHITECT

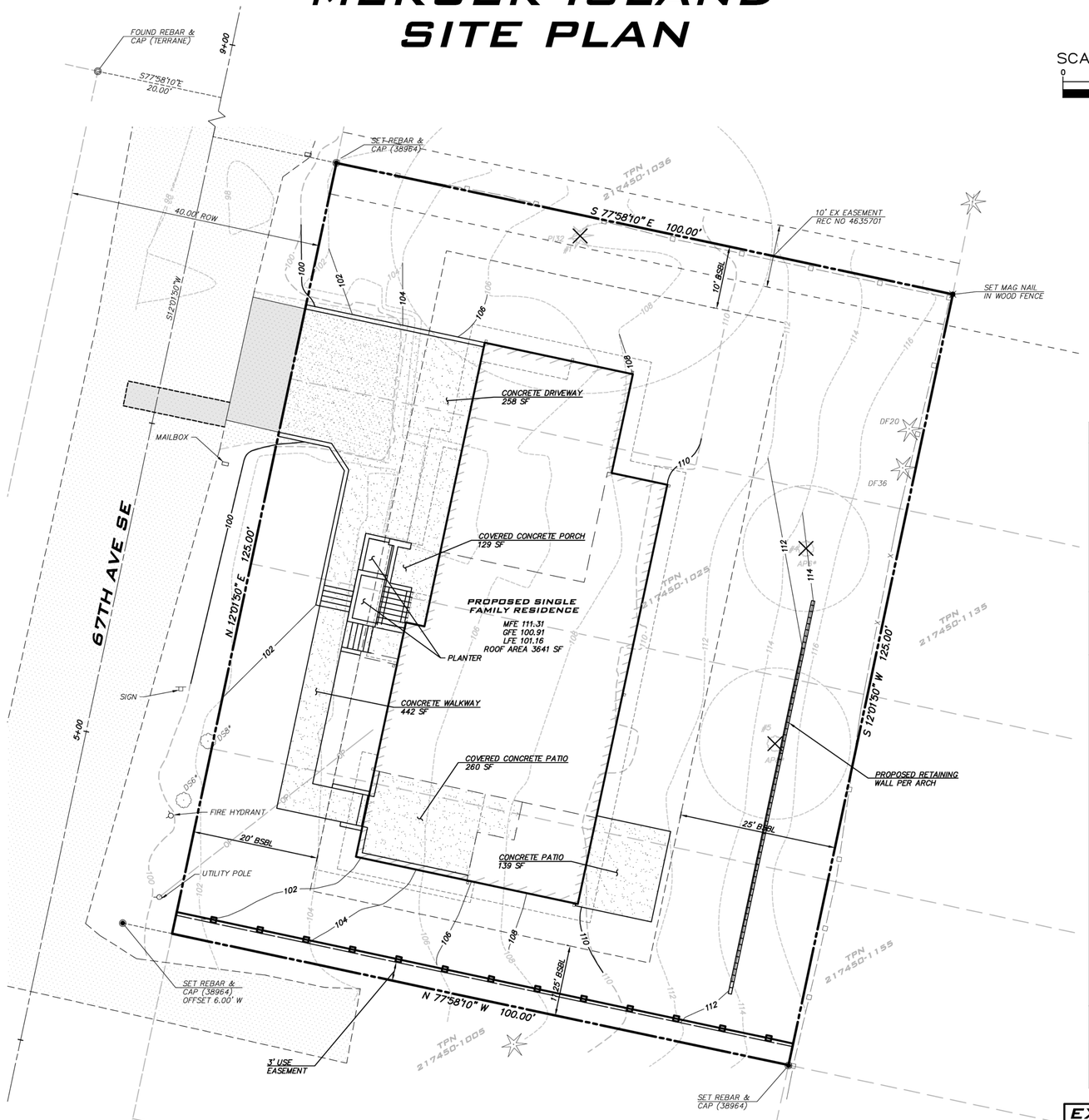
WILLIAM E. BUCHAN INC.
2630 116 AVE NE #100
BELLEVUE, WA 98004
(425) 831–5503
CONTACT: DAVID STAVE

ENGINEER

THE BLUELINE GROUP
25 CENTRAL WAY, SUITE 400
KIRKLAND, WA 98033
(425) 250–7262
CONTACT: YANNICK METS, PE

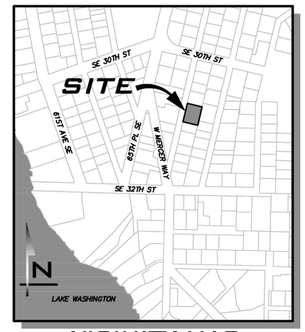
GEOTECH ENGINEER

TERRA ASSOCIATES, INC
12220 113TH AVE NE, SUITE 130
KIRKLAND, WA 98034
(425) 821–7777
CONTACT: CAROLYN S. DECKER, PE



N

SCALE: 1" = 10'
0 5 10 20



VICINITY MAP
NOT TO SCALE

LEGEND

PROPOSED FEATURES

- BOUNDARY
- RIGHT–OF–WAY
- LOT LINE
- SIDEWALK
- CENTER LINE
- SAWCUT
- BUILDING FOOTPRINT
- BUILDING OVERHANG
- BUILDING ROOFLINE
- BUILDING SETBACK (BSBL)
- 190 10' PROPOSED CONTOURS
- 192 2' PROPOSED CONTOURS
- MAILBOX
- ASPHALT PAVEMENT
- CONCRETE

PROPOSED STORM DRAINAGE

- STORM DRAIN PIPE
- ROOF & FOOTING DRAIN
- SWALE OR DITCH
- SURFACE FLOW
- TYPE I CB – STANDARD GRATE
- TYPE I CB – LOCKING LID
- STORM CLEANOUT
- YARD DRAIN

EXISTING FEATURES

- ADJACENT PLAT/PARCEL LINE
- ADJACENT RIGHT–OF–WAY
- CENTERLINE
- EASEMENT
- SURFACE FEATURES
- BUILDING FOOTPRINT
- 190 10' CONTOURS
- 192 2' CONTOURS
- SD STORM DRAIN PIPE
- SS SEWER MAIN
- W WATER MAIN
- OHP AERIAL POWER LINE
- G GAS MAIN
- X WIRE FENCE
- BOARD FENCE
- RETAINING WALL
- ROCKERY
- CATCH BASIN, TYPE I
- CATCH BASIN, TYPE II
- SD PIPE FLOW
- SEWER MANHOLE
- SS PIPE FLOW
- FIRE HYDRANT
- WATER METER
- GATE VALVE
- POWER POLE
- GUY ANCHOR
- STREET LIGHT
- P POWER VAULT
- POWER METER
- MAIL BOX
- EXISTING CONIFEROUS TREE
- EXISTING DECIDUOUS TREE
- DRIP LINE
- CONIFEROUS TREE TO BE SAVED
- DECIDUOUS TREE TO BE SAVED
- EXISTING CONIFEROUS TREE TO BE REMOVED
- EXISTING DECIDUOUS TREE TO BE REMOVED
- ASPHALT
- CONCRETE
- GRAVEL

TESC FEATURES

- FILTER FENCE
- CONSTRUCTION FENCE
- CLEARED AREA
- LIMITS OF CLEARING
- PIPE FLOW
- INTERIM CATCH BASIN PROTECTION (INSERT)

EXISTING UTILITY NOTE

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BUILDING CALCULATIONS

SEE ARCHITECTURAL SITE PLAN FOR TREE RETENTION, BUILDING HEIGHTS AND FAR CALCULATIONS.

SHEET INDEX

1 CV-01 COVER SHEET
2 TP-01 TESC PLAN
3 TP-02 TESC DETAILS
4 TR-01 TREE RETENTION PLAN
5 SP-01 SITE PLAN
6 SS-01 SIDE SEWER PROFILE
7 TG-01 TEMPORARY GRADING PLAN
8 DT-01 DETAILS
9 DT-02 DETAILS

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
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WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

COVER SHEET
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 38964 REGISTERED PROFESSIONAL ENGINEER

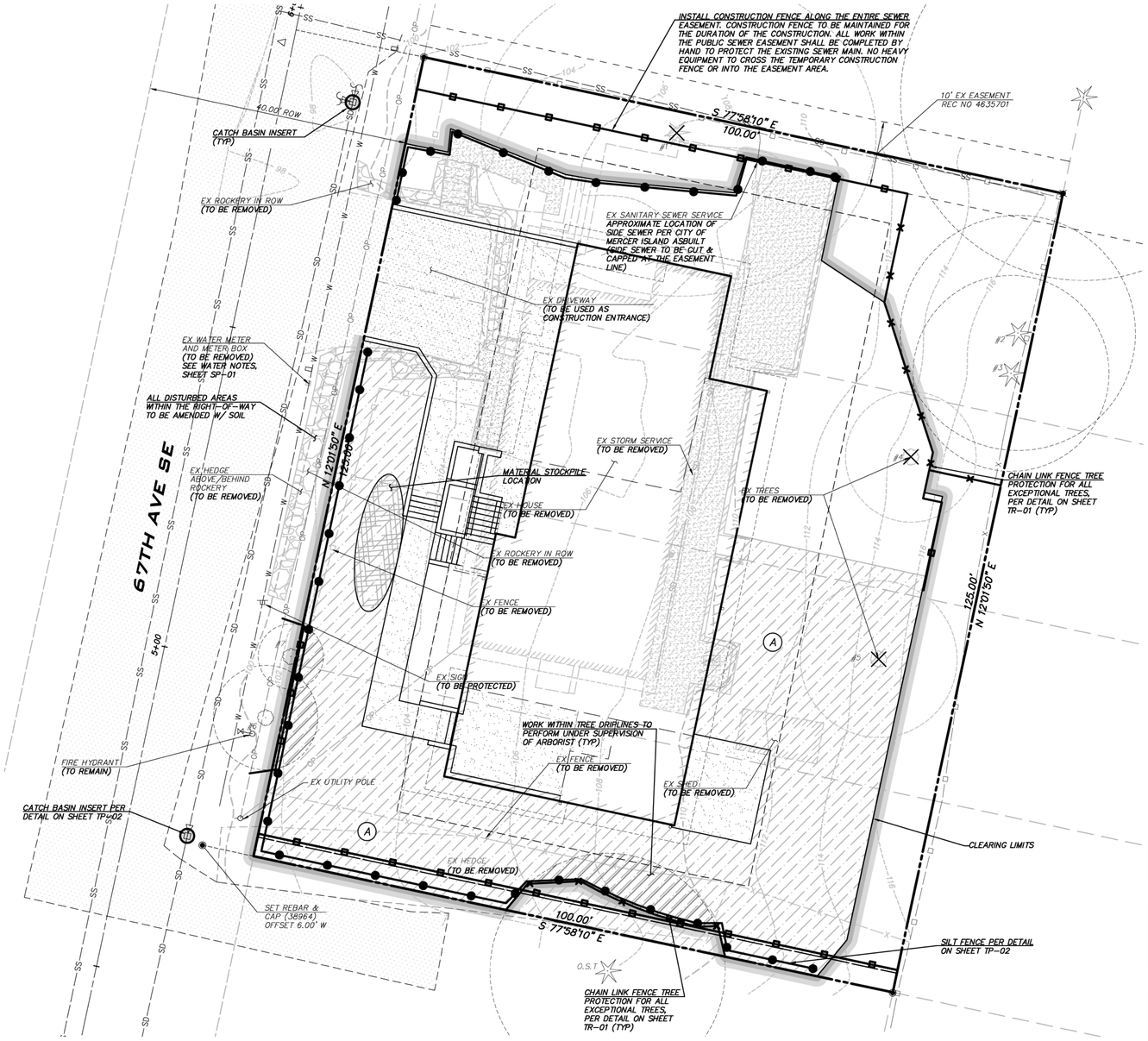
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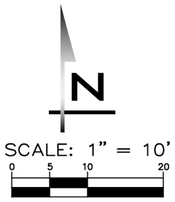
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SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.





NOTE

CATCH BASIN INLET PROTECTION TO BE INSTALLED UP TO 250' DOWNSTREAM OF THE PROJECT SITE.

SOIL AMENDMENT LEGEND

A NEW TURF AREA REQUIRING AMENDMENT (3,602 SF)

POST-CONSTRUCTION SOIL MANAGEMENT NOTES

AMEND SOILS WITH COMPOST PER PRE-APPROVED AMENDMENT METHOD

SCARIFY EXISTING SOILS TO DEPTH OF 8 INCHES

REFER TO CITY OF MERCER ISLAND SECTION D: POST-CONSTRUCTION SOIL MANAGEMENT FORM UNDER SEPARATE COVER FOR CALCULATED AMENDMENT QUANTITIES.

NOTE

EXISTING WATER METER TO BE ABANDONED.

EXISTING UTILITY NOTE

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DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

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TESC PLAN
3036 67TH AVENUE SE
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PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

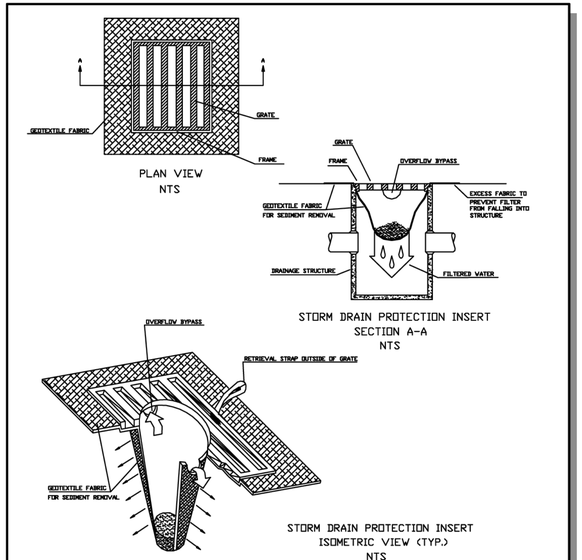
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TESC - PLAN NOTES

1. THE APPROVED CONSTRUCTION SEQUENCE SHALL BE AS FOLLOWS:
   A. CONDUCT PRE-CONSTRUCTION MEETING.
   B. FLAG OR FENCE CLEARING LIMITS.
   C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
   D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
   E. GRADE AND INSTALL CONSTRUCTION ENTRANCE(S).
   F. INSTALL PERIMETER PROTECTION (SILT FENCE, BRUSH BARRIER, ETC.).
   G. CONSTRUCT SEDIMENT PONDS AND TRAPS.
   H. GRADE AND STABILIZE CONSTRUCTION ROADS.
   I. CONSTRUCT SURFACE WATER CONTROLS (INTERCEPTOR DIKES, PIPE SLOPE DRAINS, ETC.) SIMULTANEOUSLY WITH CLEARING AND GRADING FOR PROJECT DEVELOPMENT.
   J. MAINTAIN EROSION CONTROL MEASURE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND MANUFACTURER'S RECOMMENDATIONS.
   K. RELOCATE EROSION CONTROL MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE EROSION AND SEDIMENT CONTROL IS ALWAYS IN ACCORDANCE WITH THE CITY TESC MINIMUM REQUIREMENTS.
   L. COVER ALL AREAS WITHIN THE SPECIFIED TIME FRAME WITH STRAW, WOOD FIBER MULCH, COMPOST, PLASTIC SHEETING, CRUSHED ROCK OR EQUIVALENT.
   M. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
   N. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
   O. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.
2. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G., SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES, ETC.).
3. THE IMPLEMENTATION OF THIS ESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
4. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE SET BY SURVEY AND CLEARLY FLAGGED IN THE FIELD BY A CLEARING CONTROL FENCE PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE OR REMOVAL OF ANY GROUND COVER BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE PERMITTEE/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
5. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.
6. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED (E.G., ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.) AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.
7. THE ESC FACILITIES SHALL BE INSPECTED BY THE PERMITTEE/CONTRACTOR DAILY DURING NON-RAINFALL PERIODS, EVERY HOUR (DAYLIGHT) DURING A RAINFALL EVENT, AND AT THE END OF EVERY RAINFALL, AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, TEMPORARY SILTATION PONDS AND ALL TEMPORARY SILTATION CONTROLS SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED, PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS SHALL BE KEPT DOCUMENTING THE REVIEWS OF THE ESC FACILITIES.
8. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.
9. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD (E.G. SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK) WITHIN THE FOLLOWING TIMELINES:
   APRIL 1 TO OCTOBER 31 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   NOVEMBER 1 TO MARCH 31 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
10. AT NO TIME SHALL MORE THAN 1" OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT-LADEN WATER INTO THE DOWNSTREAM SYSTEM.
11. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
12. ANY PERMANENT RETENTION/DETENTION FACILITY USED AS A TEMPORARY SETTLING BASIN SHALL BE MODIFIED WITH THE NECESSARY EROSION CONTROL MEASURES AND SHALL PROVIDE ADEQUATE STORAGE CAPACITY. IF THE PERMANENT FACILITY IS TO FUNCTION ULTIMATELY AS AN INFILTRATION OR DISPERSION SYSTEM, THE FACILITY SHALL NOT BE USED AS A TEMPORARY SETTLING BASIN. NO UNDERGROUND DETENTION TANK, DETENTION VAULT, OR SYSTEM WHICH BACKS UNDER OR INTO A POND SHALL BE USED AS A TEMPORARY SETTLING BASIN.
13. WHERE SEEDING FOR TEMPORARY EROSION CONTROL IS REQUIRED, FAST GERMINATING GRASSES SHALL BE APPLIED AT AN APPROPRIATE RATE (EXAMPLE: ANNUAL OR PERENNIAL RYE APPLIED AT APPROXIMATELY 80 POUNDS PER ACRE).
14. WHERE STRAW MULCH IS REQUIRED FOR TEMPORARY EROSION CONTROL, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 2".
15. ALL EROSION/SEDIMENTATION CONTROL PONDS WITH A DEAD STORAGE DEPTH EXCEEDING 6" MUST HAVE A PERIMETER FENCE WITH A MINIMUM HEIGHT OF 3'.
16. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF MERCER ISLAND STANDARDS AND SPECIFICATIONS.
17. THE ESC FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS ON THE APPROVED PLANS. LOCATIONS MAY BE MOVED TO SUIT FIELD CONDITIONS, SUBJECT TO APPROVAL BY THE ENGINEER AND THE CITY OF MERCER ISLAND INSPECTOR.
18. A COPY OF THE APPROVED EROSION CONTROL PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
19. ALL LOTS ADJOINING OR HAVING ANY NATIVE GROWTH PROTECTION EASEMENTS (NGPE) SHALL HAVE A 4' HIGH TEMPORARY CONSTRUCTION FENCE (CYCLONE OR PLASTIC MESH) SEPARATING THE LOT (OR BUILDABLE PORTIONS OF THE LOT) FROM THE AREA RESTRICTED BY THE NGPE AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR CLEARING AND REMAIN IN PLACE UNTIL A DWELLING IS CONSTRUCTED AND OWNERSHIP TRANSFERRED TO THE FIRST OWNER/OCCUPANT.
20. CLEARING LIMITS SHALL BE DELINEATED WITH A CLEARING CONTROL FENCE. THE CLEARING CONTROL FENCE SHALL CONSIST OF A 6-FT. HIGH CHAIN LINK FENCE ADJACENT THE DRIP LINE OF TREES TO BE SAVED, WETLAND OR STREAM BUFFERS, AND SENSITIVE SLOPES. CLEARING CONTROL FENCES ALONG WETLAND OR STREAM BUFFERS OR UPSLOPE OF SENSITIVE SLOPES SHALL BE ACCOMPANIED BY AN EROSION CONTROL FENCE. IF APPROVED BY THE CITY, A FOUR-FOOT HIGH ORANGE MESH CLEARING CONTROL FENCE MAY BE USED TO DELINEATE CLEARING LIMITS IN ALL OTHER AREAS.
21. OFF-SITE STREETS MUST BE KEPT CLEAN AT ALL TIMES. IF DIRT IS DEPOSITED ON THE PUBLIC STREET SYSTEM, THE STREET SHALL BE IMMEDIATELY CLEANED WITH POWER SWEEPER OR OTHER EQUIPMENT. ALL VEHICLES SHALL LEAVE THE SITE BY WAY OF THE CONSTRUCTION ENTRANCE AND SHALL BE CLEANED OF ALL DIRT THAT WOULD BE DEPOSITED ON THE PUBLIC STREETS.
22. ANY CATCH BASINS COLLECTING RUNOFF FROM THE SITE, WHETHER THEY ARE ON OR OFF THE SITE, SHALL HAVE THEIR GRATES COVERED WITH FILTER FABRIC DURING CONSTRUCTION. CATCH BASINS DIRECTLY DOWNSTREAM OF THE CONSTRUCTION ENTRANCE OR ANY OTHER CATCH BASIN AS DETERMINED BY THE CITY INSPECTOR SHALL BE PROTECTED WITH A "FILTER FABRIC SOCK" OR EQUIVALENT.
23. THE WASHED GRAVEL BACKFILL ADJACENT TO THE FILTER FABRIC FENCE SHALL BE REPLACED AND THE FILTER FABRIC CLEANED IF IT IS NONFUNCTIONAL BY EXCESSIVE SILT ACCUMULATION AS DETERMINED BY THE CITY OF MERCER ISLAND. ALSO, ALL INTERCEPTOR SWALES SHALL BE CLEANED IF SILT ACCUMULATION EXCEEDS ONE-QUARTER DEPTH.
24. ROCK FOR EROSION PROTECTION OF ROADWAY DITCHES, WHERE REQUIRED, MUST BE OF SOUND QUARRY ROCK, PLACED TO A DEPTH OF 1' AND MUST MEET THE FOLLOWING SPECIFICATIONS: 4"-8" ROCK/40 %-70 % PASSING; 2"-4" ROCK/30 %-40 % PASSING; AND 1"-2" ROCK/10 %-20 % PASSING.
25. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT SHALL BE REPAIRED IMMEDIATELY.
26. ALL PROPERTIES ADJACENT TO THE PROJECT SITE SHALL BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.
27. DO NOT FLUSH CONCRETE BY-PRODUCTS OR TRUCKS NEAR OR INTO THE STORM DRAINAGE SYSTEM. IF EXPOSED AGGREGATE IS FLUSHED INTO THE STORM SYSTEM, IT COULD MEAN RE-CLEANING THE ENTIRE DOWNSTREAM STORM SYSTEM, OR POSSIBLY RE-LAYING THE STORM LINE.
28. PRIOR TO THE OCTOBER 1 OF EACH YEAR (THE BEGINNING OF THE WET SEASON), ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA SHALL BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE PUBLIC WORKS CONSTRUCTION INSPECTOR. THE INSPECTOR CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

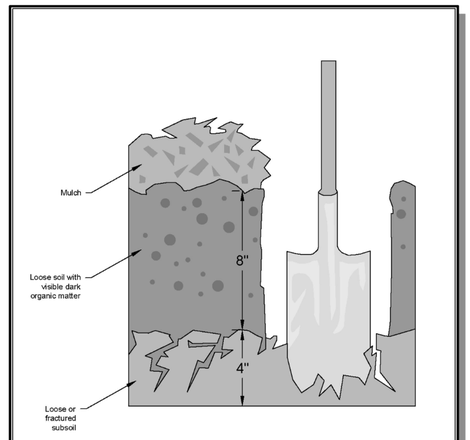


NOTES

1. SEE ECOLOGY STORMWATER MANAGEMENT MANUAL FOR W. WA, BMP C220 FOR ADDITIONAL DESIGN INFORMATION.

INLET PROTECTION

NOT TO SCALE



Reprinted from *Guidelines and Resources For Implementing Soil Quality and Depth BMP T5.13 in WDOE Stormwater Management Manual for Western Washington*, 2010, Washington Organic Recycling Council

NOT TO SCALE

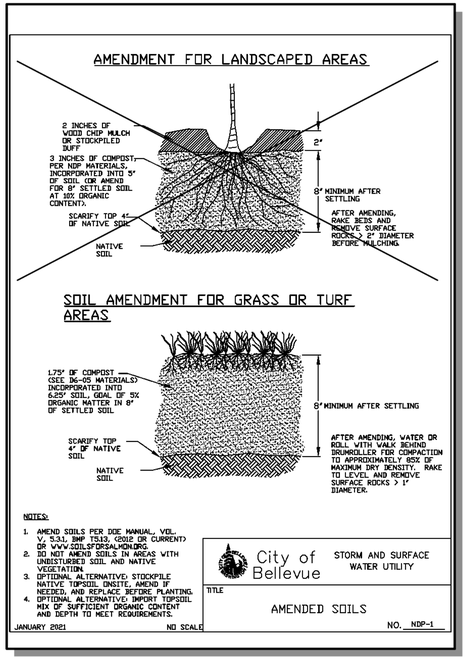
DEPARTMENT OF ECOLOGY State of Washington

Figure V-5.3.3
Planting Bed Cross-Section
Revised January 2016

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AMENDED SOILS - BMP T5.13

NOT TO SCALE

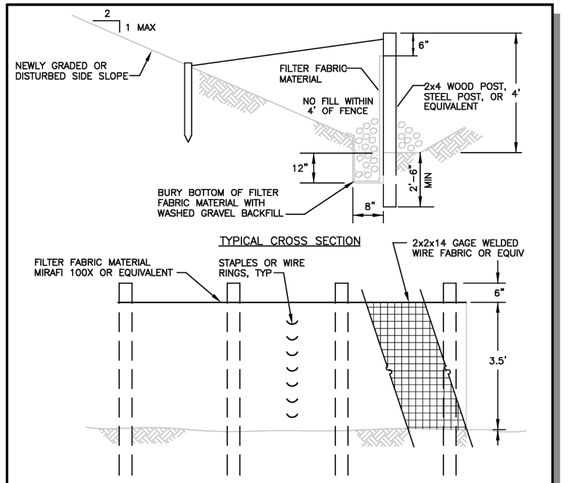


NOTES:
1. AMEND SOILS PER BDE MANUAL, VOL. V, 5.3.1, BMP T5.13, (2012 OR CURRENT) OR WWW.SOILSFORSALMON.ORG
2. DO NOT AMEND SOILS IN AREAS WITH UNDISTURBED SOIL AND NATIVE VEGETATION.
3. OPTIONAL ALTERNATIVE: STOCKPILE NATIVE TOPSOIL ONSITE, AMEND IF NEEDED, AND REPLACE BEFORE PLANTING.
4. OPTIONAL ALTERNATIVE: IMPORT TOPSOIL MIX OF SUFFICIENT ORGANIC CONTENT AND DEPTH TO MEET REQUIREMENTS.

City of Bellevue — STORM AND SURFACE WATER UTILITY

TITLE: AMENDED SOILS

JANUARY 2021 — NO SCALE — NO. NDP-1



EXISTING UTILITY NOTE

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YANNICK METS — STATE OF WASHINGTON — 56005 — REGISTERED PROFESSIONAL ENGINEER

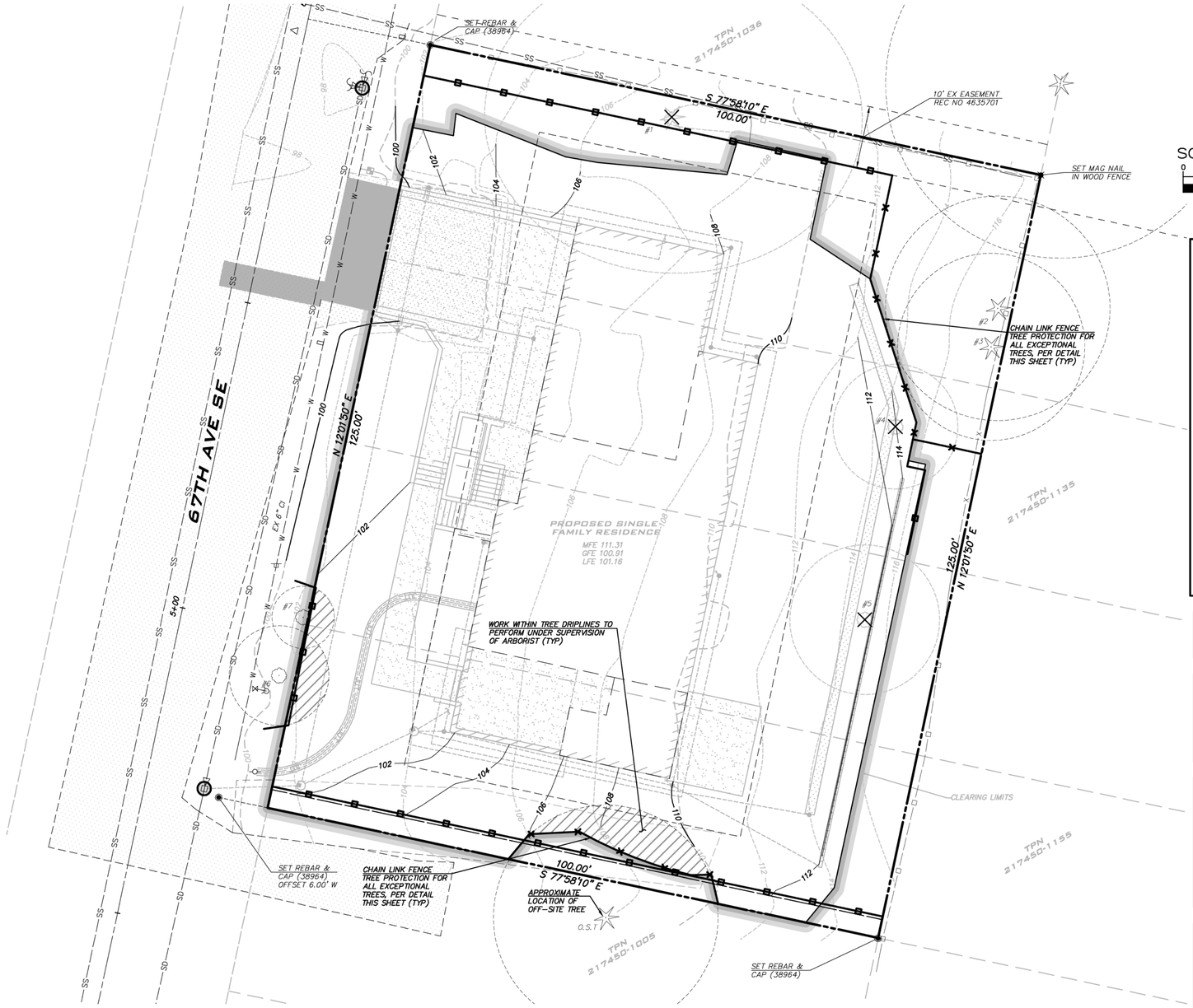
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N

SCALE: 1" = 10'

0 5 10 20

TREE LEGEND

- INNER CRITICAL ROOT ZONE
- EXISTING TREE TO REMAIN
- AVERAGE DRIP LINE
- EXISTING TREE TO BE REMOVED
- NON-VIABLE/EXISTING TREE IN POOR CONDITION

TREE PROTECTION AREA (TPZ)

KEEP OUT!

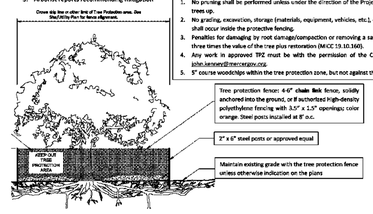
DO NOT REMOVE OR ADJUST THE APPROVED LOCATION OF THIS TREE PROTECTION AREA

Trees enclosed by this fence are protected and are subject to the conditions of the tree permit. Violation of tree conditions may lead to:

1. Correction Notices or Stop Work Orders until compliance is achieved
2. RE Inspection Fees/financial penalties
3. Arborist reports recommending mitigation

Notes

1. No pruning shall be performed unless under the direction of the Project Arborist. Including limbing trees up.
2. No grading, excavation, storage (materials, equipment, vehicles, etc.), or other unpermitted activity shall occur inside the protective fencing.
3. Penalties for damaging by root damage/compaction or removing a saved tree may be a fine up to three times the value of the tree plus restoration (MICC 19.10.160).
4. Any work in approved TPZ must be with the permission of the City Arborist (206) 275-7713, john.kennev@mercergov.org
5. 5" course woodchips within the tree protection zone, but not against the tree trunk.



Any Work in the protected area must be with the permission of the City Arborist john.kennev@mercergov.org

TREE PROTECTION FENCING

NTS

STORM NOTES

STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.

AMENDED SOILS

THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.

WATER NOTES

1. IF EXISTING METER MEETS CURRENT CITY STANDARDS IT CAN BE RE-USED OTHERWISE CUT AND CAP SERVICE AT MAIN PER CURRENT PUBLIC WORKS SPECIFICATIONS AND INSTALL NEW SERVICES.
2. NEW 1" WATER SERVICE AND 3/4" METER SHOWN IS TYPICAL SIZE FOR A NEW SINGLE FAMILY HOME. SIZE MAY VARY, BASED ON UPC SIZING CRITERIA, AND SHALL BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
3. IF NEW WATER SERVICE IS REQUIRED, INSTALL PER MERCER ISLAND SDT DTL W-13.

SANITARY SEWER NOTES

1. EXISTING LOCATION OF SANITARY SEWER PER CITY OF MERCER ISLAND ASBUILT. CONTRACTOR TO VERIFY POINT OF CONNECTION WITHIN THE EASEMENT.
2. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT POINT OF CONNECTION TO THE SIDE SEWER. THE EXISTING SS LINE WITHIN THE EASE,EMT SHALL BE CLEANED, LOCATED AND INSPECTED BY CAMERA TO VERIFY SUITABILITY FOR RE-USE AND NEED FOR RE-LINING.
3. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18.
4. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
5. REFER TO CITY OF MERCER ISLAND STANDARD DETAIL S-22 FOR DISCONNECTION AND RECONNECTION NOTES AND SPECIFICATIONS

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TREE RETENTION PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56308 — REGISTERED PROFESSIONAL ENGINEER

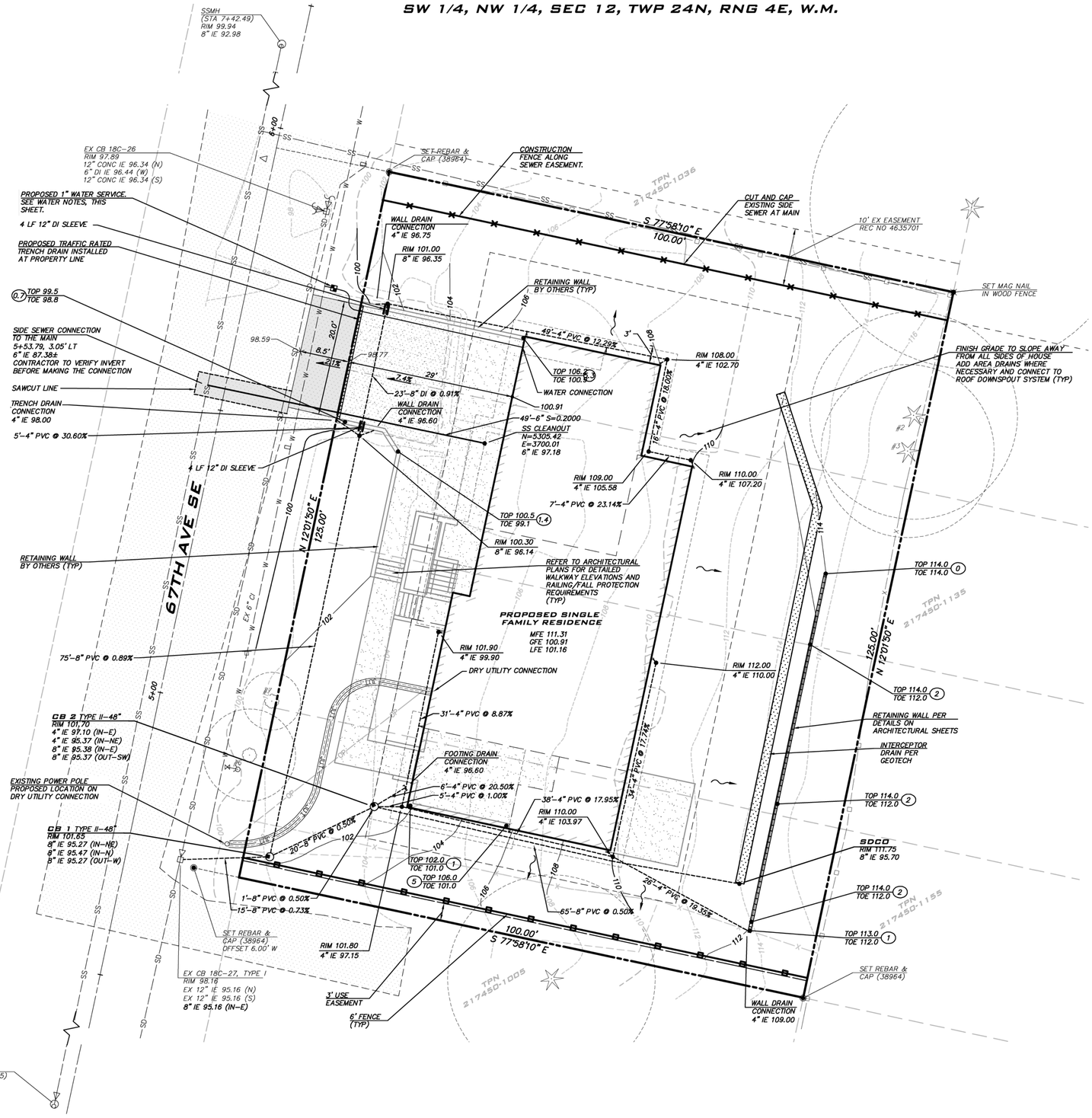
11/20/23

JOB NUMBER: 22-042
SHEET NAME: TR-01
SHT 4 OF 9

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SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.



N

SCALE: 1" = 10'
0 5 10 20

STORM NOTES

1. STORM SERVICES TO BE 4" PVC AT 2% MIN SLOPE UNLESS OTHERWISE NOTED. SERVICES DESIGNED TO HAVE AT LEAST 1.5' COVER.
2. TYPE II CATCH BASINS TO BE INSTALLED PER COB STD DTL D-4.
3. STORM DRAIN CLEANOUTS TO BE INSTALLED PER COB STD DTL D-52.

AMENDED SOILS

THE LAWN AND LANDSCAPE AREAS ARE REQUIRED TO PROVIDE POST-CONSTRUCTION SOIL QUALITY AND DEPTH IN ACCORDANCE WITH BMP T5.13. THE PROJECT CIVIL ENGINEER MUST PROVIDE A LETTER OF CERTIFICATION TO ENSURE THAT THE LAWN AND LANDSCAPE AREAS ARE MEETING THE POST-CONSTRUCTION SOIL QUALITY AND DEPTH REQUIREMENTS SPECIFIED ON THE APPROVED PLAN SET PRIOR TO FINAL INSPECTION OF THE PROJECT.

WATER NOTES

1. IF EXISTING METER MEETS CURRENT CITY STANDARDS IT CAN BE RE-USED OTHERWISE CUT AND CAP SERVICE AT MAIN PER CURRENT PUBLIC WORKS SPECIFICATIONS AND INSTALL NEW SERVICES.
2. NEW 1" WATER SERVICE AND 3/4" METER SHOWN IS TYPICAL SIZE FOR A NEW SINGLE FAMILY HOME. SIZE MAY VARY, BASED ON UPC SIZING CRITERIA, AND SHALL BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
3. IF NEW WATER SERVICE IS REQUIRED, INSTALL PER MERCER ISLAND SDT DTL W-13.

SANITARY SEWER NOTES

1. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT THE EASEMENT LINE.
2. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18 & S-17.
3. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
4. REFER TO CITY OF MERCER ISLAND STANDARD DETAIL S-22 FOR DISCONNECTION AND RECONNECTION NOTES AND SPECIFICATIONS
5. MAINTAIN MINIMUM 18" BETWEEN NEW SIDE SEWER AND OTHER UTILITIES.

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P. 425.216.4051 F. 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

SITE PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

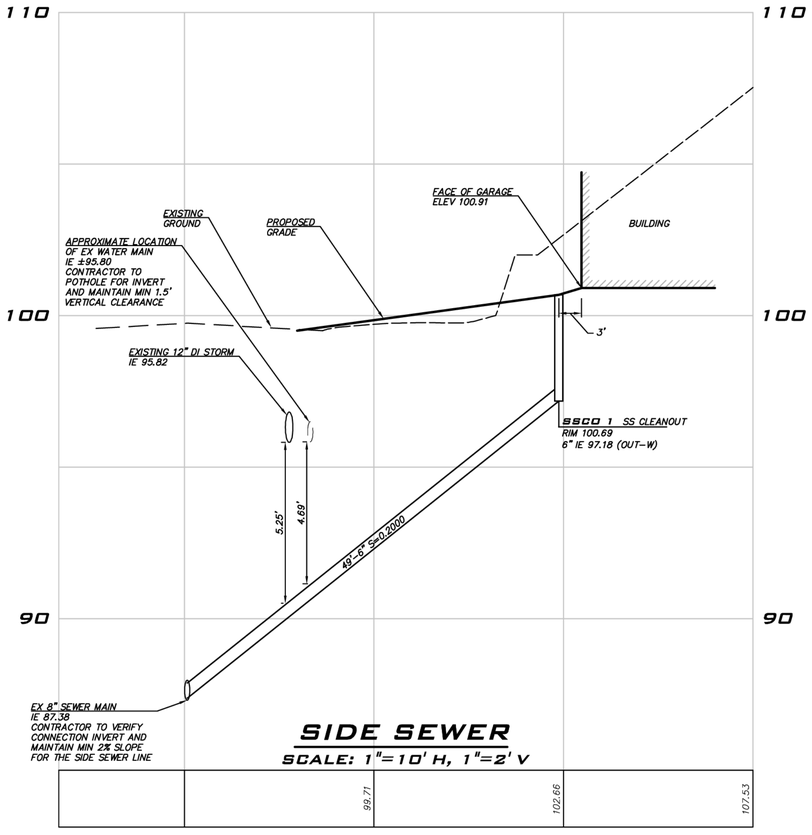
YANNICK METS STATE OF WASHINGTON 56108 REGISTERED PROFESSIONAL ENGINEER

11/20/23

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SIDE SEWER

SCALE: 1"=10' H, 1"=2' V

SANITARY SEWER NOTES

1. EXISTING SANITARY SEWER LINE SHALL BE CUT AND CAPPED AT THE EASEMENT LINE.
2. PROPOSED SEWER SERVICE LINE TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-18 & S-17.
3. SANITARY SEWER CLEANOUT TO BE INSTALLED PER CITY OF MERCER ISLAND STANDARD DETAIL S-19.
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YANNICK METS, PE
PROJECT ENGINEER:
ALI RAMEZANI, PE
DESIGNER:
CHRISTOPHER WSCOMB
ISSUE DATE:
11/20/2023

NO	DATE	BY	REVISIONS

SIDE SEWER PROFILE
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

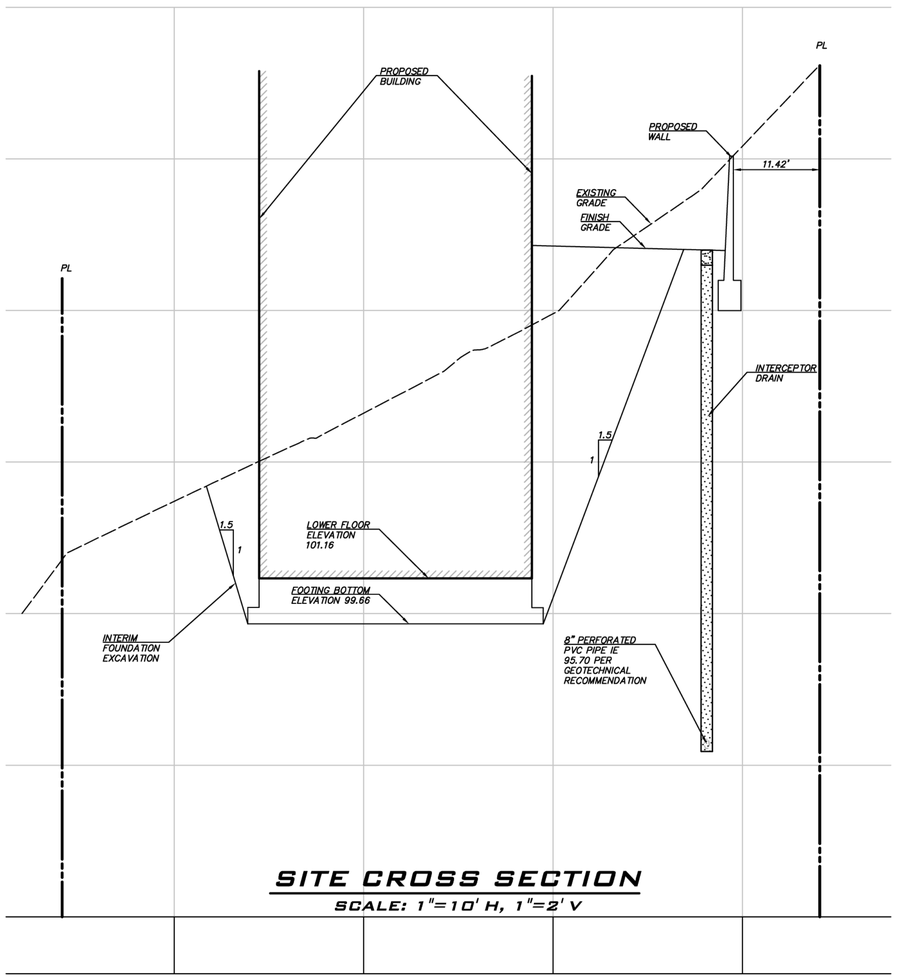


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22-042
SHEET NAME:
SS-01
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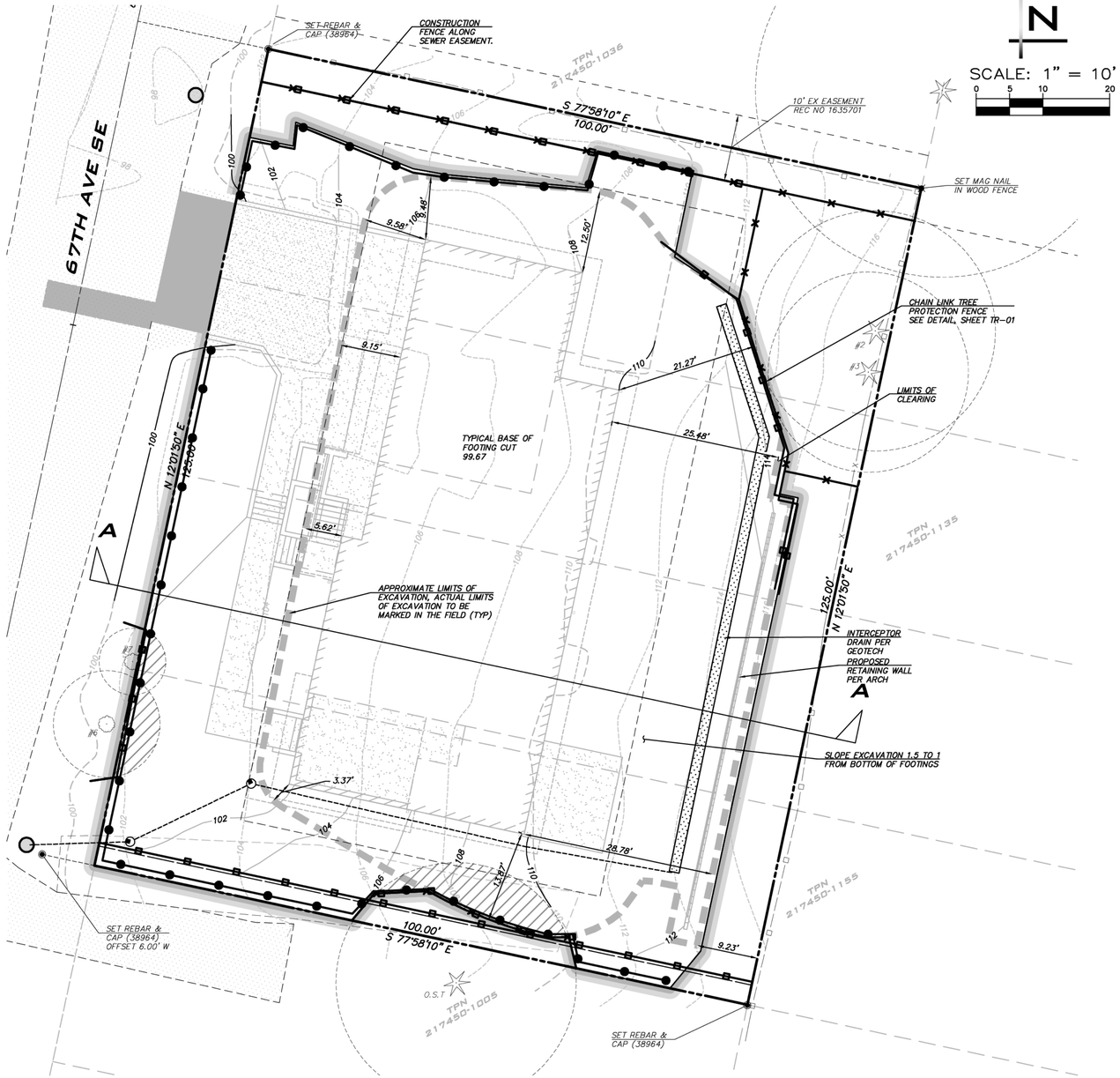
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SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.



SITE CROSS SECTION

SCALE: 1"=10' H, 1"=2' V



SCALE: 1" = 10'
0 5 10 20

EXISTING UTILITY NOTE

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SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

TEMPORARY GRADING PLAN
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

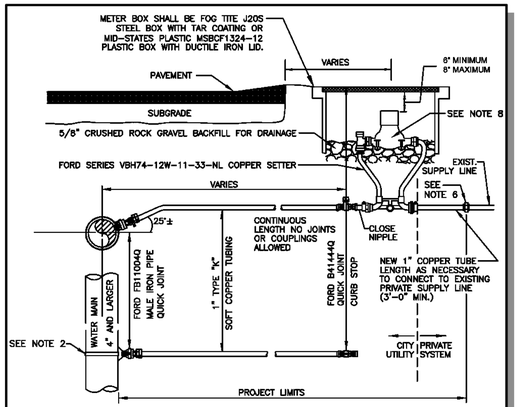
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11/20/23

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SHEET NAME: TG-01
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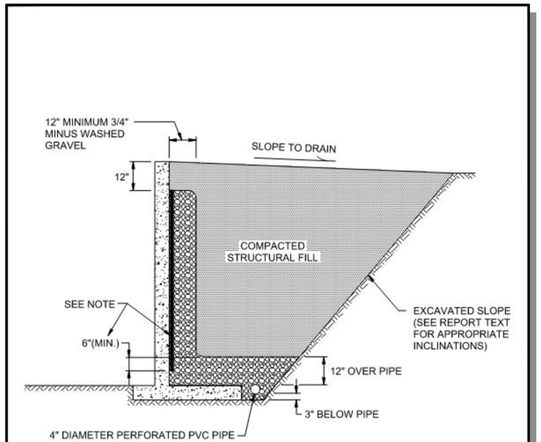
1. WATER SERVICES SHALL COMPLY WITH THE REDUCTION OF LEAD IN DRINKING WATER ACT DATED 01/04/2014.
2. ON EXISTING WATER MAINS USE NYLON COATED D.I. SADDLE WITH STAINLESS STEEL DOUBLE STRAPS, ROMAC 202NS, OR APPROVED EQUAL.
3. MINIMUM DISTANCE BETWEEN CORP STOPS SHALL BE 18" MINIMUM DISTANCE BETWEEN TAPS, BETWEEN CORP STOP AND PIPE ENDS SHALL BE 24". ALL HORIZONALLY STAGGERED.
4. PLASTIC METER BOXES SHALL NOT BE INSTALLED WITHIN ROADWAY, SIDEWALK, OR DRIVEWAYS.
5. UPON CITY ENGINEER'S APPROVAL, METER BOXES ARE ALLOWED TO BE INSTALLED IN PORTLAND CEMENT CONCRETE PAVEMENT OR SIDEWALK.
6. WHEN CONNECTING TO EXISTING PRIVATE SUPPLY LINE CONTAINING FERROUS METAL, PROVIDE INSULATING COUPLING (DB SERIES WITH C21 SERIES ADAPTERS) AND PROVIDE REDUCER AS NECESSARY TO MATCH EXISTING PRIVATE SUPPLY LINE DIAMETER.
7. SERVICE LINE SHALL BE PERPENDICULAR TO THE WATER MAIN AND STRAIGHT TO WATER METER, UNLESS OTHERWISE APPROVED BY CITY ENGINEER. PROVIDE WINDING SLACK IN THE SERVICE LINE BETWEEN THE MAIN AND WATER METER.
8. WATER METER SUPPLIED BY CITY.
9. ALL FITTINGS TO BE BRASS COMPRESSION TYPE, FORD QUICK JOINT OR EQUAL.
10. NO SERVICE CONNECTIONS BETWEEN BLOW-OFF AND END OF MAIN.

CITY OF MERCER ISLAND
STANDARD DETAILS
WATER

1" WATER METER INSTALLATION

02-05-2021	NO SCALE	W-13

REV DATE | APPROVED



NOT TO SCALE

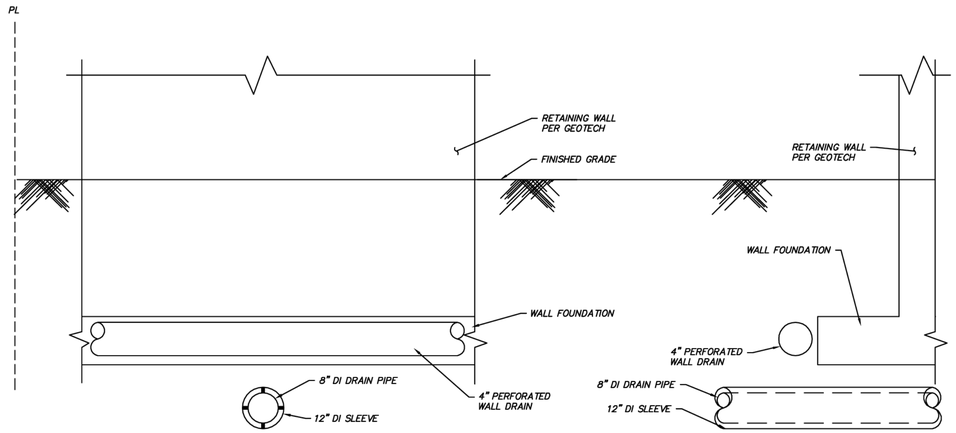
NOTE:

MIRADRAIN G100N PREFABRICATED DRAINAGE PANELS OR SIMILAR PRODUCT CAN BE SUBSTITUTED FOR THE 12-INCH WIDE GRAVEL DRAIN BEHIND WALL. DRAINAGE PANELS SHOULD EXTEND A MINIMUM OF SIX INCHES INTO 12-INCH THICK DRAINAGE GRAVEL LAYER OVER PERFORATED DRAIN PIPE.

Terra Associates, Inc.
Consultants in Geotechnical Engineering Geology and Environmental Earth Sciences

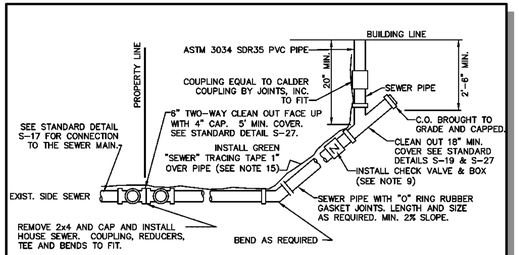
TYPICAL WALL DRAINAGE DETAIL
3036 - 67TH AVENUE SE
MERCER ISLAND, WASHINGTON

Proj. No.T-8718	Date APR 2023	Figure 5



SKEMATIC WALL DRAIN & ENCASED DRAINAGE PIPE SECTION

NOT TO SCALE



BUILDING CONNECTION

NOTES

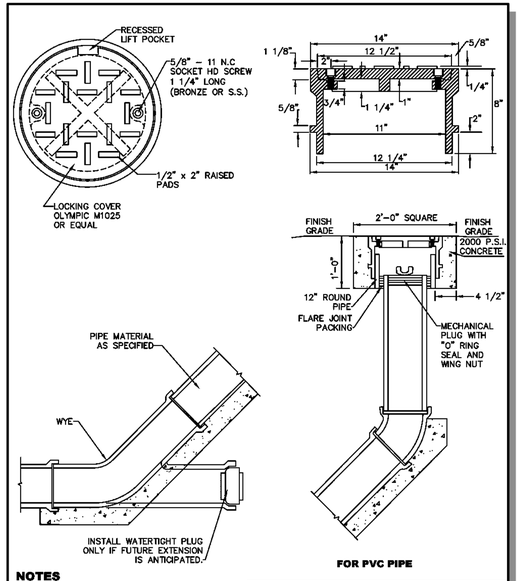
1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. ALL HOUSE PLUMBING OUTLETS MUST BE CONNECTED TO THE SEWER. NO DOWN SPOUTS OR STORM DRAINAGE MAY BE CONNECTED TO THE SEWER SYSTEM.
4. 18" MINIMUM COVERAGE OVER PIPE.
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH ⅛ BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 4" SEWER PIPE MINIMUM SIZE ON PROPERTY. 2% MINIMUM GRADE.
7. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT SEWER ORDINANCES.
8. ALL CONSTRUCTION REQUIRES A PLAN SHOWING PROPERTY AND DIMENSIONS AND COMPLETION OF SIDE SEWER APPLICATION AND MAINTENANCE AGREEMENT, AS NEEDED.
9. BACK WATER VALVE (CHECK VALVE) IS REQUIRED:
   A. IF CONNECTED TO A SHARED SIDE SEWER.
   B. IF CONNECTION AT HOUSE IS LOWER THAN BOTH UPSTREAM AND DOWNSTREAM MANHOLE.
   C. SEE S-23 & S-24 FOR LAKE LINE REQUIREMENTS.
10. AS-BUILT DRAWING SHOWING LOCATION OF SIDE SEWER & ALL BENDS, C.O. ETC., IN RELATION TO THE HOUSE IS REQUIRED AFTER INSPECTION & INSTALLATION. SEE STANDARD DETAIL S-38 FOR A TYPICAL "AS BUILT"
11. THE MINIMUM PIPE SIZE FOR SIDE SEWERS SHALL BE:
    6" – WITHIN THE PUBLIC RIGHT-OF-WAY.
    4" – SINGLE FAMILY RESIDENCES.
    6" – 2 TO 6 SINGLE FAMILY RESIDENCES.
    6" – BUILDINGS OTHER THAN SINGLE FAMILY RESIDENCES.
12. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

HOUSE SEWER CONNECTION

6-5-2009	NO SCALE	S-18

REV DATE | APPROVED



NOTES

1. SEE S-27 FOR INSTALLATION DETAILS.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

CLEAN OUT DETAIL

6-5-2009	NO SCALE	S-19

REV DATE | APPROVED

DISCONNECTION

WHEN DEMOLISHING AN EXISTING BUILDING, THE BUILDING SIDE SEWER SHALL BE DISCONNECTED PRIOR TO REMOVAL OF BUILDING FOUNDATIONS. THE CONTRACTOR SHALL INSTALL A MECHANICAL PLUG WITH NON-SHRINK GROUT AT THE END OF THE SIDE SEWER TO REMAIN IN PLACE. DISCONNECTION'S SHALL BE PERFORMED IN THE PRESENCE OF THE CITY'S UTILITY INSPECTOR. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT DRAWING DEPICTING THE DISCONNECTED SIDE SEWER UPON COMPLETION OF THE WORK.

RECONNECTION

WHEN RECONNECTING TO AN EXISTING SIDE SEWER, THE POINT OF RECONNECTION WILL BE DETERMINED BASED ON THE MAGNITUDE OF THE CONSTRUCTION ON THE PROPERTY.

1. PARTIAL INTERIOR REMODEL AND/OR BUILDING ADDITION – NO SIDE SEWER REPLACEMENT REQUIRED UNLESS A KNOWN PROBLEM EXISTS IN THE SIDE SEWER.
2. COMPLETE INTERIOR REMODEL OF RESIDENCE – ASSESS CONDITION OF EXISTING SIDE SEWER THROUGH VIDEO INSPECTION FROM BUILDING TO PROPERTY LINE AND REPLACE AS NEEDED. IF EXISTING SIDE SEWER IS ASBESTOS CEMENT OR CONCRETE, SIDE SEWER SHALL BE REPLACED FROM BUILDING TO PROPERTY LINE, UNLESS THE APPLICANT PROVES, TO THE SATISFACTION OF THE CITY ENGINEER, THAT THE SIDE SEWER IS WATER TIGHT AND IN SOUND CONDITION.*
3. COMPLETE INTERIOR REMODEL AND BUILDING ADDITION – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
4. CONSTRUCTION OF A NEW SINGLE FAMILY RESIDENCE – NEW SIDE SEWER FROM BUILDING TO PROPERTY LINE.*
5. BACK WATER VALVE INSTALLATION PER CITY ENGINEER, IF SCENARIO 2, 3 OR 4 IS DIRECTLY ATTACHED TO THE LAKE LINE.

VIDEO INSPECTION OF THE EXISTING SIDE SEWER, BETWEEN THE PROPERTY LINE AND THE SEWER MAIN SHALL BE PERFORMED FOR SCENARIOS NUMBER 3 AND 4.

PROVIDE A COPY OF THE VIDEO DOCUMENTATION TO THE CITY ENGINEER.

REPLACEMENT OR REPAIR OF THAT PORTION OF THE SIDE SEWER BETWEEN THE PROPERTY LINE AND THE SEWER MAIN, WILL BE DETERMINED BY THE CITY ENGINEER, BASED ON THE VIDEO INSPECTION.

*IF THE EXISTING SIDE SEWER IS PVC AND IS LESS THAN TEN YEARS OLD, THE SIDE SEWER DOES NOT HAVE TO BE REPLACED IF A VIDEO INSPECTION AND HYDROSTATIC PRESSURE TEST CONFIRMS THAT THE SIDE SEWER IS IN PROPER WORKING CONDITION. THESE TESTS SHALL BE PERFORMED AFTER ALL HEAVY EQUIPMENT THAT COULD DAMAGE THE SIDE SEWER IS OFF OF THE SITE.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER

RESIDENTIAL SIDE SEWER DISCONNECTION & RECONNECTION

6-5-2009	NO SCALE	S-22

REV DATE | APPROVED

EXISTING UTILITY NOTE

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PROJECT MANAGER: YANNICK METS, PE
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DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

DETAILS

3036 67TH AVENUE SE
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PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

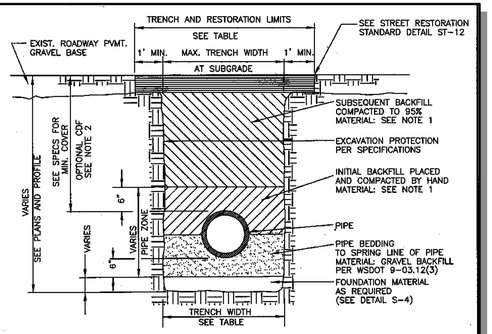
YANNICK METS STATE OF WASHINGTON 56006 REGISTERED PROFESSIONAL ENGINEER

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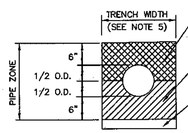
1. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS.
2. CDF FOR BACKFILL MAY BE REQUIRED BY CITY ENGINEER WHEN PROPER COMPACTION AROUND EXISTING UTILITIES MAY NOT BE POSSIBLE. CDF SHALL BE PER WSDOT 2-09.3(1)E.
3. SEE S-4 FOR PIPE BEDDING DETAILS.

TRENCH WIDTH

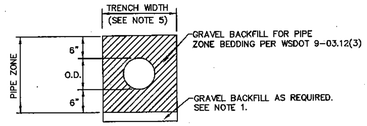
PIPE SIZE	PIPE ZONE MAX. TRENCH WIDTH	MAX. TRENCH WIDTH AT SUBGRADE	MAX. RESTORATION WIDTH AT SURFACE
SIDE SEWER	2'-0"	2'-0"	6'-0"
4" OR 6"	2'-2"	3'-0"	8'-0"
8"	2'-4"	4'-0"	8'-0"
10"	2'-6"	4'-0"	8'-0"
12"	2'-8"	4'-6"	8'-8"

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SEWER TRENCH DETAIL
6-5-2009 | NO SCALE | **S-3**
REV DATE | APPROVED

BEDDING FOR RIGID PIPE MATERIAL



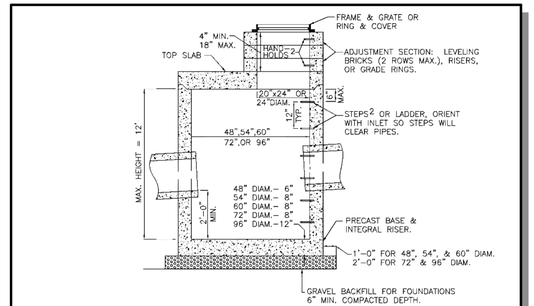
BEDDING FOR FLEXIBLE PIPE MATERIAL



NOTES

1. EXCAVATE UNSTABLE MATERIAL DOWN TO FIRM SOIL. REPLACE WITH GRAVEL BACKFILL PER WSDOT 9-03.12(3) AS DIRECTED BY THE CITY ENGINEER.
2. PROVIDE UNIFORM SUPPORT UNDER BARREL.
3. HAND TAMP UNDER HAUNCHES.
4. COMPACT BEDDING AND BACKFILL MATERIAL TO 95% MAX. DENSITY EXCEPT DIRECTLY OVER PIPE. HAND TAMP ONLY UNTIL MINIMUM 6" ABOVE TOP OF PIPE.
5. 30" MAXIMUM TRENCH WIDTH FOR PIPE UP TO AND INCLUDING 12", FOR PIPE LARGER THAN 12", USE O.D. PLUS 18".

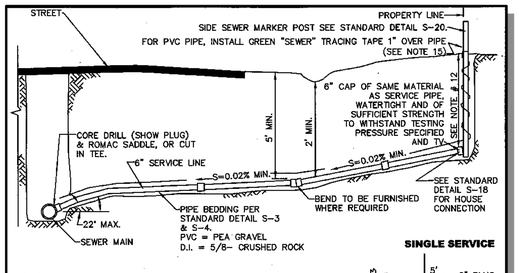
CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
PIPE BEDDING
6-5-2009 | NO SCALE | **S-4**
REV DATE | APPROVED



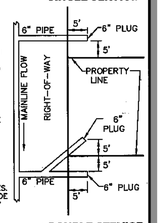
NOTES:

1. CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478 (AASHTO M199) AND ASTM C890 UNLESS OTHERWISE SHOWN ON PLANS OR NOTED IN THE WSDOT STANDARD SPECIFICATIONS.
2. HANDHOLDS IN ADJUSTMENT SECTION SHALL HAVE 3" MIN. CLEARANCE. STEPS IN CATCH BASIN SHALL HAVE 6" MIN. CLEARANCE. SEE STD. DTL. NO D-5, CATCH BASIN DETAILS. HANDHOLDS SHALL BE PLACED IN ALTERNATING GRADE RINGS OR LEVELING BRICK COURSE WITH A MIN. OF ONE HANDHOLD BETWEEN THE LAST STEP AND TOP OF THE FINISHED GRADE.
3. APPLY NON-SHRINK GROUT TO INSIDE AND OUTSIDE OF ALL JOINTS, RINGS, RISERS AND FRAMES. ALL PRECAST CONCRETE SHALL BE CLASS 4000.
4. PRECAST BASES SHALL BE FURNISHED WITH CUTOUTS OR KNOCKOUTS. KNOCKOUTS SHALL HAVE WALL THICKNESS OF 2" MIN. UNUSED KNOCKOUTS NEED NOT BE GROUTED IF WALL IS LEFT INTACT. PIPES SHALL BE INSTALLED ONLY IN FACTORY KNOCKOUTS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
5. KNOCKOUT OR CUTOUT HOLE SIZE SHALL EQUAL PIPE OUTER DIAM. PLUS CATCH BASIN WALL THICKNESS. MAX. HOLE SIZE SHALL BE 36" FOR 48" CATCH BASIN, 42" FOR 54" C.B., 48" FOR 60" C.B., 60" FOR 72" C.B., 84" FOR 96" C.B. MIN. DISTANCE BETWEEN HOLES SHALL BE 8" FOR 48", 54", AND 60" C.B.; 12" FOR 72" AND 96" C.B.
6. CATCH BASIN FRAMES AND GRATES OR COVERS SHALL BE IN ACCORDANCE WITH SEC. 7.05 OF THE STANDARD SPECIFICATIONS. MATING SURFACES SHALL BE FINISHED TO ASSURE NON-ROCKING FIT WITH ANY COVER POSITION.
7. FOR HEIGHTS OF 12' OR LESS, MINIMUM SOIL BEARING VALUE SHALL EQUAL 3,300 POUNDS PER SQUARE FOOT. FOR HEIGHTS OVER 12', MIN. SOIL BEARING VALUE SHALL EQUAL 3,800 POUNDS PER SQUARE FOOT.
8. SEE THE STANDARD SPECIFICATIONS SEC. 7-05.3 FOR JOINT REQUIREMENTS.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CATCH BASIN TYPE 2
48", 54", 60", 72", & 96"
JANUARY 2021 | NO SCALE | NO. D-4



SINGLE SERVICE

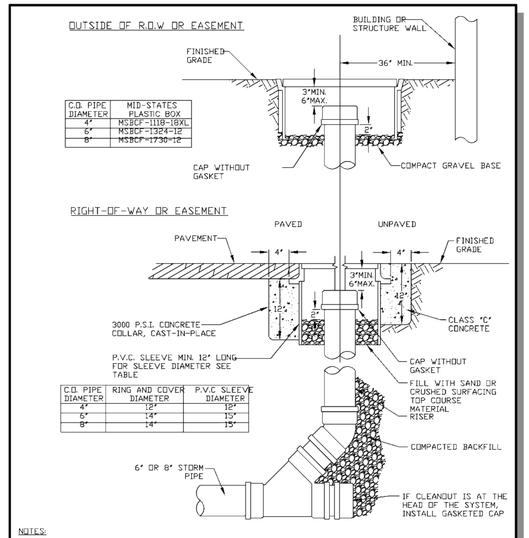


DOUBLE SERVICE

NOTES

1. ELBOWS SHALL NOT BE GREATER THAN 45 DEGREES.
2. CLEAN OUT IS REQUIRED FOR EACH PIPE LENGTH GREATER THAN 100' AND FOR EACH 90° ACCUMULATED ELBOW/100'.
3. RIGHT-OF-WAY RESTORATION SHALL MATCH OR EXCEED THE ORIGINAL CONDITION AND BE IN ACCORDANCE WITH CITY STANDARDS.
4. ALL TRENCH BACKFILL IN PUBLIC RIGHT-OF-WAY OR ROADWAY AREAS SHALL BE CRUSHED SURFACING PER WSDOT 9-09.9(3) OR BANK RUN GRAVEL PER WSDOT 9-03.19, COMPACTED IN 6" LIFTS OR MAY BE CDF WHEN DIRECTED BY THE CITY ENGINEER (SEE DETAIL S-3).
5. LAY PIPE IN STRAIGHT LINE BETWEEN BENDS. MAKE ALL CHANGES IN GRADE OR LINE WITH 1/8 BEND OR WYE. 90° CHANGE WITH 1/8 BEND AND WYE.
6. 6" SEWER PIPE MINIMUM SIZE IN RIGHT-OF-WAY, AND ELSEWHERE AS DIRECTED BY ENGINEER. 2% MIN. GRADE (UNLESS DIRECTED BY ENGINEER), 50% MAXIMUM.
7. ALL A.C. MAINS TO BE TAPPED IN ACCORDANCE WITH WAC 296-82-00775 STATE/FEDERAL GUIDELINES AND CERTIFICATION.
8. CONSTRUCTION IN RIGHT-OF-WAY MUST BE DONE BY A REGISTERED AND LICENSED CONTRACTOR.
9. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CURRENT CITY SEWER ORDINANCES.
10. WHERE CITY ENGINEER ALLOWS SIDE SEWER CONNECTIONS TO MANHOLE, INVERT OF SIDE SEWER SHALL BE EQUAL TO OR ABOVE MAIN SEWER CROWN, BUT NOT TO EXCEED 18" ABOVE INVERT OF MAIN SEWER.
11. UNLESS OTHERWISE INDICATED ON PLAN, SIDE SEWER SHALL BE MIN. OF 6' DEEP AT PROPERTY LINE, OR 5' LOWER THAN THE LOWEST ELEVATION, WHICH EVER IS LOWER.
12. ALL PIPE MATERIALS NOT TO STANDARDS WILL BE ABANDONED AND REPLACED WITH DUCTILE IRON OR PVC PIPE OF THE SAME SIZE.
13. IF A BUILDING SEWER IS TO SERVE MORE THAN ONE PROPERTY, BY JOINT AGREEMENT OF THE OWNERS, AN APPROVED EASEMENT INSURING THAT ALL PROPERTIES INVOLVED SHALL HAVE PERPETUAL USE OF THE SIDE SEWER, HAVING PROVISIONS FOR OPERATION, MAINTENANCE, RECONSTRUCTION AND FOR ACCESS FOR REPAIR PURPOSES, SHALL BE SIGNED BY THE OWNERS. THIS EASEMENT SHALL BE RECORDED WITH THE COUNTY AUDITOR. A SIX INCH (MINIMUM) DIAMETER PIPE SHALL BE USED FOR THE COMMON LINE AND A SIX INCH CLEANOUT EXTENDING TO WITHIN 12 INCHES OF THE GROUND SURFACE SHALL BE PROVIDED AT THE WYE WHERE THE UPPER GRADE CONNECTIONS ARE MADE. BACKWATER VALVES SHALL BE INSTALLED ON SERVICE LINES UPSTREAM OF THE CONNECTION TO THE SHARED SIDE SEWER.
14. THE CITY ENGINEER MAY REQUIRE BACKWATER VALVES ON SIDE SEWERS WHEN DEEMED NECESSARY. THE EFFECTIVE OPERATION AND MAINTENANCE OF ANY BACKWATER VALVE SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE SIDE SEWER.
15. UTILITY PIPE TRACER TAPE SHALL BE DETECTABLE BELOW GROUND SURFACE, COLOR CODED, WITH UTILITY NAME PRINTED ON TAPE. CONDUCTIVE WARNING TAPE REQUIRED OVER ALL WATER PIPE. TAPE SHALL BE MANUFACTURER'S STANDARD PERMANENT, BRIGHT-COLORED, CONTINUOUS PRINTED PLASTIC TAPE, ALUMINUM BACKED, INTENDED FOR DIRECT-BURIAL SERVICE. TAPE SHALL BE NOT LESS THAN 6" WIDE X 4 MILS THICK.

CITY OF MERCER ISLAND
STANDARD DETAILS
SEWER
SIDE SEWER CONNECTION AND STUB
6-5-2009 | NO SCALE | **S-17**
REV DATE | APPROVED



NOTES:

1. BOLT-LOCKING CAST IRON RING AND COVER SHALL BE USED IN RIGHT-OF-WAY AND EASEMENTS AND MUST BE RATED HS-20 IF USED IN PAVED AREAS. SEE TABLE FOR SIZES.
2. MID-STATES PLASTIC BOX OR EQUAL MAY BE USED IF C.O. IS OUTSIDE OF RIGHT-OF-WAY OR EASEMENT. SEE TABLE FOR SIZES. THE COVER FOR THE PLASTIC BOX SHALL BE DUCTILE IRON AND READ "DRAIN" OR BE BLANK (NO LABEL).
3. CAST IRON COVER SHALL READ "DRAIN"
4. LOCKING BOLTS SHALL BE 5/8"-11 N.C. 304 STAINLESS STEEL SOCKET (ALLEN) HEAD, 2" LONG.
5. 14" BOLT-LOCKING CAST IRON COVER SHALL BE EQUAL TO INLAND FOUNDRY NUMBER 209, OR 210.
6. SPECIAL "DECORATIVE" CASTING MAY BE USED IF PREAPPROVED BY CITY.

City of Bellevue — STORM AND SURFACE WATER UTILITY
TITLE
CLEANOUT TO GRADE
JANUARY 2021 | NO SCALE | NO. D-52

EXISTING UTILITY NOTE

EXISTING UTILITIES ARE SHOWN IN THE APPROXIMATE LOCATION. THERE IS NO GUARANTEE THAT ALL UTILITY LINES ARE SHOWN, OR THAT THE LOCATION, SIZE AND MATERIAL IS ACCURATE. THE CONTRACTOR SHALL UNCOVER ALL INDICATED PIPING WHERE CROSSING, INTERFERENCES, OR CONNECTIONS OCCUR PRIOR TO TRENCHING OR EXCAVATION FOR ANY PIPE OR STRUCTURES, TO DETERMINE ACTUAL LOCATIONS, SIZE AND MATERIAL. THE CONTRACTOR SHALL MAKE THE APPROPRIATE PROVISION FOR PROTECTION OF SAID FACILITIES. THE CONTRACTOR SHALL NOTIFY ONE CALL AT 8-1-1 (WASHINGTON811.COM) AND ARRANGE FOR FIELD LOCATION OF EXISTING FACILITIES BEFORE CONSTRUCTION.

ATWELL
25 CENTRAL WAY, SUITE 400,
KIRKLAND, WA 98033
P: 425.216.4051 F: 425.216.4052
WWW.ATWELL-GROUP.COM

SCALE: AS NOTED
PROJECT MANAGER: YANNICK METS, PE
PROJECT ENGINEER: ALI RAMEZANI, PE
DESIGNER: CHRISTOPHER WSCOMB
ISSUE DATE: 11/20/2023

NO	DATE	BY	REVISIONS

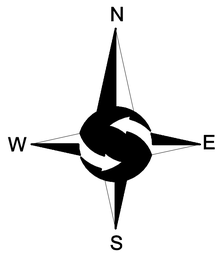
DETAILS
3036 67TH AVENUE SE
SITE PLAN
PARCEL 2174501025
CITY OF MERCER ISLAND WASHINGTON

YANNICK METS — STATE OF WASHINGTON — 56006 — REGISTERED PROFESSIONAL ENGINEER
11/20/23

JOB NUMBER: 22-042
SHEET NAME: DT-02
SHT 9 OF 9

22x34
Nov 20, 2023 - 8:39am - User ccouch
E:\Projects\22042\Dwg\Stefan\22042DT.dwg

©2023 ATWELL NW



GRAPHIC SCALE

5 0 5 10 20

1 INCH = 10 FT.

LEGEND

○	FOUND REBAR AS DESCRIBED	OHP	OVERHEAD POWER
✳	SET MAG NAIL AS DESCRIBED	OHU	OVERHEAD UTILITIES
●	SET 5/8" X 24" IRON ROD W/1" YELLOW PLASTIC CAP		WOOD FENCE
	POWER METER		CONCRETE WALL
	UTILITY POLE		WIRE FENCE
	CATCH BASIN		TIMBER WALL
	MAILBOX		ROCKERY
	SANITARY SEWER MANHOLE		ASPHALT SURFACE
	WATER VALVE		CONCRETE SURFACE
	FIRE HYDRANT	AP	APPLE
	WATER METER	DF	DOUGLAS FIR
	SIGN	DS	DECIDUOUS
SS	APPROXIMATE LOCATION SANITARY SEWER LINE	PI	PINE
SD	APPROXIMATE LOCATION STORM DRAIN LINE	*	INDICATES MULTI-TRUNK
W	APPROXIMATE LOCATION UNDERGROUND WATER LINE		

LEGAL DESCRIPTION

LOTS 15, 16, 17, 18 AND THE SOUTHERLY 5 FEET OF LOT 19, BLOCK 6, EAST SEATTLE, ACCORDING TO THE PLAT THEREOF RECORDED IN VOLUME 3 OF PLATS, PAGES 22 AND 23, RECORDS OF KING COUNTY, WASHINGTON; EXCEPT THAT PORTION THEREOF LYING WITHIN MERCER ISLAND ROAD (67TH AVENUE SE)

SITUATE IN THE CITY OF MERCER ISLAND, COUNTY OF KING, STATE OF WASHINGTON.

BASIS OF BEARINGS

RECORD OF SURVEY BY TERRANE FOR JAYMARC HOMES, RECORDED ON JULY 26, 2021, IN VOLUME 451 OF SURVEYS, PAGE 259, UNDER RECORDING NO. 20210726900027, RECORDS OF KING COUNTY, WASHINGTON.

PROJECT INFORMATION

SURVEYOR:	SITE SURVEYING, INC. 21923 NE 11TH ST SAMMAMISH, WA 98074 PHONE: 425.298.4412
PROPERTY OWNER:	WILLIAM E. BUCHAN, INC 3036 67TH AVENUE SE MERCER ISLAND, WA 98040
TAX PARCEL NUMBER:	217450-1025
PROJECT ADDRESS:	3036 67TH AVENUE SE MERCER ISLAND, WA 98040
ZONING:	R-8.4
JURISDICTION:	CITY OF MERCER ISLAND
PARCEL ACREAGE:	12,500 S.F. (0.286 ACRES) AS SURVEYED

GENERAL NOTES

1. THIS SURVEY WAS COMPLETED WITHOUT BENEFIT OF A CURRENT TITLE REPORT. EASEMENTS AND OTHER ENCUMBRANCES MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.

2. INSTRUMENTATION FOR THIS SURVEY WAS A 3-SECOND SPECTRAPRECISION FOCUS 35 TOTAL STATION. PROCEDURES USED IN THIS SURVEY MEET OR EXCEED STANDARDS SET BY WAC 332-130-090.

3. THE INFORMATION ON THIS MAP REPRESENTS THE RESULTS OF A SURVEY MADE IN AUGUST 2021 AND CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS EXISTING AT THAT TIME.

4. UTILITIES SHOWN ON THIS SURVEY ARE BASED UPON ABOVE GROUND OBSERVATIONS AND AS-BUILT PLANS WHERE AVAILABLE. ACTUAL LOCATIONS OF UNDERGROUND UTILITIES MAY VARY AND UTILITIES NOT SHOWN ON THIS SURVEY MAY EXIST ON THIS SITE.

5. ALL MONUMENTS WERE LOCATED DURING THIS SURVEY UNLESS OTHERWISE NOTED.

VERTICAL DATUM & CONTOUR INTERVAL

DATUM

ELEVATIONS SHOWN ON THIS DRAWING WERE DERIVED FROM INFORMATION PROVIDED BY THE CITY OF MERCER ISLAND.

THE MARK IS A MONUMENT IN CASE AT THE INTERSECTION OF 68TH AVENUE SE W AND SE 32ND STREET.

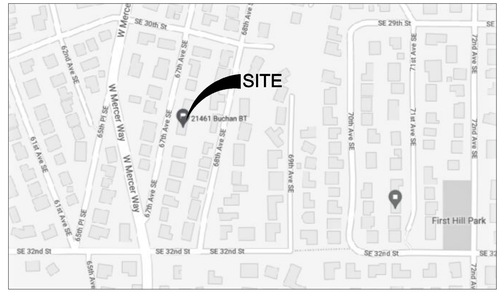
POINT ID NO. 47746;
ELEVATION: 112.571 FEET - NAVD 88

2.0' CONTOUR INTERVAL - THE EXPECTED VERTICAL ACCURACY IS EQUAL TO 1/2 THE CONTOUR INTERVAL OR PLUS / MINUS 1.0' FOR THIS PROJECT.



VICINITY MAP

NTS



SW 1/4, NW 1/4, SEC 12, TWP 24N, RNG 4E, W.M.

Site Surveying, Inc.
21923 NE 11th Street Sammamish, WA 98074
Phone: 425.298.4412
www.sitesurveymapping.com

WOLDENDORP WASHINGTON GARY STATE 23132 NATHAN SWOMA PROFESSIONAL LAND SURVEYOR TEXAS

REVISION	DATE	DRN

TOPOGRAPHIC SURVEY

WILLIAM E. BUCHAN, INC
3036 67TH AVENUE SE
MERCER ISLAND, WA 98040

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PROJECT NO. 21-461

DRAWN BY:	EFJ
CHECKED BY:	TNW
DATE:	8/17/21
SHEET	1 OF 1

SYMBOLS AND LEGEND

- (F) FAN- DIRECT VENT TO OUTSIDE
  -BATHROOMS/LAUNDRY 50 CFM MIN.
  -KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.
- (WF) WHOLE-HOUSE FAN ON TIMER. SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.
- (HD) R314.2.3. A HEAT DETECTOR OR HEAT ALARM RATED FOR THE AMBIENT OUTDOOR TEMPERATURES AND HUMIDITY SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS PER SECTION R314.2.3
- (T) THERMOSTAT @ 50" ABOVE FLOOR
- (●) 110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

- P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF ⅝" TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL.
  SEE DIV. 01 @02.6.A. SHEET A-1.
- P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
  SEE DIV. 01 @02.6.B. SHEET A-1
- P-3 SAFETY GLAZING PER I.R.C. SECTION R308
  A. WINDOWS WITHIN 18" OF FLOOR
  B. WINDOWS WITHIN A 24" ARC OF DOORS
  C. WINDOWS AT TUBS AND SHOWERS
  D. GLAZING IN DOORS
  E. WITHIN STAIRWELLS
  F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
  SEE DIV. 08 @08.0 SHEET A-1.

FLOOR PLAN KEY NOTES

- P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
  A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
  B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
  C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
  D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
  E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
  F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
  G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
  SEE DIV. 01 @02.6 SHEET A-1.

FLOOR PLAN KEY NOTES

- P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08 @ 08.0 SHEET A-1
- P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN. ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1
- P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09 @ 250 SHEET A-1
- P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.
- P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01 @02.1 SHEET A-1
- P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01 @02.1 SHEET A-1
- P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01 @02.2 SHEET A-1
- P-12 FLOOR MATERIAL BREAK LINE

FLOOR PLAN KEY NOTES

- P-13 WALL LINE ABOVE
- P-14 WALL LINE BELOW
- P-15 FIREPLACE ASSEMBLY NOTES:
  A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01 @02.8 SHEET A-1
  B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01 @02.8 SHEET A-1
  C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01 @02.8 AND 9 SHEET A-1
  D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R 302.9.13.
- P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS
- P-17 3" DIAMETER STEEL POST

FLOOR PLAN KEY NOTES

- P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.
- P-19 8" VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1003.3. SEE DIV. 15 SHEET A-1
- P-20 PLANT SHELF
- P-21 UPPER AND LOWER LINEN CABINETS
- P-22 SOFFIT AREA
- P-23 INTEGRATED MAKE UP AIR
- P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUALITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

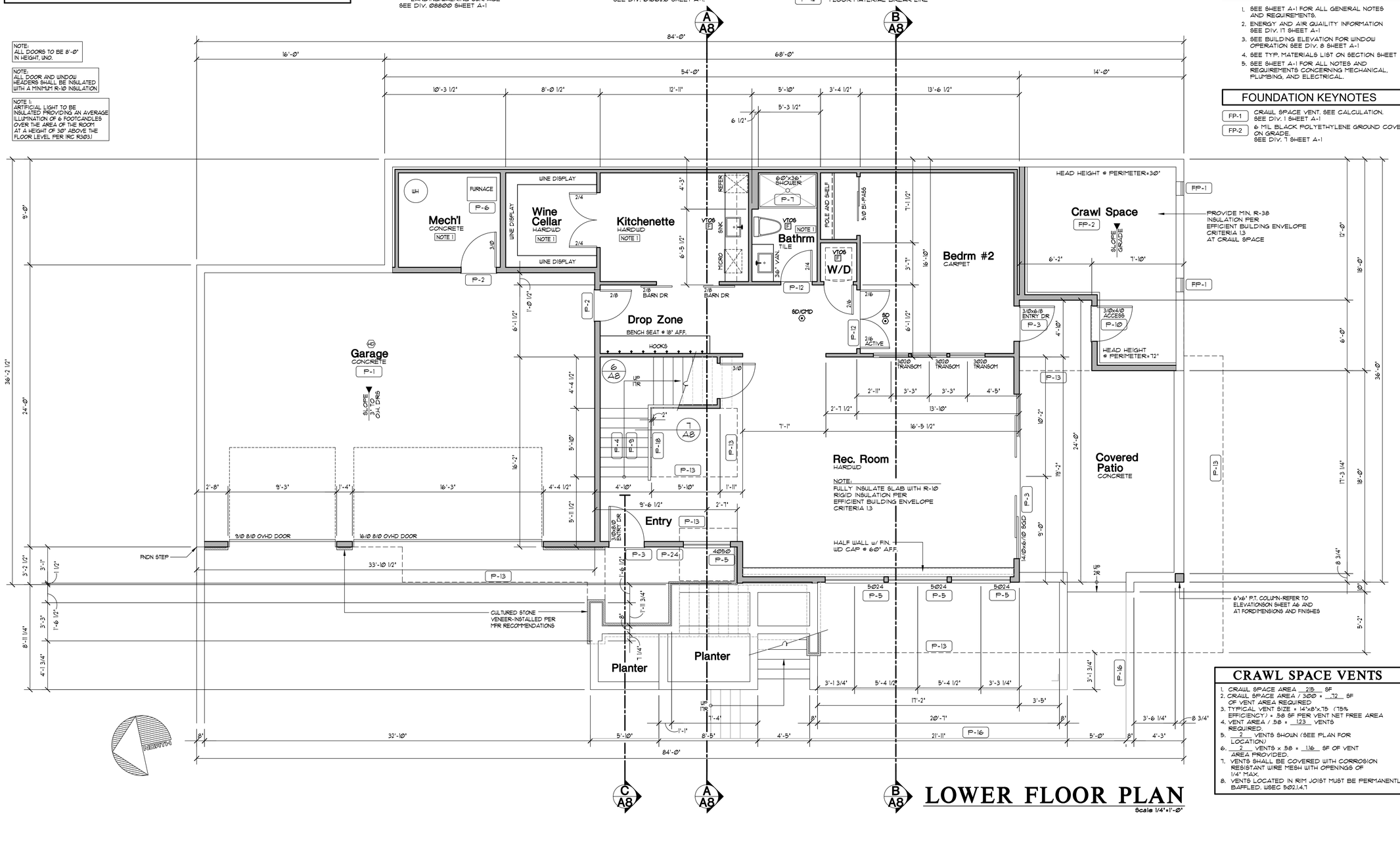
FOUNDATION KEYNOTES

- FP-1 CRAWL SPACE VENT. SEE CALCULATION. SEE DIV. 1 SHEET A-1
- FP-2 6 MIL BLACK POLYETHYLENE GROUND COVER ON GRADE. SEE DIV. 7 SHEET A-1

NOTE:
ALL DOORS TO BE 8'-0" IN HEIGHT, UNO.

NOTE:
ALL DOOR AND WINDOW HEADERS SHALL BE INSULATED WITH A MINIMUM R-10 INSULATION

NOTE 1:
ARTIFICIAL LIGHT TO BE INSULATED PROVIDING AN AVERAGE ILLUMINATION OF 6 FOOTCANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30" ABOVE THE FLOOR LEVEL PER IRC R303.1



LOWER FLOOR PLAN

Scale 1/4"=1'-0"

CRAWL SPACE VENTS

1. CRAWL SPACE AREA 215 SF
2. CRAWL SPACE AREA / 300 = 72 SF OF VENT AREA REQUIRED
3. TYPICAL VENT SIZE = 14"x8"x.75 (75% EFFICIENCY) = .58 SF PER VENT NET FREE AREA
4. VENT AREA / .58 = 123 VENTS REQUIRED.
5. 2 VENTS SHOWN (SEE PLAN FOR LOCATION)
6. 2 VENTS x .58 = 116 SF OF VENT AREA PROVIDED.
7. VENTS SHALL BE COVERED WITH CORROSION RESISTANT WIRE MESH WITH OPENINGS OF 1/4" MAX.
8. VENTS LOCATED IN RIM JOIST MUST BE PERMANENTLY BAFFLED. WSEC B02.1.4.7

REGISTERED ARCHITECT RICHARD W. KAPLER STATE OF WASHINGTON 6747 ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

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ARCHITECTURAL INNOVATIONS, P.S.
Forward Thinking Design Solutions For Your Environment
14311 SE 16th St
Bellevue, WA 98007
1-800-888-4517
www.kaplerhomeplans.com

TITLE

JOB NO.: 21076.21
STARTING NO.: 21076.05

SHEET
A2

SYMBOLS AND LEGEND

(F) FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 1200CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

(WF) WHOLE-HOUSE FAN ON TIMER. SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) R314.2.3. A HEAT DETECTOR OR HEAT ALARM RATED FOR THE AMBIENT OUTDOOR TEMPERATURES AND HUMIDITY SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS PER SECTION R314.2.3

(T) THERMOSTAT @ 50" ABOVE FLOOR

(●) 110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF ⅝" TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL.
SEE DIV. Ø1ØØ2.6.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. Ø1ØØ2.6.B. SHEET A-1

P-3 SAFETY GLAZING PER I.R.C. SECTION R308
A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, & BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. Ø8ØØØ SHEET A-1

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-Ø".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. Ø1ØØ1.6 SHEET A-1.

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. Ø8ØØØ SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN. ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. Ø9250 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. Ø1ØØ2.1 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. Ø1ØØ2.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. Ø1ØØ2.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES. INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. Ø1ØØ2.8 SHEET A-1
B. ZERO CLEARANCE FIREPLACES SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. Ø1ØØ2.8 SHEET A-1
C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. Ø1ØØ2.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R1ØØ3.13.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34" ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 'B' VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1ØØ5.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

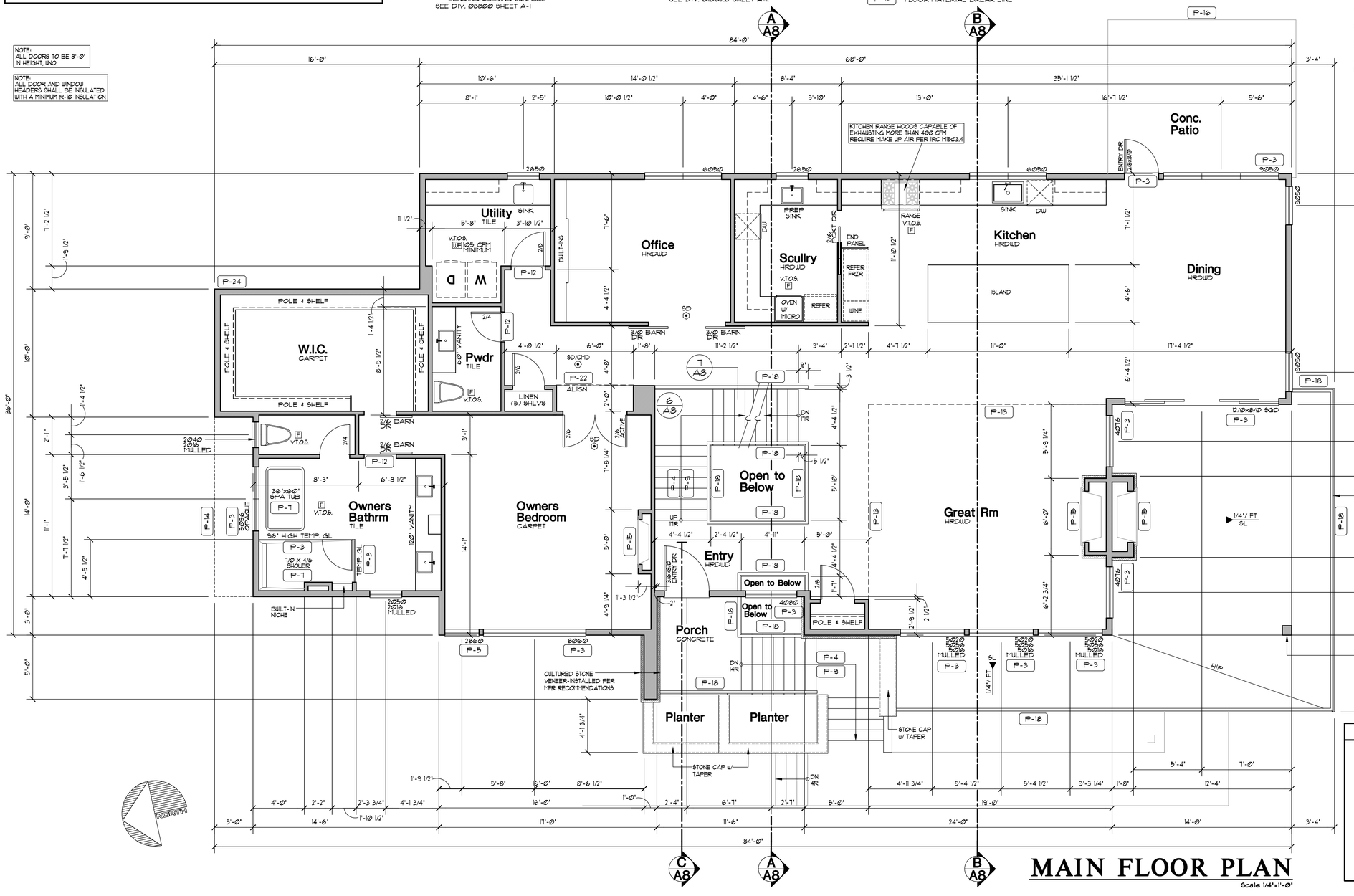
P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUALITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

NOTE:
ALL DOORS TO BE 8'-0" IN HEIGHT, UNO.

NOTE:
ALL DOOR AND WINDOW HEADERS SHALL BE INSULATED WITH A MINIMUM R-10 INSULATION



MAIN FLOOR PLAN

Scale 1/4"=1'-0"

SQUARE FOOTAGE

MAIN FLOOR	2447 SF
UPPER FLOOR	1327 SF
LOWER	1312 SF
TOTAL	5086 SF
GARAGE	897 SF
PORCH/DECK	1409 SF

SQUARE FOOTAGE IS MEASURED TO THE OUTSIDE FACE OF WALLS. STAIRS ARE COUNTED ONCE IN CALCULATIONS. OPEN TO BELOW SPACES AND GARAGES ARE NOT INCLUDED IN CALCULATIONS.

REGISTERED ARCHITECT
RICHARD W. KAPLER
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

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TITLE

JOB NO.: 21076.21
STARTING NO.: 21076.05

SHEET
A3

SYMBOLS AND LEGEND

(F) FAN- DIRECT VENT TO OUTSIDE
-BATHROOMS/LAUNDRY 50 CFM MIN.
-KITCHEN EXHAUST HOOD TO BE MIN. OF 100CFM. IF EXHAUST HOOD EXCEEDS 400 CFM MAKE UP AIR MUST BE PROVIDED PER SECTION M1503.6.

(WF) WHOLE-HOUSE FAN ON TIMER. SYSTEMS TO CONFORM TO IRC, M1505.4. FAN SIZE PER PLAN. TIMER TO BE LOCATED AT THE FAU WITH A MANUAL OVERRIDE SWITCH AT THE FAN LOCATION. TIMER TO BE SET TO RUN 50% IN EACH 4-HOUR SEGMENT. FRESH AIR TO BE PROVIDED BY THE FORCED AIR SYSTEM DUCTS PER SECTION M1505.4.1.

(HD) R314.2.3. A HEAT DETECTOR OR HEAT ALARM RATED FOR THE AMBIENT OUTDOOR TEMPERATURES AND HUMIDITY SHALL BE INSTALLED IN NEW GARAGES THAT ARE ATTACHED TO OR LOCATED UNDER NEW AND EXISTING DWELLINGS PER SECTION R314.2.3

(T) THERMOSTAT @ 58° ABOVE FLOOR

(⊙) 110v SMOKE ALARM PER I.R.C. R314 WITH BATTERY BACKUP INTERCONNECTED USE A COMBINATION SMOKE/CARBON MONOXIDE ALARM WHEN NOTED

MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEM FOR UNITS: PER DIV. 15,16 SEE SHEET A1

FURN WH

A. PROVIDE 6" DIAMETER FRESH AIR INTAKE FROM OUTSIDE TO RETURN AIR PLENUM AT FURNACE WITH MOTORIZED FLOW DAMPERS.
B. PROVIDE THERMAL EXPANSION TANK AT WATER HEATER.
C. STRAP WATER HEATER TO FRAMING TOP AND BOTTOM.
D. PROVIDE PRESSURE RELIEF LINE PLUMBED TO OUTSIDE.

FLOOR PLAN KEY NOTES

P-1 OCCUPANCY SEPARATION: APPLY (1) LAYER OF ½" G.W.B. TO GARAGE SIDE OF RESIDENCE, ATTIC SPACES, & TO ALL BEAMS & POSTS SUPPORTING A FLOOR-CEILING ASSEMBLY. APPLY (1) LAYER OF ½" TYPE 'X' G.W.B. TO GARAGE CEILING WHEN UNDER HABITABLE ROOMS. DUCTS THROUGH WALL OR CEILING COMMON TO HOUSE SHALL HAVE MINIMUM 26 GAUGE STEEL.
SEE DIV. 01 02 16.A. SHEET A-1.

P-2 1⅜" MIN. SELF CLOSING SOLID WOOD CORE, HONEY-COMB CORE STEEL, OR 20-MINUTE FIRE RATED DOOR, W/ SELF-CLOSER.
SEE DIV. 01 02 16.B. SHEET A-1

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A. WINDOWS WITHIN 18" OF FLOOR
B. WINDOWS WITHIN A 24" ARC OF DOORS
C. WINDOWS AT TUBS AND SHOWERS
D. GLAZING IN DOORS
E. WITHIN STAIRWELLS
F. LESS THAN 60" HORIZ. FROM THE BOT. STAIR TREAD NOSING, 4 BOT. EDGE OF GLAZING IS LESS THAN 36" ABV. LANDING/WALKING SURFACE
SEE DIV. 08 80 00 SHEET A-1

P-4 STAIR ASSEMBLY NOTES: PER I.R.C. SECTION R311.5 AND DETAIL 12/D2.
A. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0".
B. TREADS 10" MIN. DEPTH AND MIN. WIDTH OF 36" ABOVE HANDRAIL HEIGHT, RISERS 7¾" MAX. HT. TREAD NOSING TO BE MINIMUM 3/4" AND A MAXIMUM OF 1 1/4" ON STAIRS W/ SOLID RISERS.
C. HANDRAIL MIN. 34" TO MAX 38" ABOVE TREAD NOSING. HANDRAIL TYPE 1 CIRCULAR TO HAVE 1¼" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL, RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200# P.L. IN ANY DIRECTION PER I.R.C. TABLE R301.5
D. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R302.11.
E. COVER USABLE SPACE UNDER STAIR W/½"G.W.B. PER I.R.C. SECTION R302.7.
F. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS.
G. PROVIDE STAIRWAY ILLUMINATION PER I.R.C. SECTION R303.6.
SEE DIV. 01 00 16 SHEET A-1.

P-5 EGRESS WINDOW PER I.R.C., SECTION R310 SEE DIV. 08 60 00 SHEET A-1

P-6 IGNITERS FOR GAS FIRED APPLIANCES IN GARAGE TO BE 18" MIN. ABOVE TOP OF SLAB. SEE DIV. 15 SHEET A-1

P-7 COVER WALLS ADJACENT TO TUBS AND SHOWERS WITH NON-ABSORBENT MATERIAL TO 72" ABOVE DRAIN INLETS, PER I.R.C. SECTION 307.2. SEE DIV. 09 25 00 SHEET A-1

P-8 (2) LAYERS OF FLOOR SHEATHING OVER FRAMING.

P-9 7¾" MAX. RISER WITH 10" MIN. RUN, IF MORE THAN (3) RISERS, HANDRAIL REQUIRED PER I.R.C. SECTION R311.7.8. SEE DIV. 01 00 2.1 SHEET A-1

P-10 36"x48" CRAWL SPACE ACCESS. INSULATE AND WEATHER STRIP. SEE DIV. 01 00 2.1 SHEET A-1

P-11 22"x30" ATTIC SPACE ACCESS W/ 30" HEAD CLEARANCE. INSULATE AND WEATHER STRIP. SEE DIV. 01 00 2.2 SHEET A-1

P-12 FLOOR MATERIAL BREAK LINE

P-13 WALL LINE ABOVE

P-14 WALL LINE BELOW

P-15 FIREPLACE ASSEMBLY NOTES:
A. DIRECT VENT FIREPLACES, INSTALL PER MFG. SPECIFICATIONS, SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01 00 2.8 SHEET A-1
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C. HEARTH SHALL CONFORM TO I.R.C. REQUIREMENTS. SEE DIV. 01 00 2.8 AND 9 SHEET A-1
D. FIRE-BLOCK OPENINGS AROUND PENETRATIONS AT EACH FLOOR PER I.R.C. SECTION R 1003.19.

P-16 SEE SITE PLAN FOR EXTENT OF WALKS AND DRIVEWAYS

P-17 3" DIAMETER STEEL POST

P-18 42" GUARDRAIL PER I.R.C. SECTION R312 & TABLE R301.5 AT STAIRS SLOPES AT 34° ABOVE STAIR NOSING. CONTRACTOR TO VERIFY TO INSPECTOR THAT ALL GUARDRAILS ARE CAPABLE OF RESISTING 200LB LOAD ON TOP RAIL IN ANY DIRECTION PER R301.5.

P-19 8" VENT FOR MECHANICAL. 1" CLEARANCE ALL SIDES PER I.R.C. SECTION R1003.3. SEE DIV. 15 SHEET A-1

P-20 PLANT SHELF

P-21 UPPER AND LOWER LINEN CABINETS

P-22 SOFFIT AREA

P-23 INTEGRATED MAKE UP AIR

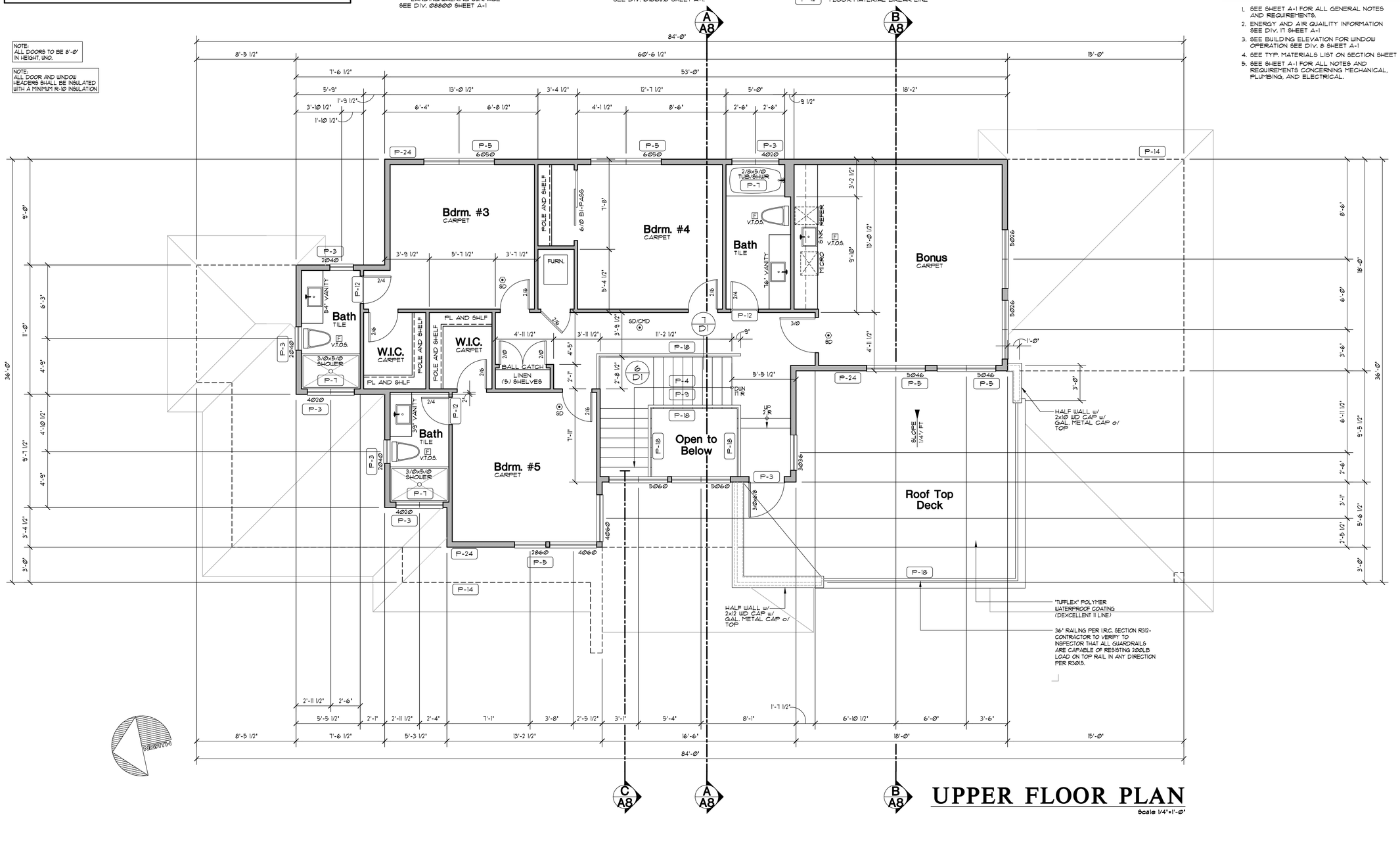
P-24 2x6 STUDS W/ R-21 INSUL. MIN.

GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUALITY INFORMATION SEE DIV. 17 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

NOTE:
ALL DOORS TO BE 8'-0" IN HEIGHT, UNO.

NOTE:
ALL DOOR AND WINDOW HEADERS SHALL BE INSULATED WITH A MINIMUM R-10 INSULATION



UPPER FLOOR PLAN

Scale 1/4"=1'-0"

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

REGISTERED ARCHITECT RAY S. YOUNG STATE OF WASHINGTON 8879 ORIGINAL SIGNATURE REQUIRED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

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TITLE

JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
A4

(A) ROOF VENT CALCULATION

TOTAL ROOF AREA 1453 SF/ 150 = 9.69 SF OF VENT AREA REQ.

4 ROOF JACKS AT 38 SQ. IN. EACH= 152 SQ. IN.= 105 SF

197 L.F. OF EAVE VENTS AT 6.6*SQ. IN/LF= 1300 SQ. IN.= 9 SF

TOTAL SF OF VENTILATION PROVIDED = 131 SF

(B) ROOF VENT CALCULATION

TOTAL ROOF AREA 325 SF/ 150 = 2.16 SF OF VENT AREA REQ.

0.00 ROOF JACKS AT 38 SQ. IN. EACH= 0.00 SQ. IN.= 0.00 SF

74 L.F. OF EAVE VENTS AT 6.6*SQ. IN/LF= 488 SQ. IN.= 339 SF

TOTAL SF OF VENTILATION PROVIDED = 339 SF

(C) ROOF VENT CALCULATION

TOTAL ROOF AREA 540 SF/ 150 = 3.6 SF OF VENT AREA REQ.

2 ROOF JACKS AT 38 SQ. IN. EACH= 76 SQ. IN.= 53 SF

72 L.F. OF EAVE VENTS AT 6.6*SQ. IN/LF= 475 SQ. IN.= 33 SF

TOTAL SF OF VENTILATION PROVIDED = 383 SF

(D) ROOF VENT CALCULATION

TOTAL ROOF AREA 83 SF/ 150 = .55 SF OF VENT AREA REQ.

0.00 ROOF JACKS AT 38 SQ. IN. EACH= 0.00 SQ. IN.= 0.00 SF

33 L.F. OF EAVE VENTS AT 3.3*SQ. IN/LF= 108 SQ. IN.= 76 SF

TOTAL SF OF VENTILATION PROVIDED = 131 SF

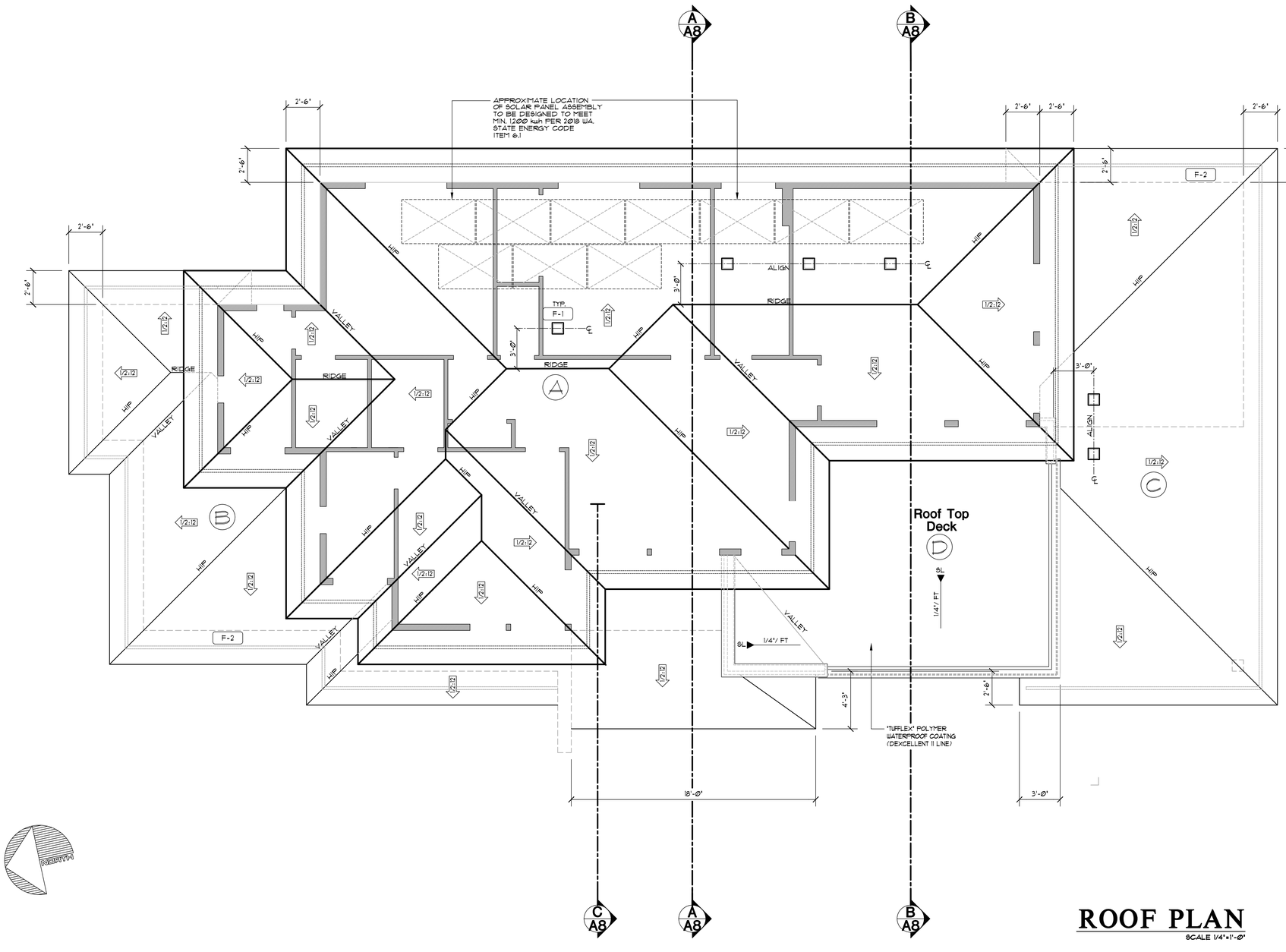
GENERAL PLAN NOTES

1. SEE SHEET A-1 FOR ALL GENERAL NOTES AND REQUIREMENTS.
2. ENERGY AND AIR QUALITY INFORMATION SEE DIV. 11 SHEET A-1
3. SEE BUILDING ELEVATION FOR WINDOW OPERATION SEE DIV. 8 SHEET A-1
4. SEE TYP. MATERIALS LIST ON SECTION SHEET
5. SEE SHEET A-1 FOR ALL NOTES AND REQUIREMENTS CONCERNING MECHANICAL, PLUMBING, AND ELECTRICAL.

ROOF PLAN KEY NOTES

F-1 ATTIC SPACE VENT
SEE CALCULATION
SEE DIV. Ø1Ø0Ø.3.B SHEET A-1

F-2 WALL LINE BELOW



NORTH

ROOF PLAN

SCALE 1/4"=1'-0"

REGISTERED ARCHITECT
RICHARD A. KAPPLER
STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Date	By	Description
3/21/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes

Westview Plan

Permit no. 2210-120

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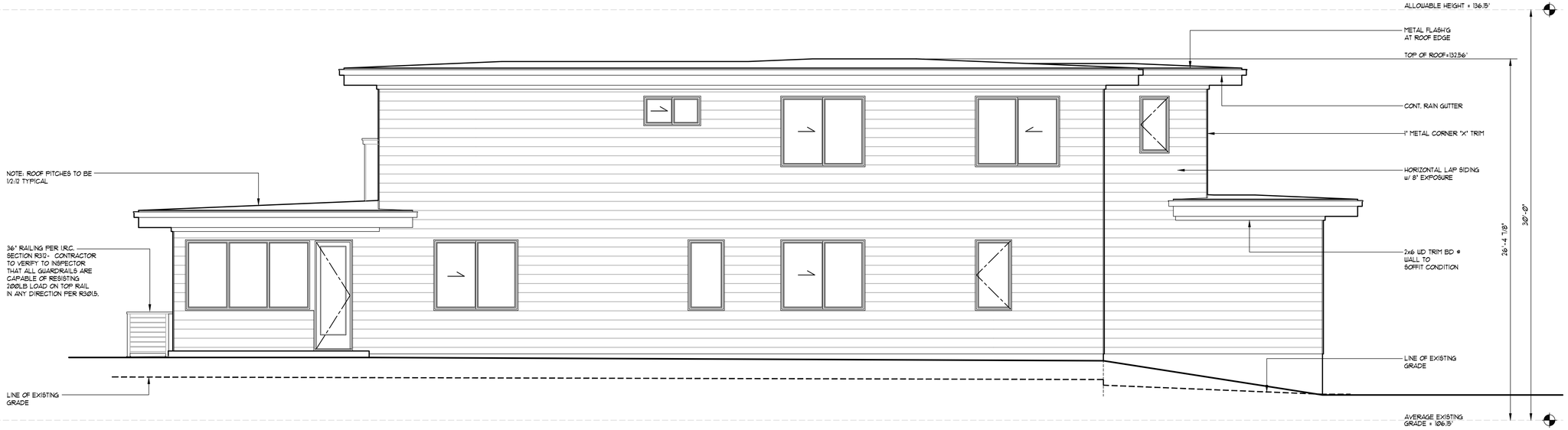
SHEET

A5



FRONT ELEVATION

Scale 1/4"=1'-0"



REAR ELEVATION

Scale 1/4"=1'-0"

TYPICAL BUILDING MATERIALS

ROOF CONSTRUCTION

ROOFING: (DIV. 7) — SHINGLES (DIV. 01000.5)
BUILDING PAPER: (DIV. 7) — 30# BUILDING PAPER
SHEATHING: (DIV. 6) — 7/16" O.S.B. OR EQUAL

FRAMING: (DIV. 6) — PER PLAN
INSULATION: (DIV. 7) — R-49 BLOWN-IN
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD
GWB: (DIV. 9) — 5/8" GWB

EXTERIOR WALL CONSTRUCTION

SIDING MATERIAL: (DIV. 7) — WOOD SIDING (DIV. 0100.5)
BUILDING WRAP: (DIV. 7) — 15# BUILDING PAPER
SHEATHING: (DIV. 6) — 1/2" CDX PLYWOOD OR EQUAL
FRAMING: (DIV. 6) — 2 X 6 STUDS AT 16" OC
INSULATION: (DIV. 7) — R-21 BATT W/ INTEGRAL VAPOR BARRIER

GWB: (DIV. 9) — 1/2" GWB

FLOOR CONSTRUCTION

FLOORING: (DIV. 9) — FINISH PER PLANS (DIV. 0100.5)
SUBFLOOR: (DIV. 6) — 3/4" T&G (PLYWD, COMPLY, OR EQ.)
FRAMING: (DIV. 6) — PER PLANS
INSULATION: (DIV. 7) — R-30 BATT
SOFFIT: (DIV. 7) — 1/2" RE-SAWN PLYWOOD

TRIM:(DIV. 6)

WINDOW: (WITH NO BRICK MOLD) — HEAD: N/A; JAMB: N/A; SILL: N/A
CORNER BOARDS: — INSIDE: 2x2; OUTSIDE: METAL "X"
FASCIA: — 2x8 UNO

REGISTERED ARCHITECT — STATE OF WASHINGTON — ORIGINAL SIGNATURE REQUIRED

Date	By	Description
10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
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JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET

A6

2018 Energy Credits

Glazing Schedule

Window, Skylight and Door Schedule

Project Information	Contact Information
Buchan Homes-Westview Plan	Architectural Innovations
3036 67th Ave SE	14311 SE 16th Street
Mercer Island, WA	Bellevue WA 98007

	Ref	U-factor	Qt	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Exempt Swinging Door (24 sq. ft. max.)	Simp	0.28	1	3	F	8	F	24.0	6.72
Exempt Glazed Fenestration (15 sq. ft. max.)	Mtg	28	1	5	F	3	F	15.0	4.20

Vertical Fenestration (Windows and doors)

Component Description	Ref	U-factor	Qt	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
Rec. Room	Mtg	0.28	1	14	F	8	F	112.0	31.36
Rec. Room	Mtg	0.28	2	5	F	3	F	30.0	8.40
Entry (Lower)	Mtg	0.28	1	4	F	7	F	28.0	7.84
Entry (Lower)	Simp	0.28	1	3	F	8	F	24.0	6.72
								0.0	0.00
Entry (Main)	Simp	0.28	1	3	F	8	F	24.0	6.72
Entry (Main)	Mtg	0.28	1	4	F	8	F	32.0	8.96
Owners Bedroom	Mtg	0.28	1	8	F	6	F	48.0	13.44
Owners Bedroom	Mtg	0.28	1	2	F	6	F	17.3	4.85
Owners Bedroom	Mtg	0.28	1	2	F	4	IN	9.7	2.71
Owners Bedroom	Mtg	0.28	1	2	F	1	F	3.3	0.93
Owners Bedroom	Mtg	0.28	1	5	F	5	F	27.5	7.70
Owners Bedroom	Mtg	0.28	1	2	F	3	IN	7.7	2.15
Owners Bedroom	Mtg	0.28	1	2	F	1	F	3.3	0.93
Utility	Mtg	0.28	1	2	F	5	F	12.5	3.50
Office	Mtg	0.28	1	6	F	5	F	30.0	8.40
Scullry	Mtg	0.28	1	2	F	5	F	12.5	3.50
Kitchen	Mtg	0.28	1	6	F	5	F	34.0	9.52
Dining	Simp	0.28	1	2	F	6	F	17.8	4.98
Dining	Mtg	0.28	1	2	F	1	IN	4.9	1.37
Dining	Mtg	0.28	1	9	F	5	F	49.5	13.86
Dining	Mtg	0.28	2	3	F	5	F	33.0	9.24
Dining	Mtg	0.28	1	12	F	8	F	96.0	26.88
Great Rm	Mtg	0.28	2	4	F	8	F	66.7	18.67
Great Rm	Mtg	0.28	2	5	F	6	F	30.0	8.40
Great Rm	Mtg	0.28	3	5	F	6	F	96.3	26.95
Great Rm	Mtg	0.28	3	5	F	1	F	23.8	6.66
								0.0	0.00
Open to Below	Simp	0.28	1	3	F	6	F	20.0	5.60
Open to Below	Mtg	0.28	2	5	F	6	F	60.0	16.80
Open to Below	Mtg	0.28	1	3	F	3	F	10.5	2.94
Bedroom #5	Mtg	0.28	2	4	F	6	F	48.0	13.44
Bedroom #5	Mtg	0.28	1	2	F	8	F	16.0	4.48
Bathrooms	Mtg	0.28	3	4	F	2	F	24.0	6.72
Bathrooms	Mtg	0.28	3	2	F	4	F	24.0	6.72
Bedroom #3	Mtg	0.28	1	6	F	5	F	30.0	8.40
Bedroom #4	Mtg	0.28	1	6	F	5	F	30.0	8.40
Bonus Rm	Mtg	0.28	2	5	F	2	F	25.0	7.00
Bonus Rm	Mtg	0.28	2	5	F	5	F	50.0	14.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Vertical Fenestration Area and UA								1211.2	339.13
Vertical Fenestration Area Weighted U = UA/Area									0.28

Overhead Glazing (Skylights)

Component Description	Ref	U-factor	Qt	Width Feet	Width Inch	Height Feet	Height Inch	Area	UA
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
								0.0	0.00
Sum of Overhead Glazing Area and UA								0.0	0.00
Overhead Glazing Area Weighted U = UA/Area									0.00
***Total Sum of Fenestration Area and UA** (for heating system sizing calculations)*								1250.2	350.05

Heat Sizing Worksheet

Simple Heating System Size: Washington State

This heating system sizing calculator is based on the Prescriptive Requirements of the 2018 Washington State Energy Code (WSEC) and ACCA Manuals J and S. This tool will calculate heating loads only. ACCA procedures for sizing cooling systems should be used to determine cooling loads.

Please complete the green drop-downs and boxes that are applicable to your project. As you make selections in the drop-downs for each section, some values will be calculated for you. If you do not see the selection you need in the drop-down options, please contact the WSU Energy Program at energycode@energy.wsu.edu or (360) 956-2042 for assistance.

Project Information	Contact Information
Buch Homes - Westview Plan	Architectural Innovations
4036 67th Ave SE	14311 SE 16th Street
Mercer Island, WA	Bellevue, WA 98007

Heating System Type: ○ All Other Systems ◉ Heat Pump

To see detailed instructions for each section, place your cursor on the word "Instructions"

Design Temperature — Instructions: Mercer Island — Design Temperature Difference (LT): 45 (67 − Heline (99 degrees) − Outdoor Design Temp)

Area of Building
- Conditioned Floor Area — Instructions: Conditioned Floor Area (sq ft): 1,064
- Average Ceiling Height — Instructions: Average Ceiling Height (ft): 10 — Conditioned Volume: 10,640
- Glazing and Doors — Instructions: U-0.28 — U-Factor 0.280 × Area 1,250 = UA 350.00
- Skylights — Instructions: — U-Factor 0.50 × Area — = UA —
- Insulation
  - Attic — Instructions: R-49 — U-Factor 0.026 × Area 2,499 = UA 64.97
  - Single Rafter or Joint Vaulted Ceilings — Instructions: No Vaulted Ceilings in this project — U-Factor — × Area — = UA —
  - Above Grade Walls (see Figure 1) — Instructions: R-21 Intermediate — U-Factor 0.056 × Area 3,589 = UA 202.28
  - Floors — Instructions: R-38 — U-Factor 0.025 × Area 830 = UA 20.75
  - Below Grade Walls (see Figure 1) — Instructions: R-21 Interior — U-Factor 0.042 × Area 540 = UA 22.66
  - Slab Below Grade (see Figure 1) — Instructions: R-10 Fully Insulated — F-Factor 0.333 × Length 166 = UA 55.33
  - Slab on Grade (see Figure 1) — Instructions: No Slab on Grade in this project — F-Factor — × Length — = UA —

Location of Ducts — Instructions: Conditioned Space — Duct Leakage Coefficient 1.00

Figure 1

Sum of UA	734.00
Envelope Heat Load Sum of UA x 17	33,000 Btu /Hour
Air Leakage Heat Load Volume 2 0.6 x 0.7 x 0.018	23,895 Btu /Hour
Total Design Heat Load Envelope + air leakage heat loss	56,925 Btu /Hour
Building and Duct Heat Load *Ducts in unconditioned space: sum of building heat loss x 1.10* *Ducts in conditioned space: sum of building heat loss x 1*	56,925 Btu /Hour
Maximum Heat Equipment Output Building and duct heat loss x 1.40 for forced air furnace Building and duct heat loss x 1.20 for heat pump	71,156 Btu /Hour

Prescriptive Compliance

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021) Version 1.0

These requirements apply to all IRC building types, including detached one- and two-family dwellings and multiple single-family dwellings (townhouses).

Project Information	*Contact Information*
Buchan Homes (AIA# 21076)	Architectural Innovations, P.S.
3036 67th Ave SE Mercer Island	14311 SE 16th Street Bellevue WA 98007

Instructions: This single-family project will use the requirements of the Prescriptive Path below and Incorporate the minimum values listed. Based on the size of the structure, the appropriate number of additional credits are checked as chosen by the permit applicant.

Provide all information from the following tables as building permit drawings: Table R402.1 - Insulation and Fenestration Requirements by Component, Table R406.2 - Fuel Normalization Credits and 406.3 - Energy Credits.

Authorized Representative _____ ***Date*** _____

All Climate Zones (Table R402.1.1)	R-Value [a]	U-Factor [a]
Fenestration U-Factor [b]	n/a	0.30
Skylight U-Factor [b]	n/a	0.50
Glazed Fenestration SHGC [b,i]	n/a	n/a
Ceiling [e]	49	0.026
Wood Frame Wall [e,h]	21 int	0.056
Floor	30	0.029
Below Grade Wall [c,h]	10/15/21 int + TB	0.042
Slab [d] R-Value & Depth	10, 2 ft	n/a

R-values are minimums. U-factors and SHGC are maximums. When insulation is installed in a cavity that is less than the label or design thickness of the insulation, the compressed R-value of the insulation from Appendix Table A101.4 shall not be less than the R-value specified in the table.

a. The fenestration *U*-factor column excludes skylights.

b. "10/15/21 +15TB" means R-10 continuous insulation on the exterior of the wall, or R-15 continuous insulation on the interior of the wall, or R-21 cavity insulation plus a thermal break between the slab and the basement wall at the interior of the basement wall. "10/15/21 +15TB" shall be permitted to be met with R-13 cavity insulation on the interior of the basement wall plus R-5 continuous insulation on the interior or exterior of the wall. "5TB" means R-5 thermal break between floor slab and basement wall.

c. R-10 continuous insulation is required under heated slab-on-grade floors. See Section R402.2.9.1.

d. For single rather- or joist-vaulted ceilings, the insulation may be reduced to R-38 if the full insulation depth extends over the top plate of the exterior wall.

e. R-7.5 continuous insulation installed over an existing slab is deemed to be equivalent to the required perimeter slab insulation when applied to existing slabs complying with Section R503.1.1. If foam plastic is used, it shall meet the requirements for thermal barriers protecting foam plastics.

f. For log structures developed in compliance with Standard ICC 400, log walls shall meet the requirements for *climate zone 5* of ICC 400.

g. Int. Intermediate Framing) denotes framing and insulation as described in Section A103.2.2 including standard framing 16 inches on center, 78% of the wall cavity insulated and headers insulated with a minimum of R-10 insulation.

h.

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Each dwelling unit *in a residential building* shall comply with sufficient options from Table R406.2 (fuel normalization credits) and Table 406.3 (energy credits) to achieve the following minimum number of credits. To claim this credit, the building permit drawings shall specify the option selected and the maximum tested building air leakage, and show the qualifying ventilation system and its control sequence of operation.

1. **Small Dwelling Unit:** 3 credits
   Dwelling units less than 1,500 sf in conditioned floor area with less than 300 sf of fenestration area.
   Additions to existing building that are greater than 500 sf of heated floor area but less than 1,500 sf.
2. **Medium Dwelling Unit:** 6 credits
   All dwelling units that are not included in #1 or #3
3. **Large Dwelling Unit:** 7 credits
   Dwelling units exceeding 5,000 sf of conditioned floor area
4. **Additions less than 500 square feet:** 1.5 credits
   All other additions shall meet 1-3 above

Before selecting your credits on this Summary table, review the details in Table 406.3 [Single Family], on page 4.

Summary of Table R406.2

Heating Options	Fuel Normalization Descriptions	Credits - select ONE heating option		User Notes
1	Combustion heating minimum NAECA[a]	0.0	☐	
2	Heat pump[a]	1.0	☒	
3	Electric resistance heat only - furnace or zonal	1.0	☐	
4	DHP with zonal electric resistance per option 3.4	0.5	☐	
5	All other heating systems	-1.0	☐	
Energy Options	**Energy Credit Option Descriptions**	**Credits - select ONE energy option from each category [f]**		
1.1	Efficient Building Envelope	0.5	☐	
1.2	Efficient Building Envelope	1.0	☐	
1.3	Efficient Building Envelope	0.5	☒	
1.4	Efficient Building Envelope	1.0	☐	
1.5	Efficient Building Envelope	2.0	☐	
1.6	Efficient Building Envelope	3.0	☐	
1.7	Efficient Building Envelope ☐	0.5	☐	
2.1	Air Leakage Control and Efficient Ventilation	0.5	☐	
2.2	Air Leakage Control and Efficient Ventilation	1.0	☐	
2.3	Air Leakage Control and Efficient Ventilation	1.5	☐	
2.4	Air Leakage Control and Efficient Ventilation ☐	2.0	☐	
3.1[e]	High Efficiency HVAC	1.0	☐	
3.2	High Efficiency HVAC	1.0	☐	
3.3[e]	High Efficiency HVAC	1.5	☐	
3.4	High Efficiency HVAC	1.5	☐	
3.5	High Efficiency HVAC	1.5	☒	
3.6[e]	High Efficiency HVAC ☐	2.0	☐	
4.1	High Efficiency HVAC Distribution System	0.5	☐	
4.2	High Efficiency HVAC Distribution System ☐	1.0	☒	

2018 Washington State Energy Code – Residential
Prescriptive Energy Code Compliance for All Climate Zones in Washington
Single Family – New & Additions (effective February 1, 2021)

Summary of Table R406.2 (cont.)

Energy Options	Energy Credit Option Descriptions (cont.)			User Notes
5.1[e]	Efficient Water Heating	0.5	☐	
5.2	Efficient Water Heating	0.5	☐	
5.3	Efficient Water Heating	1.0	☐	
5.4	Efficient Water Heating	1.5	☐	
5.5	Efficient Water Heating	2.0	☒	
5.6	Efficient Water Heating ☐	2.5	☐	
6.1[e]	Renewable Electric Energy (3 credits max)	1.0	☐	
7.1	Appliance Package	0.5	☐	
	Total Credits	7.0	Calculate Total	Clear Form

a. An alternative heating source sized at a maximum of 0.3 W/sf (equivalent) of heated floor area or 500 W, whichever is bigger, may be installed in the dwelling unit.
b. Equipment listed in Table C403.3.2(4) or C403.3.2(5)
c. Equipment listed in Table C403.3.2(1) or C403.3.2(2)
d. You cannot select more than one option from any category EXCEPT in category 5. Option 5.1 may be combined with options 5.2 through 5.6. See Table 406.3.
e. 1.0 credit for each 1,200 kWh of electrical generation provided annually, up to 3 credits max.
See the complete Table R406.2 for all requirements and option descriptions.
f. Use the single radiobutton in the upper right of the second column to deselect radiobuttons in that group.

Please print only pages 1 through 3 of this worksheet for submission to your building official.

2 HEAT PUMP 1.0 credits
EQUIPMENT LISTED IN TABLE C403.3.2(1) OR C403.3.2(2)

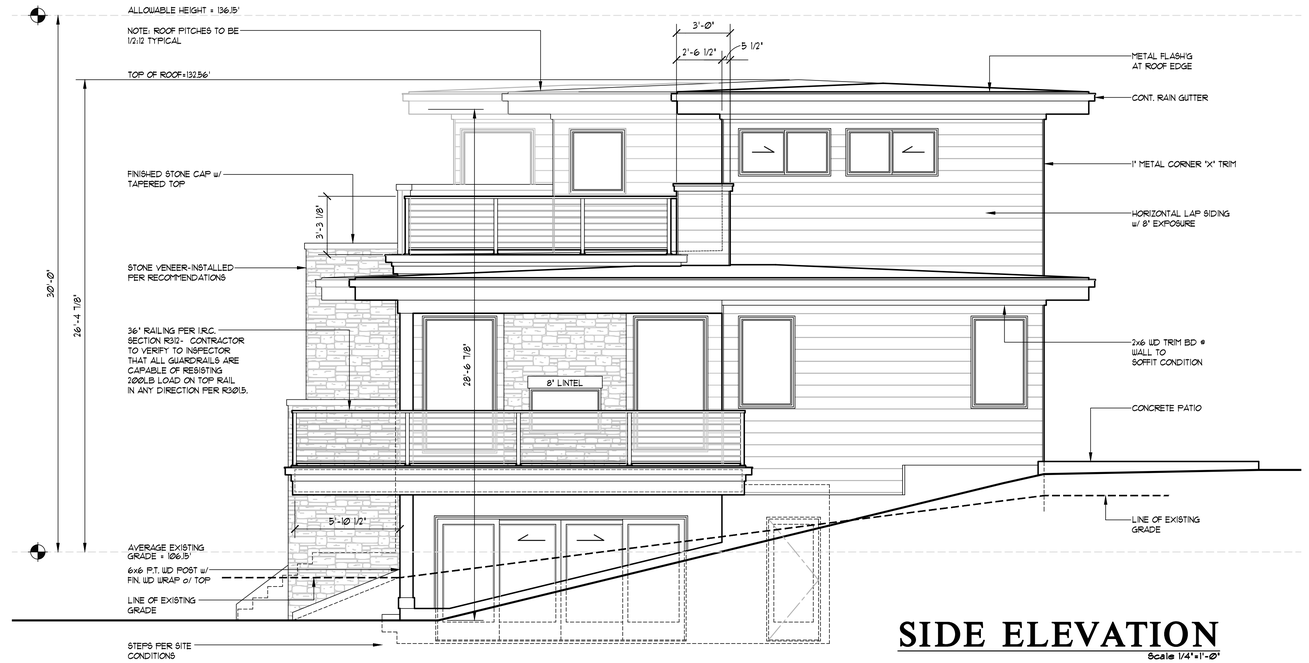
1.3 EFFICIENT BUILDING ENVELOPE .5 credits
VERTICAL FENESTRATION MIN U=.28
FLOOR R-38
SLAB ON GRADE R-10 UNDER ENTIRE SLAB

3.2 HIGH EFFICIENCY HVAC EQUIPMENT 1.5 credits
AIR-SOURCE, CENTRALLY DUCTED HEAT PUMP WITH MINIMUM HSPF OF 11.0

4.2 HIGH EFFICIENCY HVAC DISTRIBUTION 1.0 credits
HVAC EQUIPMENT AND ASSOCIATED DUCT SYSTEM(S) INSTALLATION SHALL COMPLY WITH THE REQUIREMENTS OF SECTION R403.3.7
LOCATED SYSTEM COMPONENTS IN CONDITIONED CRAWL SPACES IS NOT PERMITTED UNDER THIS OPTION.
ELECTRICAL RESISTANCE HEAT AND DUCTLESS HEAT PUMPS ARE NOT PERMITTED UNDER THIS OPTION.
DIRECT COMBUSTION HEATING EQUIPMENT WITH APUE LESS THAN 80% IS NOT PERMITTED UNDER THIS OPTION.

5.5 EFFICIENT WATER HEATING 2.0 credit
WATER HEATING SYSTEM SHALL INCLUDE ONE OF THE FOLLOWING:
ELECTRIC HEAT PUMP WATER HEATER MEETING THE STANDARDS FOR TIER 3 OF NEEA'S ADVANCED WATER HEATING SPECIFICATION.
OR,
FOR R-2 OCCUPANCY, ELECTRIC HEAT PUMP WATER HEATER(S) MEETING THE STANDARDS FOR TIER 3 OF NEEA'S ADVANCED WATER HEATING SPECIFICATION, SHALL SUPPLY DOMESTIC HOT WATER TO ALL UNITS. IF ONE WATER HEATER IS SERVING MORE THAN ON DWELLING UNIT, ALL HOT WATER SUPPLY AND RETICULATION PIPING SHALL BE INSULATE WITH MIN R-8 MINIMUM PIPE INSULATION

6.1 RENEWABLE ELECTRIC ENERGY OPTION 1.0 credit
SOLAR ENERGY PANELS TO BE INSTALLED ON EXISTING ROOF.
Documentation showing photovoltaic shall be submitted indicating minimum annual energy power production.



SIDE ELEVATION

Scale 1/4"=1'-0"



SIDE ELEVATION

Scale 1/4"=1'-0"

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10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

Buchan Homes
Westview Plan
Permit no. 2210-120
3036 67th Ave SE Mercer Island , WA

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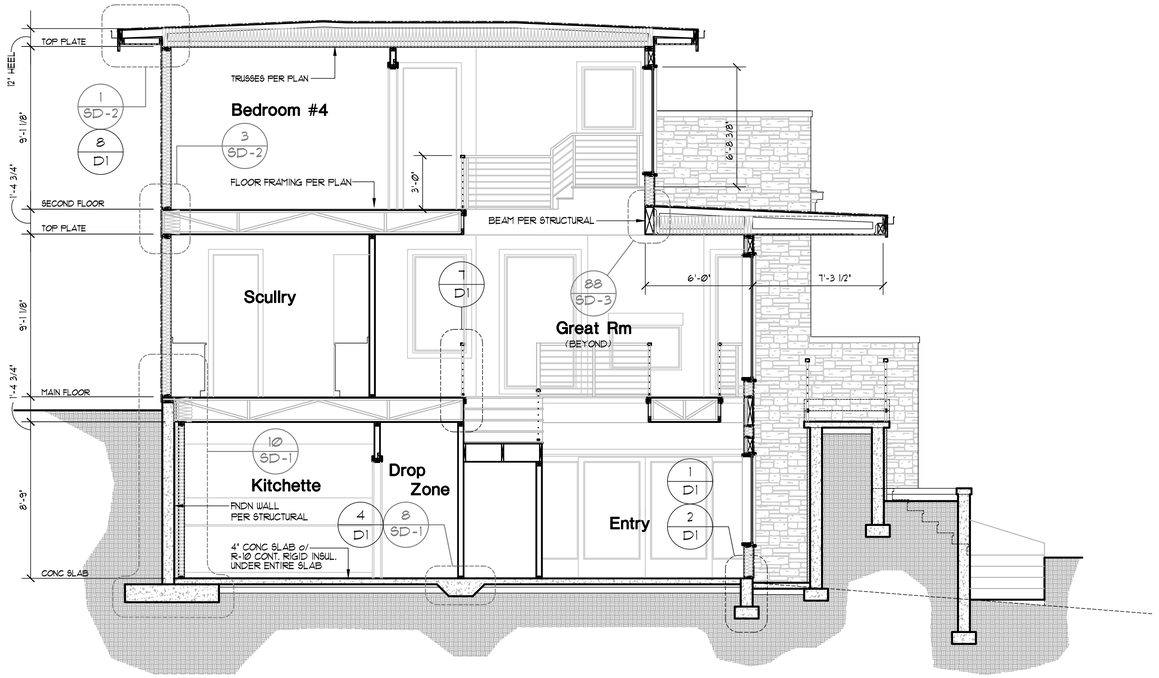
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TITLE

JOB NO. :	21076.21
STARTING NO. :	21076.05

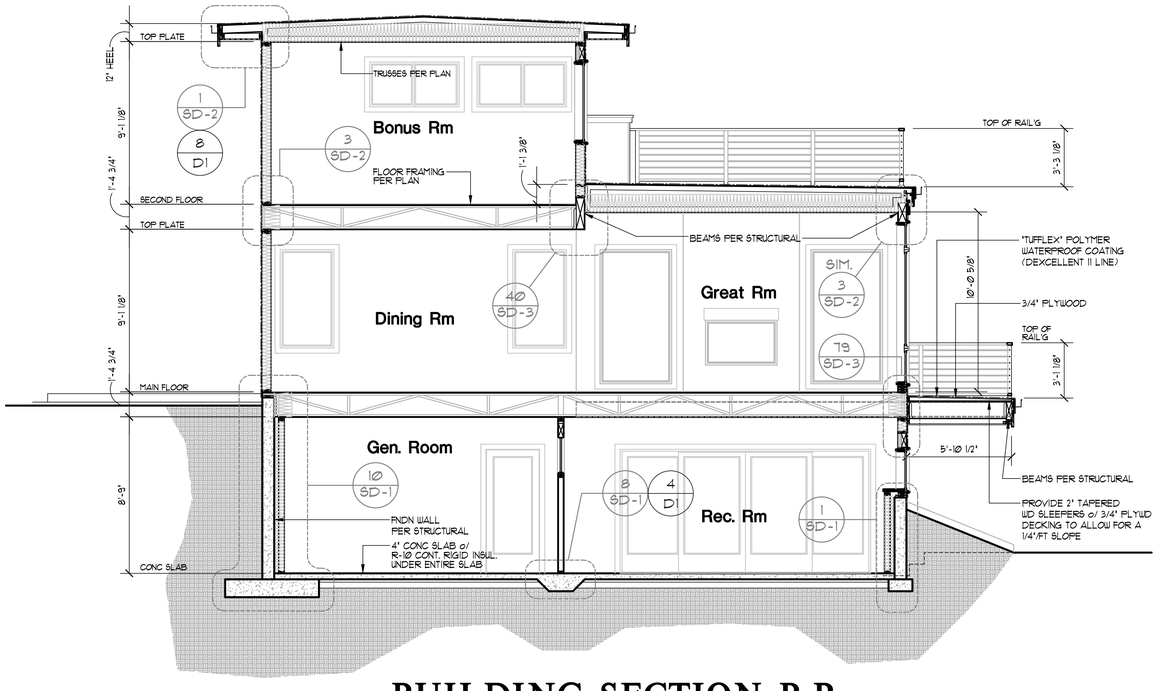
SHEET

A7



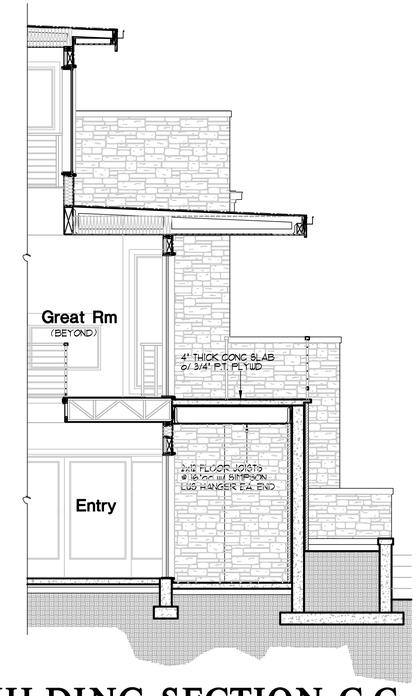
BUILDING SECTION A-A

Scale 1/4"=1'-0"



BUILDING SECTION B-B

Scale 1/4"=1'-0"



BUILDING SECTION C-C

Scale 1/4"=1'-0"

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10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

REGISTERED ARCHITECT STATE OF WASHINGTON
ORIGINAL SIGNATURE REQUIRED

Buchan Homes

Westview Plan

Permit no. 2210-120

3036 67th Ave SE Mercer Island , WA

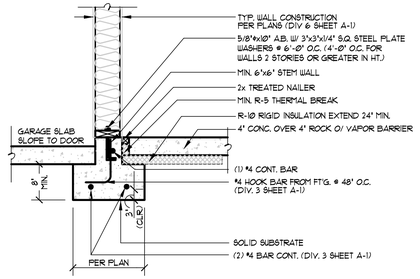
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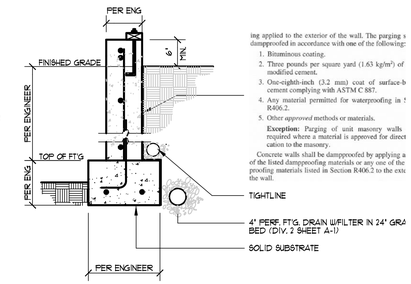
SHEET

A8



5 FOUNDATION DETAIL
3/4"=1'-0"

03300-00000-7E



ing applied to the exterior of the wall. The parging s dampproofed in accordance with one of the following:

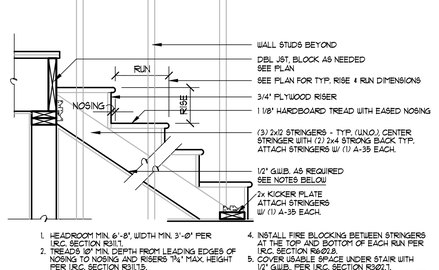
1. Bituminous coating.
2. Three pounds per square yard (1.63 kg/m²) of modified cement.
3. One-eighth-inch (3.2 mm) coat of surface-b cement complying with ASTM C 887.
4. Any material permitted for waterproofing in ! R406.2.
5. Other *approved* methods or materials.

Exception: Parging of unit masonry walls required where a material is approved for direct cation to the masonry.

Concrete walls shall be dampproofed by applying a of the listed dampproofing materials or any one of the proofing materials listed in Section R406.2 to the exte the wall.

1 DAMP PROOFING DETAIL
3/4"=1'-0"

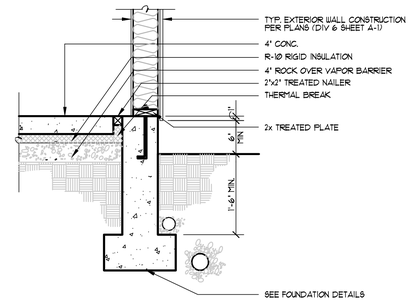
03300-0710



1. HEADROOM MIN. 6'-8", WIDTH MIN. 3'-0" PER I.R.C. SECTION R311.1
2. TREADS 10" MIN. DEPTH FROM LEADING EDGES OF NOSING TO NOSING AND RISERS 7¾" MAX. HEIGHT PER I.R.C. SECTION R311.7.5.
3. HANDRAIL MIN. 34" TO MAX. 38" ABOVE TREAD NOSING. HANDRAIL TYPE I CIRCULAR TO HAVE 1 1/4" MIN. TO 2" MAX. CROSS SECTION DIMENSION AND 1 1/2" MIN. CLEAR FROM WALL. RETURN RAIL ENDS. HANDRAILS SHALL BE STRONG ENOUGH TO RESIST A 200 POUND POINT LOAD IN ANY DIRECTION PER I.R.C. TABLE R301.5
4. INSTALL FIRE BLOCKING BETWEEN STRINGERS AT THE TOP AND BOTTOM OF EACH RUN PER I.R.C. SECTION R602.8.
5. COVER USABLE SPACE UNDER STAIR WITH ½" G.W.B. PER I.R.C. SECTION R302.7.
6. INTERMEDIATE BALUSTERS SHALL BE SPACED W/ LESS THAN 4" BETWEEN BALUSTERS PER I.R.C. SECTION R312.2.
7. TREAD NOSING TO HAVE A MAX. RADIUS OF 9/16 PROJECT A MIN. 3/4" AND A MAX. OF 1 1/4" ON STAIRS W/ SOLID RISERS. BEVELING OF NOSING NOT TO EXCEED 1/2" PER I.R.C. SECTION R311.5.3

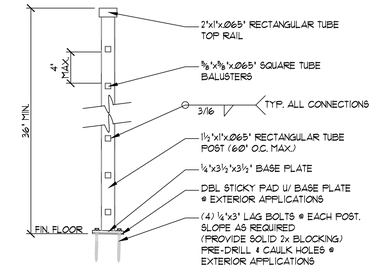
6 STAIR SECTION DETAIL
3/4"=1'-0"

06200-06100-07

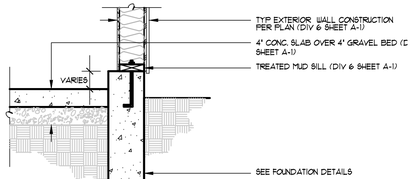


2 FOUNDATION DETAIL
3/4"=1'-0"

03300-0000

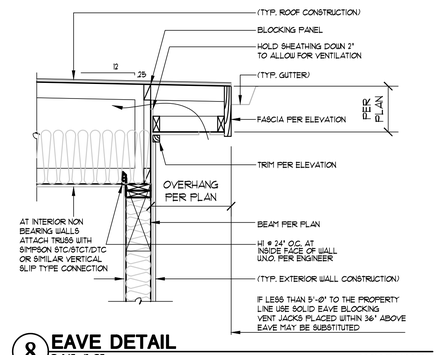


7 STANDARD RAIL DETAIL
1 1/2"=1'-0"



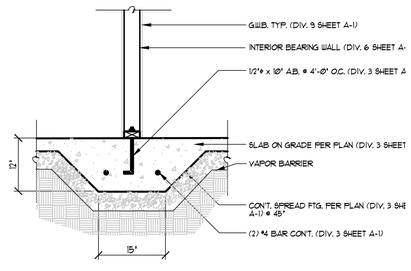
3 SLAB @ STEM WALL
3/4"=1'-0"

06100-0330C



8 EAVE DETAIL
3/4"=1'-0"

06100-07300-1E



4 FOUNDATION/FRAMING CONNECTION
3/4"=1'-0"

03300-0610

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10/12/22	REY	PERMIT SET
8/1/23	REY	JURISDICTIONAL COMMENTS
8/25/23	REY	JURISDICTIONAL COMMENTS
10/5/23	REY	JURISDICTIONAL COMMENTS
11/27/23	REY	JURISDICTIONAL COMMENTS-CLOUDED

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JOB NO. : 21076.21
STARTING NO. : 21076.05

SHEET
D1

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.

PORCH SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GARAGE SLAB

4" CONC. SLAB ON GRADE ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

BASEMENT SLAB

4" CONC. SLAB ON GRADE ON 8 MIL VAPOR BARRIER ON 4" MIN. GRANULAR FILL ON 95% COMPACTED FILL/VIRGIN SOIL

GENERAL STRUCTURAL NOTES

FOUNDATION

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- FOUNDATIONS HAS BEEN DESIGNED BASED ON GEOTECH REPORT FROM GEO TECH CONSULTANTS, INC., DATED AUGUST 18, 2022, REVISED NOVEMBER 21, 2023.
- DESIGN LOADS:
  SOIL: 2,000 PSF ALLOWABLE BEARING PRESSURE
- CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS IN 28 DAYS, U.N.O.:
  f'c = 2,500 psi: ..... FOUNDATION WALLS*
  2,500 psi: ..... FOOTINGS*
  2,500 psi: ..... INTERIOR SLABS ON GRADE
  3,500 psi: ..... EXT. SLABS ON GRADE
  fy = 60,000 psi
  * UTILIZE 5½" SACK 2500 PSI CONCRETE MIXES THAT ARE EQUIVALENT TO 3,000 PSI CONCRETE FOR WEATHERING POTENTIAL
- ALL CONCRETE EXPOSED TO THE WEATHER SHALL NOT HAVE LESS THAN 5% OR MORE THAN 7% AIR ENTRAINMENT.
- TYPICAL REINFORCEMENT DETAILS: LAP ALL REBAR 24" MIN.; BEND BARS AND LAP AT CORNERS; PROVIDE 6" HOOK INTO SUPPORTING FOOTINGS WHEN FOOTINGS INTERSECT; PROVIDE 3" MINIMUM COVER AT THE BOTTOM BARS AND 1 1/2" COVER AT THE SIDES.
- FOUNDATION WALLS SHALL BE BRACED, PRIOR TO BACKFILLING, BY EITHER ADEQUATE TEMPORARY BRACING OR INSTALLATION OF FIRST FLOOR DECK.
- ALL FOOTINGS SHALL BEAR BELOW FROST LINE. CONSULT SOILS REPORT/ LOCAL MUNICIPALITY FOR MINIMUM DEPTH BELOW GRADE.
- FOOTINGS AND SLABS ON GRADE SHALL BEAR ON VIRGIN SOIL OR 95% COMPACTED FILL.
- PROVIDE CONTROL JOINTS AT ALL INSIDE CORNERS OF SLAB EDGES, AND OTHER LOCATIONS WHERE SLAB CRACKS ARE LIKELY TO DEVELOP. (15'-0" O.C.)
- FASTEN SILL PLATES TO FOUNDATION WALLS WITH ⅝" DIA. ANCHOR BOLTS w/ MIN. 3"x3"x ¼" PLATE WASHERS (EDGE OF WASHER TO BE LOCATED WITHIN ½" OF EXTERIOR EDGE OF SILL PLATE) & NUTS @ 6'-0" O.C. @ 2-STORY & 4'-0" O.C. @ 3-STORY CONDITIONS w/ 1" MIN. EMBEDMENT INTO CONC. PROVIDE A MINIMUM OF 2 ANCHORS PER PLATE, 12" MAXIMUM FROM PLATE ENDS, U.N.O. (SEE FND. DETAILS).
- ALL LUMBER EXPOSED TO WEATHER OR IN CONTACT W/ CONCRETE OR MASONRY FOUNDATION SHALL BE PRESERVATIVE TREATED HEM FIR #2.
- BUILDER TO VERIFY CORROSION-RESISTANCE COMPATIBILITY OF HARDWARE & FASTENERS IN CONTACT W/ PRESERVATIVE-TREATED WOOD. CONTACT LUMBER & HARDWARE SUPPLIERS TO COORDINATE.
- ARCH/BUILDER TO VERIFY ALL DIMENSIONS

1.2018 IRC/ + 2021 IEBC

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I.) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

MEANS & METHODS NOTES

THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS FINISHED AND ALL PLAN, DETAIL, AND NOTE SPECIFICATIONS HAVE BEEN COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE THE ERECTION PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS, AND TIE-DOWNS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND BRACING REQUIRED TO STABILIZE AND PROTECT EXISTING AND ADJACENT STRUCTURES AND SYSTEMS DURING COURSE OF DEMOLITION AND CONSTRUCTION OF THE PROJECT.

STRUCTURAL DESIGN AND SPECIFICATIONS ASSUME THAT ALL SUPPORTING AND NON-SUPPORTING ELEMENTS IN CONTACT WITH FLOOR FRAMING ARE LEVEL, INCLUDING, BUT NOT LIMITED TO; FOUNDATIONS, SLABS ON GRADE, BEAMS, WALLS, AND NON-BEARING ELEMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LEVELNESS AND MAKE ADJUSTMENTS AS NECESSARY, INCLUDING CONSIDERATION OF THOSE AREAS THAT MAY BE WITHIN CONTRACTUAL, INDUSTRY, OR WARRANTY TOLERANCES.

ADDITIONAL NOTES FOR TRUSS & I-JOIST MANUFACTURER

ROOF TRUSS, FLOOR TRUSS AND ENGINEERED JOISTS SHALL BE DESIGNED TO MEET THE DIFFERENTIAL DEFLECTION CRITERIA BELOW, UNLESS NOTED OTHERWISE ON PLAN. MULHERN & KULP CANNOT BE HELD RESPONSIBLE FOR ANY STRUCTURAL ISSUES RELATED TO ANY BUILDING COMPONENT IF COMPONENT SHOP DRAWINGS ARE NOT SUBMITTED TO M&K FOR REVIEW PRIOR TO FABRICATION, DELIVERY, OR INSTALLATION.

TRUSSES SHALL BE DESIGNED SO THAT DIFFERENTIAL DEFLECTION BETWEEN ADJACENT PARALLEL TRUSSES OR GIRDER TRUSSES DOES NOT EXCEED THE FOLLOWING:

A. ROOF TRUSSES:
   1/4" DEAD LOAD
B. FLOOR TRUSSES, ATTIC TRUSSES, & I-JOISTS:
   1/8" DEAD LOAD
C. FLOOR TRUSSES & ATTIC TRUSSES ADJACENT TO FLOOR FRAMING BY OTHERS:
   LIMIT ABSOLUTE TRUSS DEFLECTION TO 3/16" DEAD LOAD. (NOT DIFFERENTIAL DEFLECTION)

LOADING AND DESIGN PARAMETERS

GRAVITY DESIGN LOADS:

DEAD LOAD (PSF):

ROOF TRUSS TOP CHORD	10
ROOF TRUSS BOTTOM CHORD	7
FLOOR TRUSSES:	15
FLOOR (SOLID SAWN):	10

LIVE LOAD (PSF):

ROOF :	20
RESIDENTIAL LIVING AREAS :	40
RESIDENTIAL SLEEPING AREAS :	30
BALCONY LIVE:	60

SNOW LOAD:

GROUND SNOW LOAD (P_g) (PSF) :	25
FLAT ROOF SNOW LOAD (P_f) (PSF) :	25
SNOW EXPOSURE FACTOR (C_e) :	0.9
SNOW LOAD IMPORTANCE FACTOR (I) :	1.0
THERMAL FACTOR (C_t) :	1.2

LATERAL DESIGN LOADS:

WIND LOAD: (IBC 1609)

SPEED (V_{ult}) (MPH) :	100
WIND RISK CATEGORY :	II
IMPORTANCE FACTOR (I_w) :	1.0
EXPOSURE CATEGORY :	C
INTERNAL PRESSURE COEFF. (GC_{pi}) :	±0.18
TOPOGRAPHIC FACTOR (K_{zt}) :	1.0

SEISMIC LOAD: (IBC 1613)

SEISMIC RISK CATEGORY :	II
SEISMIC IMPORTANCE FACTOR (I_e) :	1.0
MAPPED SPECTRAL RESPONSE :	
S_s: 1.407	S_1: 0.490
SITE CLASS :	D
SPECTRAL RESPONSE COEFF. :	
S_{DS}: 0.939	S_{D1}: 0.541
SEISMIC DESIGN CATEGORY:	D
BASIC SEISMIC-FORCE-RESISTING SYS :	LIGHT FRAMED WALLS w/WOOD STRUCTURAL PANELS
DESIGN BASE SHEAR (ULT.):	TRANS: 23k LONG: 23k
SEISMIC RESPONSE COEFF. (C_s) (ADDITION) :	TRANS: 0.144 LONG: 0.144
RESPONSE MODIFICATION FACTOR (R) :	TRANS: 6.5 LONG: 6.5
ANALYSIS PROCEDURE USED:	EQUIVALENT LATERAL FORCE

LATERAL BRACING NOTES

THIS HOME HAS BEEN ENGINEERED TO RESIST LATERAL FORCES RESULTING FROM:
100 MPH WIND SPEED, EXP. C
(ASCE 7-16 WIND MAP, PER IRC R301.2.1.1)
RISK CAT. 2 & SEISMIC CAT. D2.

110 MPH WIND IN 2018 IRC MAP

ENGINEERED DESIGN WAS COMPLETED PER 2018 IBC (SECTION 1609 & 1613) & ASCE 7-16, AS PERMITTED BY R301.1.3 OF THE 2018 IRC. ACCORDINGLY, THIS HOME, AS DOCUMENTED AND DETAILED HEREWITHIN, IS ADEQUATE TO RESIST THE CODE REQUIRED LATERAL FORCES, AND DOES NOT NEED TO CONFORM TO THE PRESCRIPTIVE PROVISIONS OF R602.10.

STANDARD EXTERIOR WALL SHEATHING SPECIFICATIONS

(INTERIOR WALL SPECIFICATION WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 6"o.c. AT ALL SUPPORTED PANEL EDGES AND 12" O.C. IN THE PANEL FIELD. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE. ALL EXTERIOR WALLS SHALL BE CONSTRUCTED PER THIS SPECIFICATION U.N.O. ON PLANS.

3" o.c. EDGE NAILING

(WHERE NOTED ON PLANS)

- 7/16" OSB OR 15/32" PLYWOOD:

  ONLY AT LOCATIONS INDICATED ON PLANS - SHEATHE WALL SHOWN WITH 7/16" OSB. FASTEN SHEATHING w/ 2½"x0.131" NAILS @ 3" O.C. AT EDGES AND 12" O.C. AT CENTER. ALL SHEATHING SHEET PANEL EDGES SHALL OCCUR OVER WALL FRAMING MEMBERS OR 2x HORIZONTAL BLOCKING SHALL BE PROVIDED TO SUPPORT PANEL EDGE AND 3" O.C. FASTENING.

NOTES:

1. LATERAL ANALYSIS ASSUMES STUD SPACING @ 16" o.c.
2. ALL SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES FASTENED TOGETHER w/ 3"x0.131" NAILS @ 8" O.C. USE (12)3½"x0.135" NAILS AT EACH LAP SPLICE, (6) EACH SIDE OF JOINT (TYP. U.N.O.)
3. ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED.
4. ALL INTERIOR SHEAR WALLS AND EXTERIOR WALLS ARE SHEATHED ABOVE AND BELOW OPENINGS.

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

GENERAL STRUCTURAL NOTES

DESIGN PARAMETERS

- DESIGN IS BASED ON 2018 INTERNATIONAL RESIDENTIAL CODE & 2018 INTERNATIONAL BUILDING CODE
- WOOD FRAME ENGINEERING IS BASED ON NDS, "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" - LATEST EDITION.

GENERAL FRAMING

- EXTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- INTERIOR BEARING WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) @ 16" O.C. (w/ DOUBLE TOP PLATE) HEM FIR (HF) "STUD" GRADE LUMBER, OR BETTER, U.N.O.
- ALL NON-BEARING INTERIOR STUD WALLS SHALL BE CONSTRUCTED WITH 2x "STUD" GRADE MEMBERS SPACED @ 24" O.C. (MAX.)
- ALL WALLS TALLER THEN TYP. PLATE HEIGHT SHALL BE CONSIDERED BALLOON FRAMED & SHALL BE CONSTRUCTED FROM FLOOR TO UNDERSIDE OF FRAMING AT NEXT LEVEL. B.F. WALLS SHALL BE 2x4 OR 2x6 (AS SHOWN ON PLANS) HEM FIR (HF) #2 GRADE LUMBER, OR BETTER.
- ALL HEADERS SHALL BE SUPPORTED BY (1)2x JACK STUD & (1)2x KING STUD, MINIMUM.
  - THE NUMBER OF STUDS SPECIFIED AT A SUPPORT INDICATES THE NUMBER OF JACK STUDS REQUIRED, U.N.O..
- BUILT-UP POSTS SHALL BE 2x4 OR 2x6 DOUGLAS FIR (DF) "STUD" GRADE LUMBER, OR BETTER, U.N.O. & SOLID WOOD COLUMNS SHALL BE HEM FIR (HF) #2 GRADE LUMBER, OR BETTER, U.N.O.
- ALL 2x6 AND LARGER SOLID SAWN BEAMS/HEADERS SHALL BE HEM FIR #2 (HF #2) OR BETTER. ALL 4x6 AND LARGER SOLID SAWN LUMBER SHALL BE DOUGLAS FIR #2 (DF #2) OR BETTER.
- ALL FRAMING LUMBER SHALL BE KILN DRIED TO 15% MC (KD-15).
- ALL TYP. NAIL FASTENER REQUIREMENTS ARE NOTED IN GENERAL NOTES, IN DETAILS, OR ON PLANS. ALL NAILS SPECIFIED ARE MIN DIAMETER AND LENGTH REQUIRED FOR CONNECTION. ALL HANGER NAILS SHALL BE INSTALLED PER MANUFACTURER'S REQUIREMENTS FOR MAX CHARTED CAPACITY. NOTE: HANGERS USE COMMON NAIL DIAMETERS NOT TYPICAL FRAMING GUN NAILS.
- FASTEN ALL BEAMS TO COLUMNS, OR FLUSH BEAMS TO SUPPORTING BEAMS, w/ (4) 3"x0.131" TOENAILS (MIN.), TYP. U.N.O.
- PROVIDE SOLID BLOCKING IN FLOOR SYSTEM UNDER ALL POSTS & HOLD-DOWNS CONTINUOUS TO FOUNDATION/BEARING. BLOCKING TO MATCH POST ABOVE.
- ENGINEERED LUMBER TO MEET OR EXCEED THE FOLLOWING:
  - LSL MEMBERS - Fb=2325 PSI; Fv=310 PSI; E=1.55x10^6 PSI
  - LVL MEMBERS - Fb=2600 PSI; Fv=285 PSI; E=2.0x10^6 PSI
  - GLB MEMBERS - Fb(+)=2400 PSI; Fb(-)=1850 PSI; Fv=265 PSI; E=1.8x10^6 PSI; DF/DF; 24F-V4 (U.N.O.)
- ENGINEERED LUMBER POSTS TO MEET OR EXCEED THE FOLLOWING:
  - LVL MEMBERS - Fb=2400 PSI; Fc⊥=2500 PSI; E=1.8x10^6 PSI
- FACE NAIL MULTI-PLY 2x BEAMS & HEADERS W/ 3-ROWS OF 3"x0.131" NAILS (MIN.) @ 12" O.C. STAGGERED, APPLY NAILING FROM BOTH FACES @ 3-PLY OR MORE CONDITIONS. UTILIZE 2 ROWS OF NAILS FOR 2x6 & 2x8 MEMBERS.
- ALL MEMBERS SPECIFIED AS MULTI-PLY 1¾" SHALL BE FASTENED TOGETHER PER MANUFACTURER. EQUIVALENT WIDTH SOLID MATERIAL MAY BE USED AS EQUAL.
- FASTEN 2x WOOD PLATES TO TOP FLANGE OF STEEL BEAMS w/P.A.F.s ("HILTI" X-U PINS OR EQUAL (0.157" DIA. x 2" LONG MIN.)) @ 16" O.C. STAGGERED, OR 1/2" DIA. BOLTS @ 48" O.C., STAGGERED.
- REFER TO IRC FASTENING SCHEDULE TABLE R602.3(1) FOR ALL CONNECTIONS, TYP. U.N.O.

FLOOR FRAMING

- I-JOISTS/TRUSSES SHALL BE DESIGNED BY MANUF. TO MEET OR EXCEED L/480 LIVE LOAD DEFLECTION CRITERIA AND SHALL RUN CONTINUOUS OVER SUPPORTS WHEREVER POSSIBLE. ALL LOADS SHOWN ON PLAN FOR MANUF. DESIGNS ARE ASD LEVEL LOADS, U.N.O. (EXCLUDES STONE/MARBLE OR WET BED CONSTRUCTED FLOORS - CONTACT M&K FOR EXCLUDED DESIGNS).
- ALL METAL I-JOIST/TRUSS HANGERS SHALL BE SPECIFIED BY I-JOIST/TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- I-JOIST/TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- 2x FLOOR JOISTS HAVE BEEN DESIGNED TO MEET OR EXCEED L/360 LIVE LOAD DEFLECTION CRITERIA.
- TYPICAL 2x JOIST HANGERS (U.N.O. ON PLANS):
  SINGLE PLY: SIMPSON LUS210
  DOUBLES: SIMPSON LUS210-2
- FLOOR SHEATHING SHALL BE 23/32" A.P.A. RATED "STURD-I-FLOOR" 24" O.C., EXPOSURE 1 (OR APPROVED EQUAL) WITH TONGUE AND GROOVE EDGES. FASTEN TO FRAMING MEMBERS W/ GLUE AND 2 ½" x 0.131" NAILS @ 6"o.c. @ PANEL EDGES & @ 12"o.c. FIELD.
- ALL FLUSH CONNECTIONS SHALL BE CONNECTED WITH HANGER APPROPRIATE FOR MEMBER SIZE, U.N.O.
- FASTEN HANGERS TO SINGLE PLY FLUSH BEAMS W/ ½" LONG NAILS.

ROOF FRAMING

- FASTEN EACH ROOF TRUSS TO TOP PLATE W/ (3) 3"x0.131" TOENAILS (MIN.) & (1) "SIMPSON" H2.5T CLIP @ ALL BEARING POINTS. PROVIDE (2) "SIMPSON" H2.5T CLIPS AT 2-PLY GIRDER TRUSSES & 3-PLY GIRDER TRUSSES AT ALL BEARING POINTS.
- FASTEN EACH ROOF RAFTER TO TOP PLATE WITH (1) "SIMPSON" H2.5T CLIP. PROVIDE (2) "SIMPSON" H2.5T CLIPS AT FLUSH BEAMS IN THE ROOF - AT ALL BEARING POINTS.
- ROOF SHEATHING SHALL BE 7/16" A.P.A. RATED SHEATHING 24/16 EXPOSURE 1 (OR APPROVED EQUAL). FASTEN TO FRAMING MEMBERS w/ 2 ½" x 0.131" NAILS @ 6"o.c. AT PANEL EDGES & @ 12" O.C. AT INTERMEDIATE SUPPORTS. ROOF SHEATHING SHALL EXTEND BELOW ALL INSTANCES OF OVERFRAMING. BLOCKING SHALL BE INSTALLED AS REQUIRED TO LIMIT ROOF SHEATHING SPANS TO 24" MAX.
- WITHIN 48" OF ALL ROOF EDGES, RIDGES, & HIPS FASTEN ROOF SHEATHING FIELDS PER EDGE NAILING SPEC.
- ALL METAL HANGERS SHALL BE SPECIFIED BY THE TRUSS MANUFACTURER, UNLESS OTHERWISE NOTED.
- ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO ARCHITECT AND ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION OR DELIVERY.
- ROOF TRUSS SHOP DRAWINGS & CALCULATIONS SHALL BE PREPARED BY A WASHINGTON STATE LICENSED ENGINEER AND SHALL BE DESIGNED FOR UNBALANCED SNOW LOADING PER ASCE 7-16, SECTION 7.6.
- ERECT AND INSTALL ROOF TRUSSES PER WTCA & TPI'S BCSI 1-08 "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES."
- FASTEN OVER-FRAMED TRUSS SETS TO TRUSSES BELOW W/ (2) 3"x0.131" TOENAILS AT EA. TRUSS.
- SUPPORT PORCH & SHORT SPAN ROOF TRUSSES (UP TO 6' TRIB.) w/2x6 LEDGER FASTENED TO FRAMING w/(3) 3"x0.131" NAILS @ 16" o.c.
- FASTEN ALL INTERIOR NON-BEARING PARTITION WALLS TO TRUSS BOTTOM CHORD ABOVE WITH SIMPSON STC CLIPS AT 24" o.c. MAX. PROVIDE BLOCKING BETWEEN THE TRUSS BOTTOM CHORDS AS REQUIRED FOR THE PARALLEL CONDITIONS.

1.2018 IRC/ + 2021 IEBC

seal:

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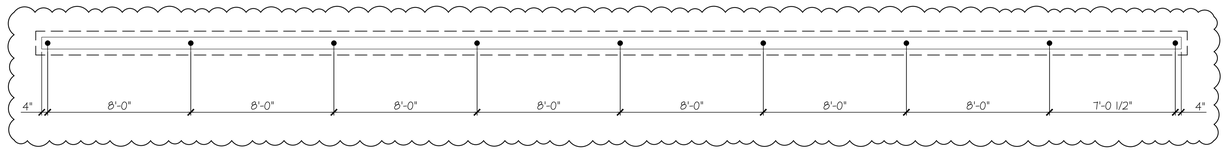
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06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADDL PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

STRUCTURAL NOTES
3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-0.0



REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

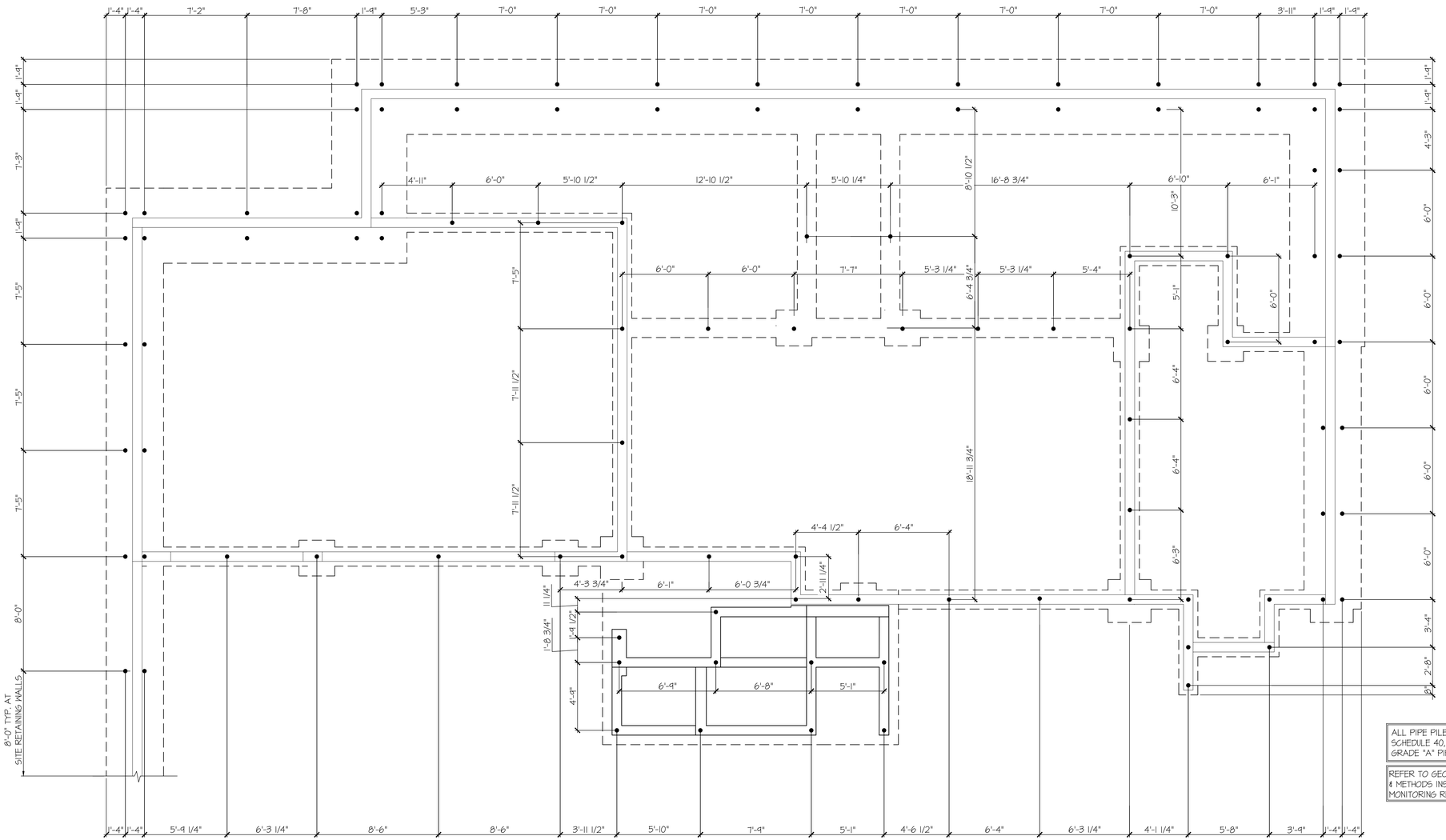
LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

PILE STRUCTURAL NOTES

GRADE BEAM ON PIPE PILINGS:

- PILES SHALL BE INSTALLED TO SUPPORT DESIGN LOAD OF 6 TONS/PILE MINIMUM FOR 3" DIA. PILES AND 10 TONS/PILE MINIMUM FOR 4" DIA. PILES (SAFE LOAD).
- PILING CONTRACTOR SHALL DETERMINE BY TEST PILE, THE LENGTH AND DIMENSIONS OF THE PILINGS REQUIRED TO REACH DESIGN LOAD CAPACITY IN ACCORDANCE WITH ASTM D1143-81.
  - 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES
- PILES SHALL BE DRIVEN TO REFUSAL (10' MINIMUM DEPTH) WITH A TRACTOR-MOUNTED HYDRAULIC HAMMER WITH AN ENERGY RATING OF 650 LB AND TO REFUSAL OF LESS THAN ONE INCH DURING 12 SECONDS OF CONTINUOUS DRIVING. GEOTECH TO COORDINATE DRIVING CRITERIA IF ALTERNATIVE HAMMER SIZE IS SELECTED BY THE CONTRACTOR.
- PILES SHALL BE DRIVEN IN NOMINAL SECTIONS AND CONNECTED WITH COMPRESSION FITTED COUPLERS. DO NOT WELD PIPE JOINTS TOGETHER.
- GEOTECH OF RECORD OR HIS/HER REPRESENTATIVE SHALL BE PRESENT TO OBSERVE PIN PILE INSTALLATION & LOAD TEST.
- PER ASTM 1143-81, 3% OF EACH PILE DIAMETER SIZE SHALL BE LOAD TESTED. A MAXIMUM OF 5 PILES (1 MINIMUM) WILL BE REQUIRED FOR EACH PILE DIAMETER SIZE.

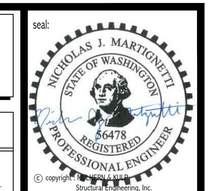


ALL PIPE PILES ARE TO BE 3" MIN. DIA., SCHEDULE 40, GALVANIZED, ASTM A-53 GRADE "A" PIPE PILES U.N.O.

REFER TO GEOTECH REPORT FOR MEANS & METHODS INSTRUCTIONS AS WELL AS MONITORING REQUIREMENTS

1 PIPE PILE PLAN
SCALE: 1/4"=1'-0"

seal:



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11/27/2023 ADDT. PLAN REVIEW COMMENTS	LGH

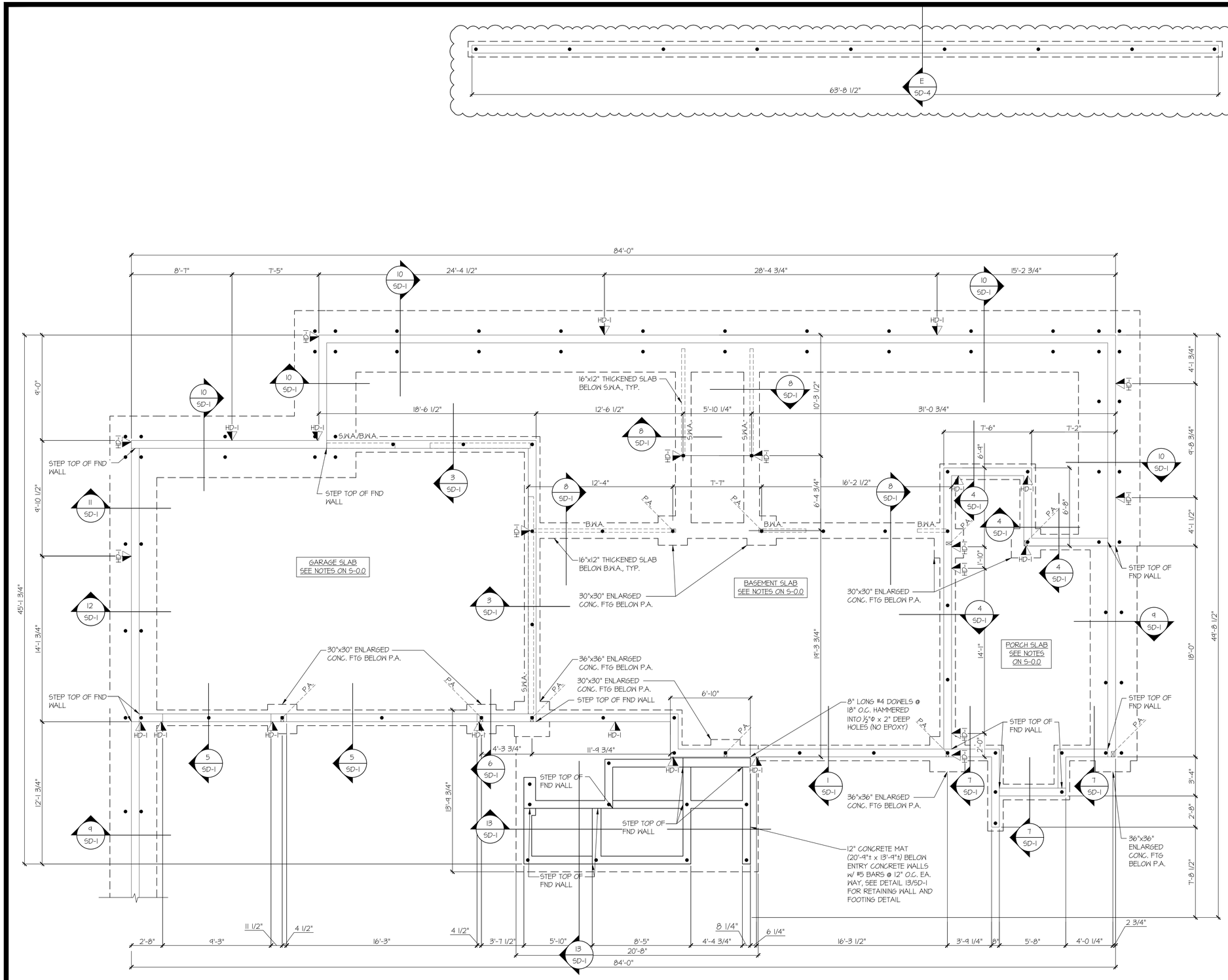
ARCHITECTURAL INNOVATIONS

PIPE PILE PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-0.1



1 FOUNDATION PLAN
SCALE: 1/4"=1'-0"

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
- METAL HANGER
- INDICATES POST ABOVE. PROVIDE SOLID BLOCKING UNDER POST OR JAMB ABOVE.
- INDICATES HOLDOWN.
- INDICATES PIPE PILE

HOLD-DOWN SCHEDULE

SYMBOL	SPECIFICATION
HD-1	SIMPSON STHD14 (R.I) HOLD-DOWN
HD-5	SIMPSON CS16 STRAP TIE (14" END LENGTH)
HD-6	SIMPSON MSTC40 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)
HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)

seal:

NICHOLAS J. MARTIGNETTI
STATE OF WASHINGTON
56478
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M&K project number: 203-22010

project mgr: NJM
drawn by: LGH
issue date: 05-04-22

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date:	initial:
04/28/2023 AHJ REVISIONS	LGH
06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADD'L PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

FOUNDATION PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-1.0

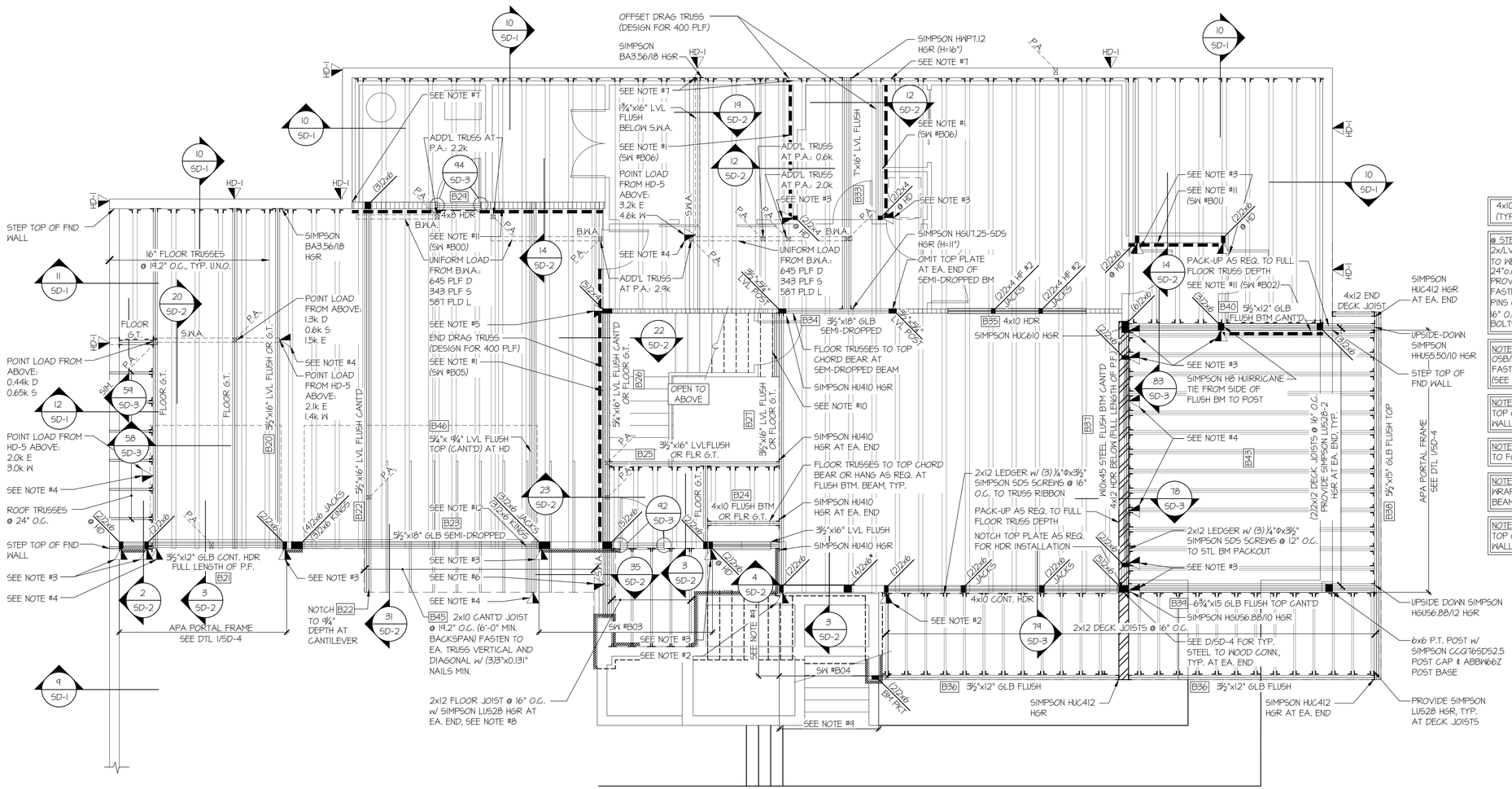
REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

- INTERIOR BEARING WALL
- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
- BEAM / HEADER
- INTERIOR SHEAR WALL PANEL OR EXTERIOR SHEAR WALL w/ 3" o.c. EDGE NAILING
- INDICATES AREA OF ROOF OVERFRAMING
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4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B28

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB w/ ½" DIA. THRU BOLTS @ 24"o.c. STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED w/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 3" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #5: HD-6 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #6: HD-6 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #7: FASTEN END STUDS TO FND WALL w/ ¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C.

NOTE #8: PROVIDE 2x12 P.T. LEDGER w/ (3) ¼"ø x 3½" SIMPSON SDS SCREWS @ 16" O.C. TO RIM & (2)¼"ø x 6" SIMPSON TITEN HD's @ 24" O.C. TO FND WALL

NOTE #9: 2x6 B.F. H.F. #2 STUDS @ 16" O.C.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL w/ (2)3"x0.131" NAILS

NOTE #11: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN 6" O.C. EDGE NAILING (SEE NOTES ON S-0.0)

NOTE #12: PROVIDE SIMPSON H8 HURRICANE TIE FROM FLUSH TOP BEAM TO SEMI-DROPPED BEAM

1 MAIN FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"

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ARCHITECTURAL INNOVATIONS

MAIN FLOOR FRAMING PLAN

3036 67TH AVE. SE
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sheet: S-1.1

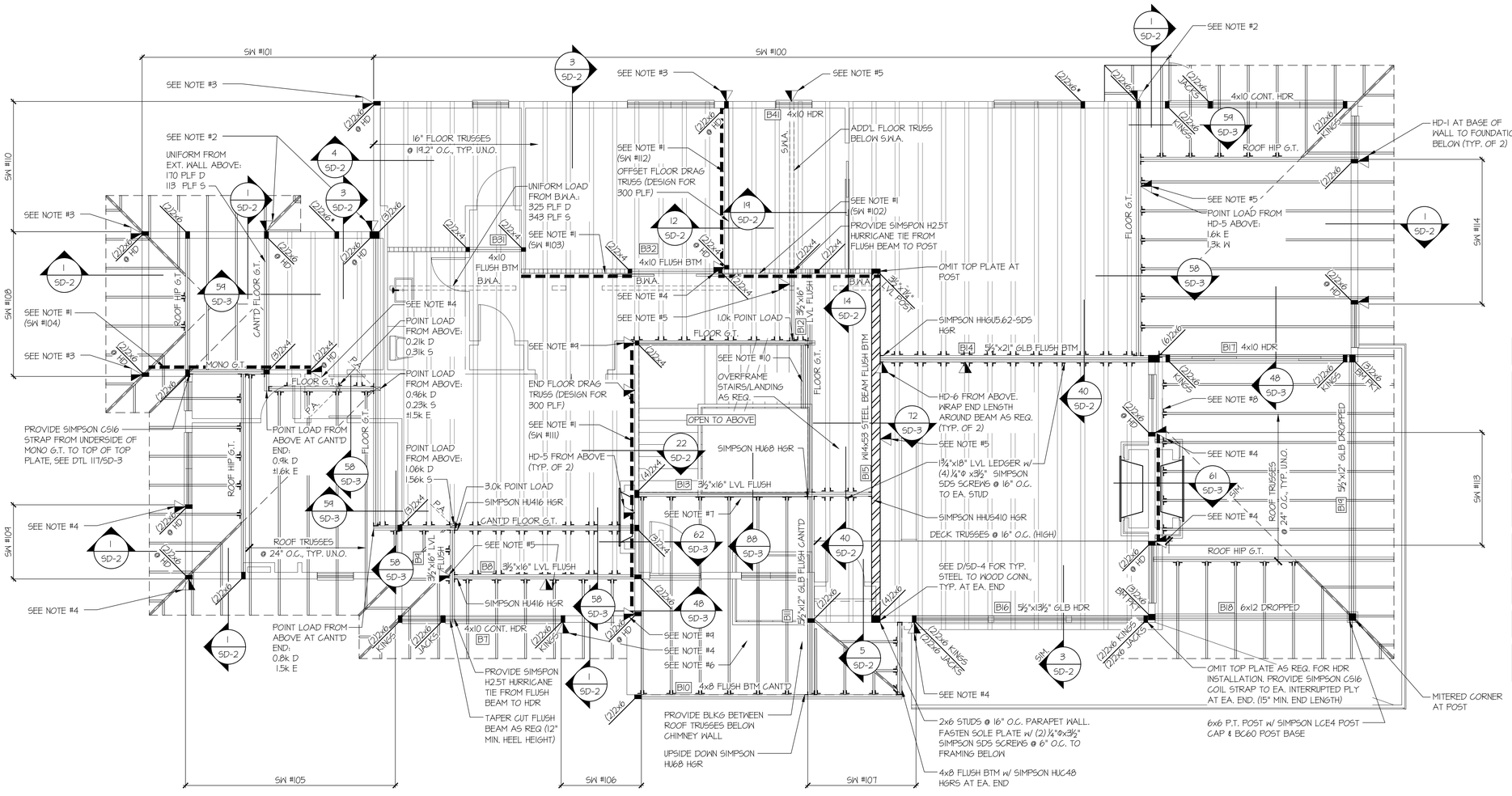
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LEGEND

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- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
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HD-7	SIMPSON MSTC66 STRAP TIE (CENTER STRAP ON FLOOR SYSTEM U.N.O.)



UPPER FLOOR FRAMING PLAN

SCALE: 1/4"=1'-0"

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B30

@ STEEL BEAMS: PROVIDE SOLID 2x/LVL WEB PACKOUT FASTENED TO WEB W/ ½" DIA. THRU BOLTS @ 24"O.C., STAGGERED. ALSO, PROVIDE 2x TOP PLATE FASTENED W/ P.A.F.'s (HILTI X-U PINS OR EQUAL) @ 16" O.C. STAGGERED, OR ½" DIA. BOLTS @ 48" O.C., STAGGERED.

NOTE #1: PROVIDE ⅞" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

NOTE #2: HD-5 FROM ABOVE TO TOP OF WALL. HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #3: HD-1 AT BASE OF WALL TO FOUNDATION BELOW.

NOTE #4: HD-5 AT BASE OF WALL TO FRAMING BELOW.

NOTE #5: HD-5 FROM ABOVE. WRAP END LENGTH AROUND BEAM/G.T. AS REQ.

NOTE #6: PROVIDE 2x6 STUDS @ 16" O.C. FROM TOP OF ROOF SHEATHING TO TOP OF CHIMNEY WALL. FASTEN SOLE PLATE W/ (2)¼"Ø x 3½" SIMPSON SDS SCREWS @ 6" O.C. TO ROOF TRUSSES/ BLKG, TYP. AT CHIMNEY WALLS.

NOTE #7: 2x6 LEDGER W/ (3) 3"x0.131" NAILS @ 16" O.C. TO GIRDER TRUSS/FLUSH BEAM

NOTE #8: 2x6 LEDGER W/ (4) 3"x0.131" NAILS @ 16" O.C. TO EA. STUD

NOTE #9: HD-6 AT BASE OF WALL TO FRAMING BELOW.

NOTE #10: FASTEN 6x6 TO EA. TRUSS VERTICAL/DIAGONAL W/ (2)3"x0.131" NAILS

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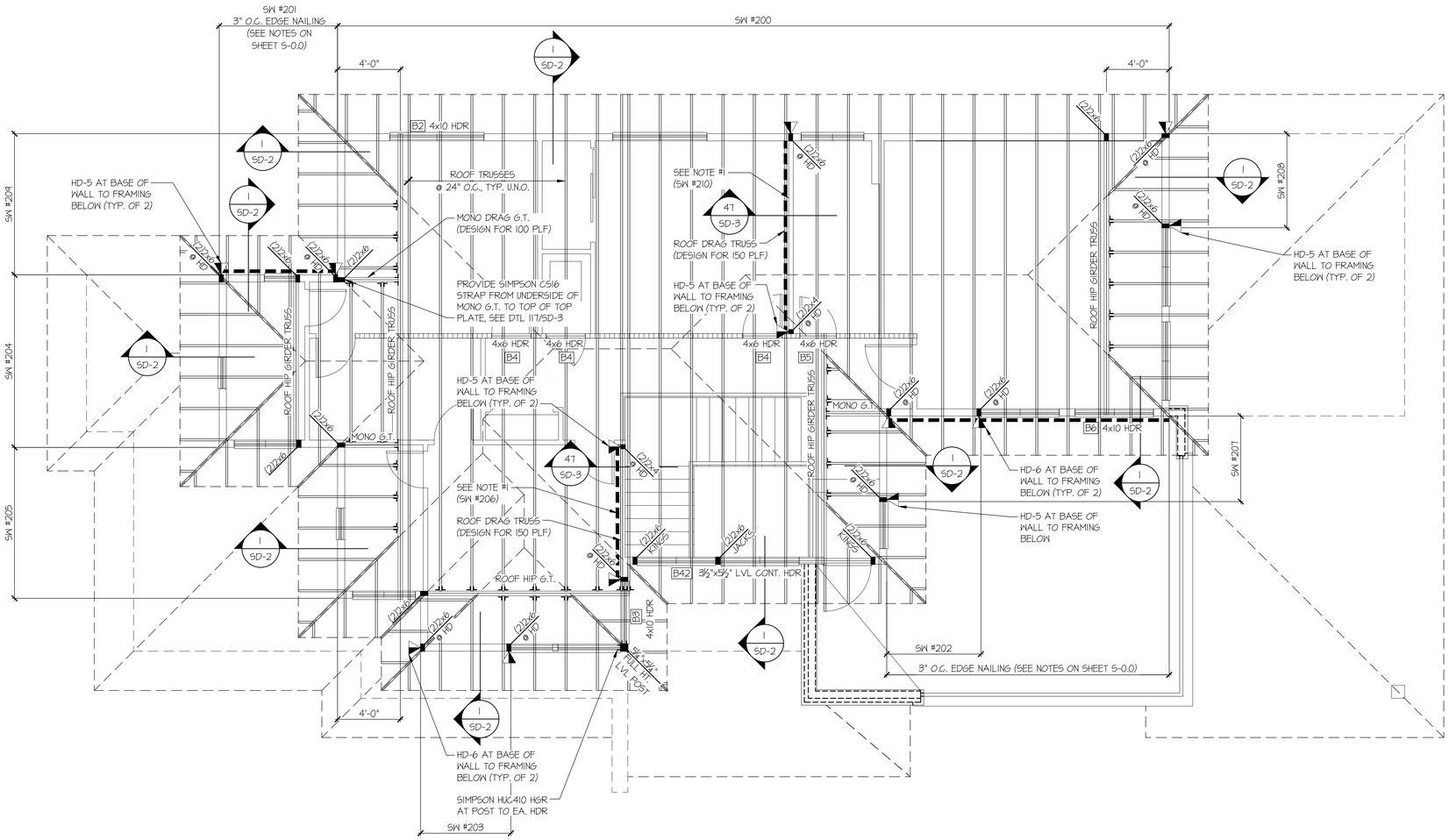
ARCHITECTURAL INNOVATIONS

UPPER FLOOR FRMG PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet:

S-2.0



1 ROOF FRAMING PLAN
SCALE: 1/4"=1'-0"

4x10 HDR @ ALL EXT. OPENINGS (TYP. U.N.O.) B1

NOTE #1: PROVIDE 7/16" OSB/PLYWOOD SHEATHING AND FASTEN PER TYP. EXT. SHTG SPECS (SEE NOTES ON S-0.0)

REFER TO S-0.0 FOR TYPICAL STRUCTURAL NOTES & SCHEDULES

LEGEND

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- BEARING WALL ABOVE (B.W.A.), OR SHEARWALL ABOVE (S.W.A.)
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HOLD-DOWN SCHEDULE

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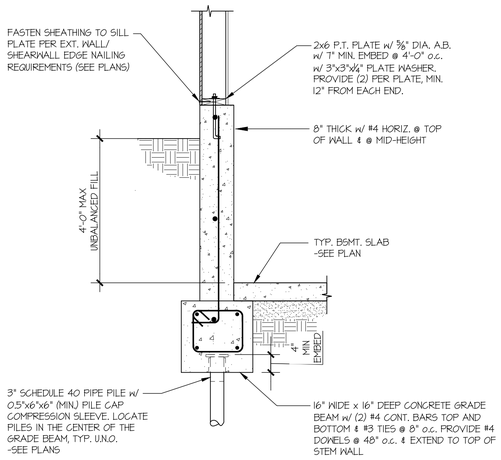
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10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADDT. PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

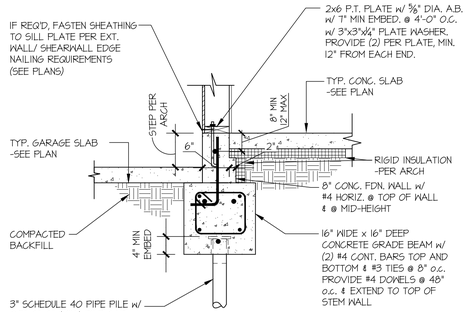
ROOF FRAMING PLAN

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

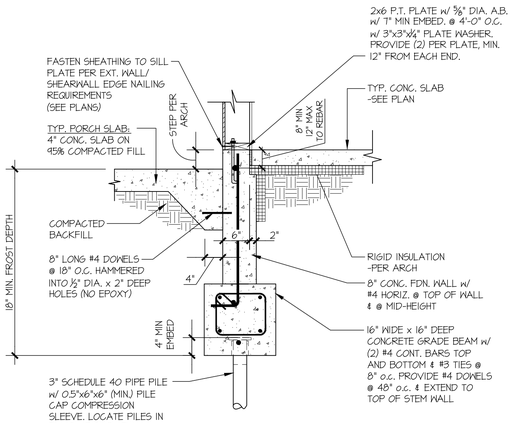
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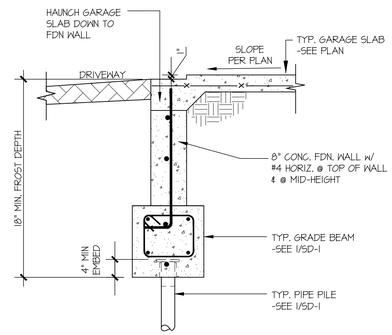
1 SECTION
SCALE: 3/4"=1'-0"



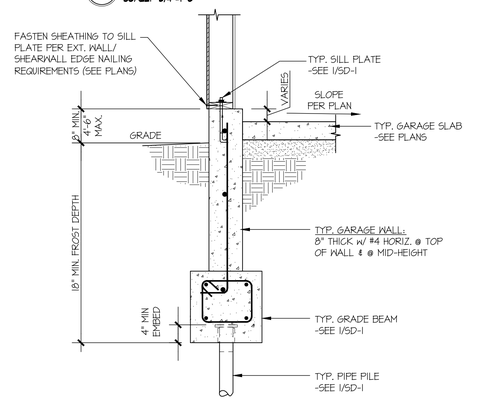
3 TYPICAL SLAB ON GRADE FOOTING @ GARAGE
SCALE: 3/4"=1'-0"



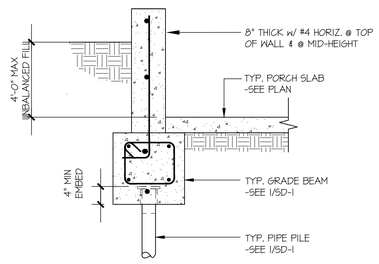
4 TYPICAL SLAB ON GRADE PERIMETER FOOTING
SCALE: 3/4"=1'-0" @ PORCH SLAB



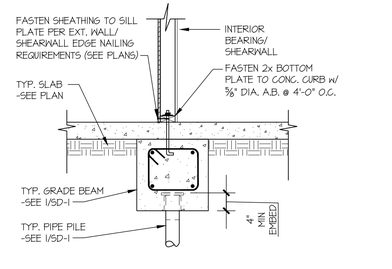
5 TYPICAL CONCRETE FOOTING @ GARAGE DOOR OPENING
SCALE: 3/4"=1'-0"



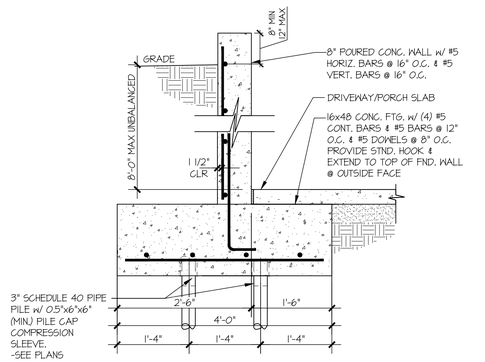
6 TYPICAL EXT. GARAGE FOUNDATION
SCALE: 3/4"=1'-0"



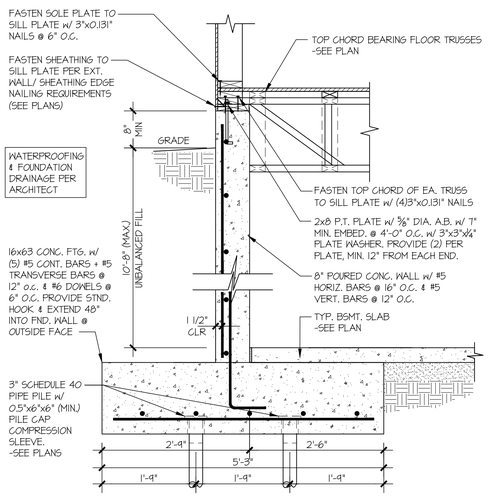
7 SECTION
SCALE: 3/4"=1'-0"



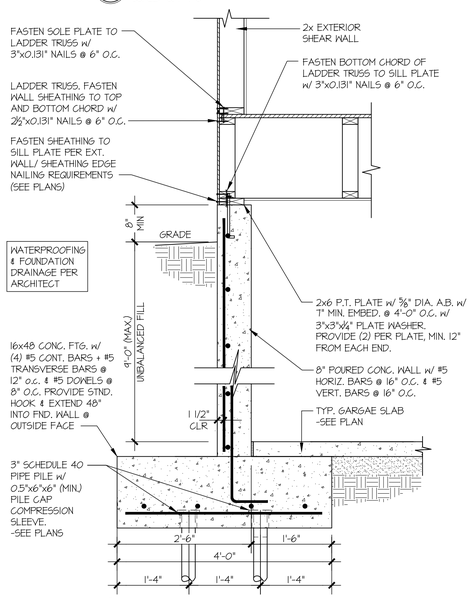
8 TYPICAL THICKENED SLAB @ INTERIOR BEARING WALL
SCALE: 3/4"=1'-0"



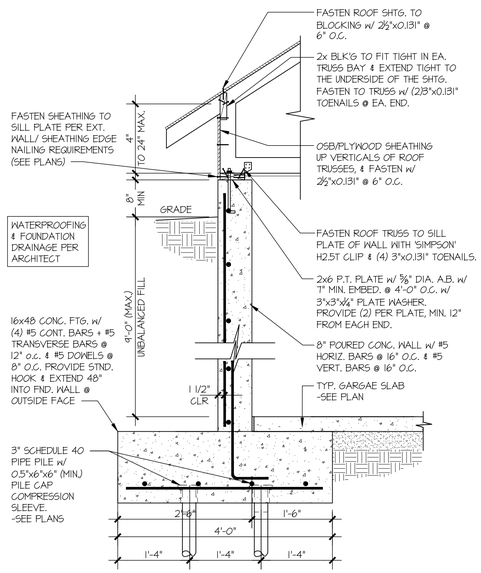
9 SITE RETAINING WALL
SCALE: 3/4"=1'-0"



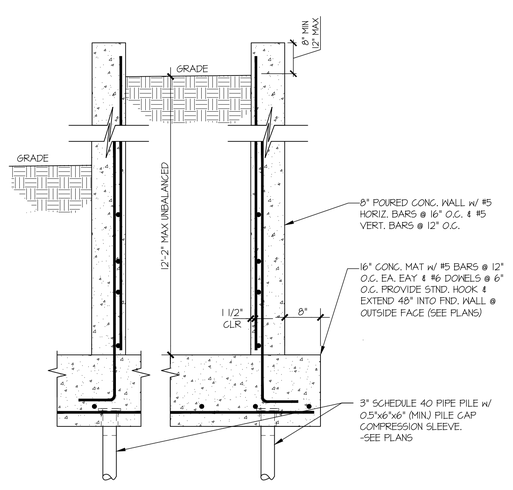
10 BASEMENT FOUNDATION WALL
SCALE: 3/4"=1'-0"



11 GARAGE FOUNDATION WALL
SCALE: 3/4"=1'-0"



12 GARAGE FOUNDATION WALL
SCALE: 3/4"=1'-0"



13 ENTRY RETAINING WALL
SCALE: 3/4"=1'-0"

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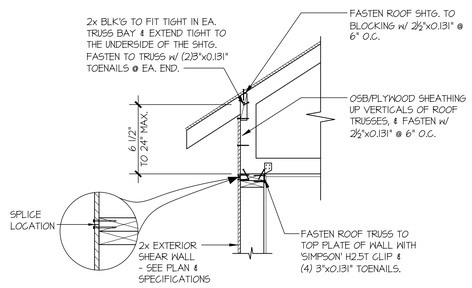
ARCHITECTURAL INNOVATIONS

FOUNDATION DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

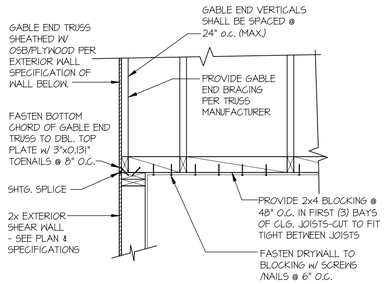
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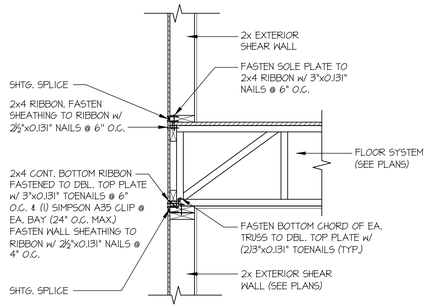
1 TYPICAL SHEAR TRANSFER DETAIL @ RAISED HEEL TRUSS

SCALE: 3/4"=1'-0" HEEL HEIGHT UP TO 24" MAX.



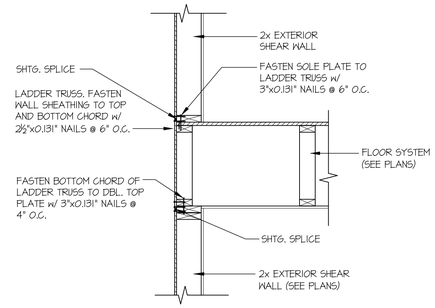
2 TYPICAL GABLE END DETAIL

SCALE: 3/4"=1'-0"



3 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING



4 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PARALLEL FRAMING

5 TYPICAL SHEAR TRANSFER DETAIL BETWEEN DECK @ EXTERIOR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

12 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

14 SHEAR TRANSFER DETAIL @ SHEAR WALL BELOW

SCALE: 3/4"=1'-0"

19 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0" PARALLEL FRAMING

20 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0" PERPENDICULAR FRAMING

22 TYPICAL SHEAR TRANSFER DETAIL BETWEEN FLOORS @ INTERIOR WALL

SCALE: 3/4"=1'-0"

23 SHEAR TRANSFER DETAIL @ INTERIOR SHEAR WALL

SCALE: 3/4"=1'-0"

31 SHEAR TRANSFER DETAIL BETWEEN FLOORS @ CANT'D EXT. WALL

SCALE: 3/4"=1'-0"

40 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0"

seal:

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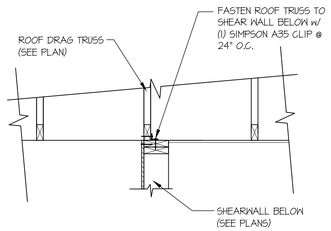
ARCHITECTURAL INNOVATIONS

STRUCTURAL DETAILS

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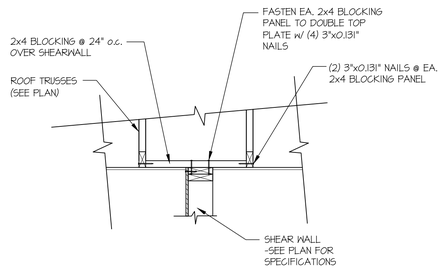
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SD-2



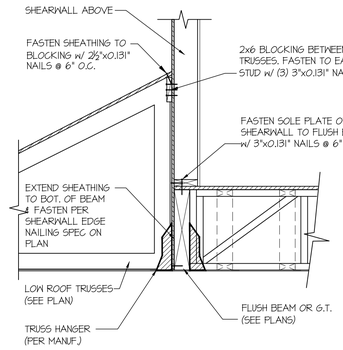
47 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

SCALE: 3/4"=1'-0"



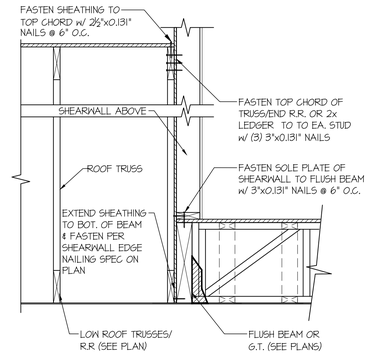
48 SHEAR TRANSFER DETAIL @ INTERIOR SHEARWALL BELOW

SCALE: 3/4"=1'-0"



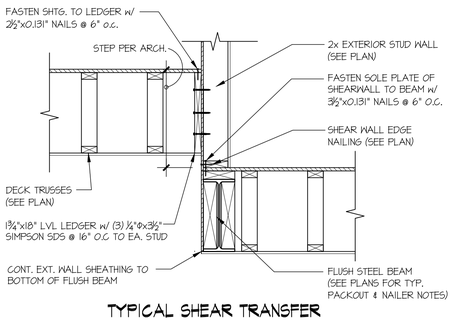
58 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0"



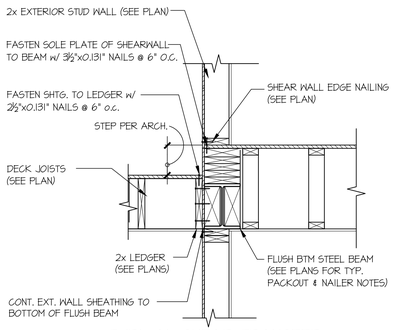
59 SHEAR TRANSFER DETAIL @ EXTERIOR SHEARWALL ABOVE

SCALE: 3/4"=1'-0"



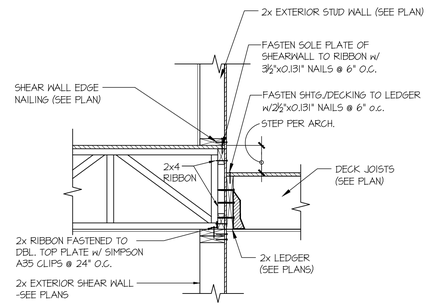
72 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

SCALE: 3/4"=1'-0"



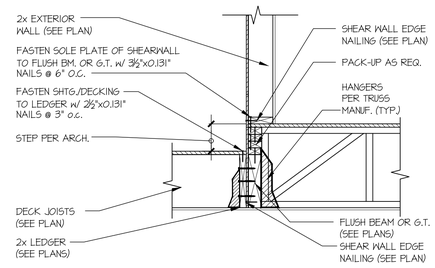
78 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

SCALE: 3/4"=1'-0"



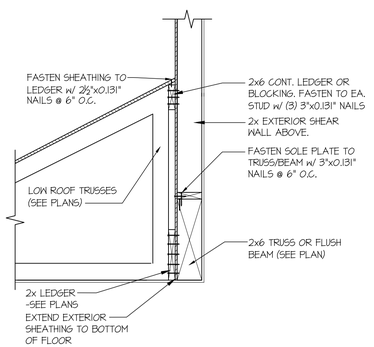
79 TYPICAL SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

SCALE: 3/4"=1'-0"



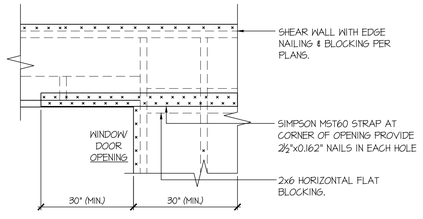
83 SHEAR TRANSFER DETAIL @ EXT. DECK FRAMING

SCALE: 3/4"=1'-0"



88 SECTION

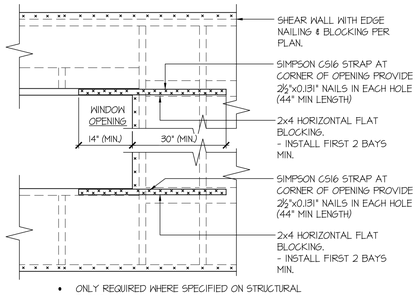
SCALE: 3/4"=1'-0"



- DETAIL SIMILAR AT BOTTOM CORNERS OF WINDOWS.
- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

92 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

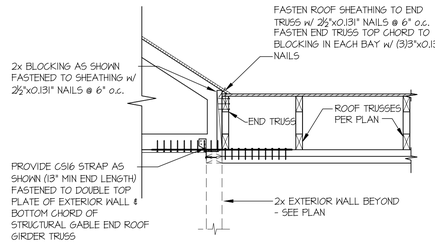
SCALE: NTS



- ONLY REQUIRED WHERE SPECIFIED ON STRUCTURAL PLANS
- IF MIN LENGTH IS NOT PROVIDED RUN STRAP TO END OF WALL

94 EXT. WALL & INT. SHEARWALL OPENING ELEVATION

SCALE: NTS



117 STRAP DETAIL

SCALE: 3/4"=1'-0"

seal:

NICHOLAS J. MARTIGNETTI
STATE OF WASHINGTON
56478
REGISTERED
PROFESSIONAL ENGINEER

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MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 295, San Diego, CA 92121
p 619-850-0010 • mulhernkulp.com

M&K project number: 203-22010

project mgr: NJM
drawn by: LGH
issue date: 05-04-22

REVISIONS:

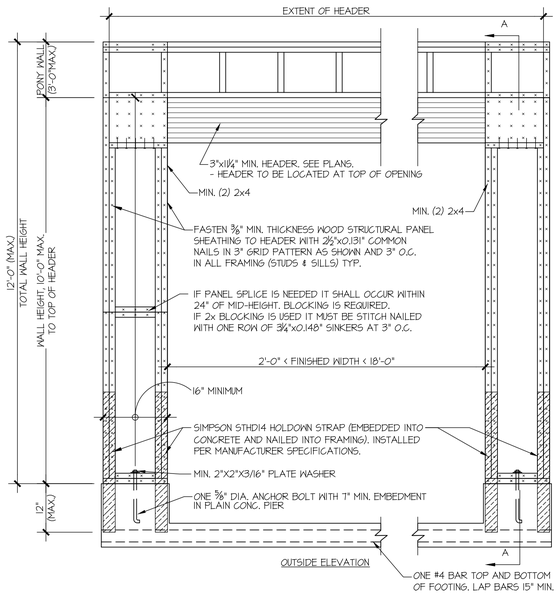
date:	initial:
04/28/2023 AHJ# REVISIONS	LGH
06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/27/2023 ADD'L PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

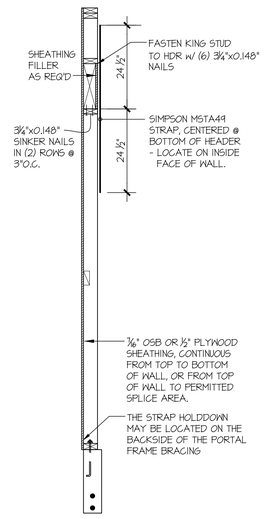
STRUCTURAL DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

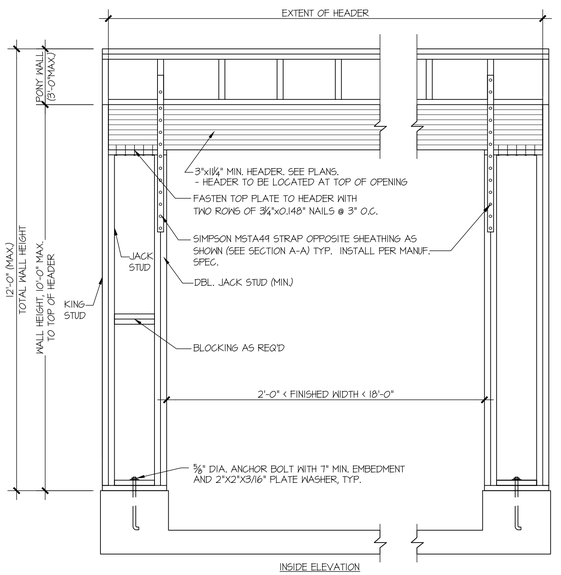
sheet: SD-3



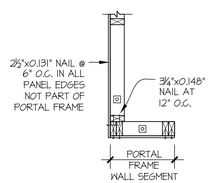
OUTSIDE ELEVATION



SECTION A-A THROUGH PIER



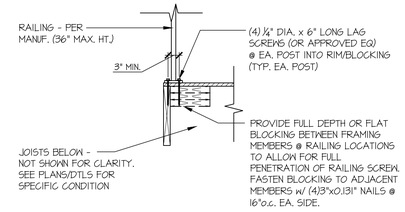
INSIDE ELEVATION



PLAN VIEW OF CORNER DETAIL

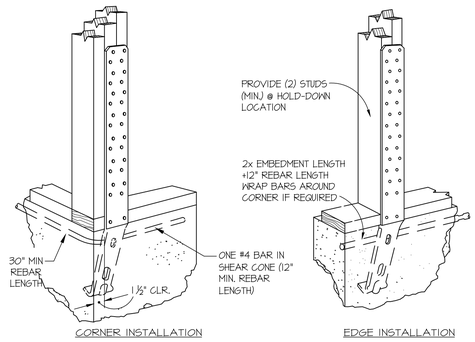
1 APA PORTAL FRAME DETAIL WITH HOLDOWNS

SCALE: N.T.S.



A TYP. RAILING CONNECTION

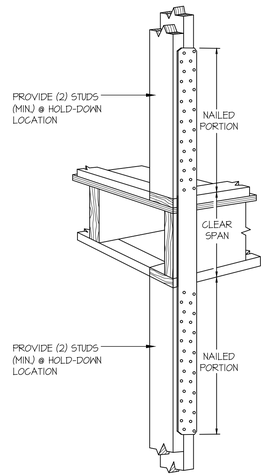
SCALE: 3/4"=1'-0" — WOOD FRMG BELOW



CORNER INSTALLATION — EDGE INSTALLATION

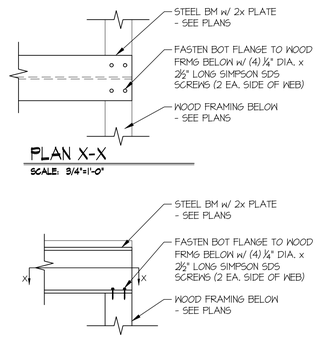
B TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STHD HD @ FOUNDATION



C TYPICAL HOLD-DOWN INSTALLATION

NOT TO SCALE — SIMPSON STRAP HD @ FLOOR FRAMING

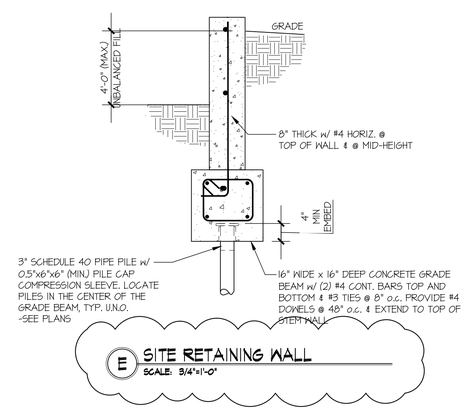


PLAN X-X

SCALE: 3/4"=1'-0"

D STL BM TO WOOD FRMG CONNECTION

SCALE: 3/4"=1'-0"



E SITE RETAINING WALL

SCALE: 3/4"=1'-0"

seal:
NICHOLAS J. MARTIGNETTI
STATE OF WASHINGTON
56478
REGISTERED
PROFESSIONAL ENGINEER
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MULHERN+KULP
RESIDENTIAL STRUCTURAL ENGINEERING
7220 Trade Street, Suite 295, San Diego, CA 92121
p 619-630-0010 • mulhernkulp.com

M&K project number: 203-22010

project mgr:	NJM
drawn by:	LGH
issue date:	05-04-22

REVISIONS:

date:	initial:
04/28/2023 ASCE REVISIONS	LGH
06/21/2023 PLAN REVIEW COMMENTS	LGH
10/05/2023 PIPE PILE REVISION	LGH
11/21/2023 ADDL PLAN REVIEW COMMENTS	LGH

ARCHITECTURAL INNOVATIONS

STRUCTURAL DETAILS

3036 67TH AVE. SE
MERCER ISLAND, WASHINGTON

sheet: SD-4

12/18/2023

Attn: Robert Young
14311 SE 16TH ST
Bellevue, WA 98007
Via: Email

RE: **CAO23-029** Letter of Completeness; 3036 67th AVE SE, Mercer Island, WA 98040

The City of Mercer Island received the above referenced application for a Critical Area Review 2 (CAR2) permit for the property located at 3036 67th AVE SE, Mercer Island, WA 98040 on 11/30/2023. The City has assigned file number CAO23-029 to the CAR2 application. Following review of the application, City staff has determined that the application is complete and has established a vesting date of 12/18/2023.

The application is scheduled for mailing and posting on 12/26/2023 as required by MICC 19.15.030.

Formal review of the application will now begin in compliance with Mercer Island City Code, Chapter 19. As review progresses, additional documentation will most likely be requested.

Pursuant to Mercer Island City Code 19.15.110(B), if the applicant fails to provide the required information within 60 days from the date of any request for information, the application shall lapse, and become null and void.

Please do not hesitate to contact me at 206-275-7764 or via e-mail at grace.manahan@mercerisland.gov if you have any questions.

Sincerely,

Grace Manahan

Grace Manahan, Assistant Planner
City of Mercer Island Community Planning and Development

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
206.275.7605 | www.mercerisland.gov

PUBLIC NOTICE OF APPLICATION

NOTICE IS HEREBY GIVEN for the application described below:

File No.:	CAO23-029
Permit Type:	Type III
Description of Request:	A request for a Critical Area Review 2 for the demolition of an existing single-family residence and construction of a new single-family residence within a geologically hazardous area.
Applicant/Owner:	Robert Young / William E. Buchan
Location of Property:	3036 67th AVE SE, Mercer Island WA 98040 King County Assessor tax parcel number: 2174501025

SEPA Compliance:
The project is exempt from SEPA Review pursuant to WAC 197-11-800(1)(b)(i).

Project Documents: https://mieplan.mercergov.org/public/CAO23-029

Written Comments: This may be the only opportunity to comment on this proposal. Written comments on this proposal may be submitted to the City of Mercer Island either by email, in person, or by mail to the City of Mercer Island, 9611 SE 36th Street, Mercer Island, WA 98040-3732. Anyone may comment on the application, receive notice, and request a copy of the decision once made. Only those persons who submit written comments or participate at the public hearing (if a hearing is required) will be parties of record; and only parties of record will have the right to appeal.

Public Hearing and Public Meeting:	Pursuant to MICC 19.15.030 Tables A and B, a public hearing is not required for Type I-III permits.
Applicable Development Regulations	Applications for Critical Area Review 2 are required to be processed as Type III land use reviews pursuant to Mercer Island City Code (MICC) 19.15.030. Processing requirements for Type III land use reviews are further detailed in MICC 19.15.030. The city's subdivision requirements are contained in Chapter 19.08 MICC.
Other Associated Permits:	Permit No(s):2210-120
Environmental Documents:	Copies of all studies and/or environmental documents are available through the above project documents link.

Application Process Information:

Date of Application:	November 30, 2023
Determined to Be Complete:	12/18/2023
Weekly Permit Bulletin Notice:	January 2, 2024
Date Mailed:	1/2/2024
Date Posted on Site:	1/2/2024
Comment Period Ends:	5:00PM on 2/1/2024

Project Contact: Grace Manahan, Assistant Planner
grace.manahan@mercerisland.gov | (206) 275-7764

From: Michele Lorilla
To: Grace Manahan
Subject: cao23-029: 3036 67th Ave SE
Date: Monday, December 18, 2023 10:27:34 AM

Good morning.

Just letting you know that I approved this permit based on my approval of the associated building permit 2210-120. The submitted drawings and geotechnical supplemental information are the same for both permits.

Michele Lorilla, P.E.
Geotechnical Peer Reviewer
City of Mercer Island – Community Planning & Development
www.mercerisland.gov

Notice: Emails and attachments may be subject to disclosure pursuant to the Public Records Act (chapter 42.56 RCW).

The City of Mercer Island utilizes a hybrid working environment. Please see the City's Facility and Program Information page for City Hall and City service hours of operation.

January 25, 2024: Response of Patricia and Ron Malatesta January 2023

PUBLIC NOTICE OF APPLICATION

File No.: CAO23-029

Applicant/Owner: Robert Young / William E. Buchan

Location of Property: 3036 67th Ave. SE, Mercer Island, WA 98040. TAX Parcel 217450125

Date of Application: November 30, 2023

Comments on The PUBLIC NOTICE OF APPLICATION:

Ron and Patricia Malatesta own the property 3031 68th Ave. SE, east of this property.

RE: Comments submitted Jan. 2023- see attached.

We had contacted Jamie Buchan in 2022 to express concern about the **danger of trees #2 and tree #3,** as detailed in our comments Jan 2023 and Jan 2024.

We commented on the **East line property** on site plans. It is located east of the survey marker, encroaching on the Malatestas' property.

We never heard from Jamie Buchan who did say he would call back.
We never were informed about the comments made by ? to our comments of Jan. 2023.

Ryan Harriman, City Planner, Jan 26, 2024, sent us the response.
We were shocked that the comment had nothing to do with the issues about which we had commented. **REFER TO OUR JAN 2023 COMMENTS.** It was not signed.
RESPONSE READ:

> "Ron Malatesta is concerned about his view and both of our arborists and the city arborist are not going to allow the removal of trees #2 and #3 to accommodate this. He claims the branches are a hazard and we can clean up the tree a little but probably not as much as he would like to see."

This statement has **nothing** to do with the submitted Comments by the Malatestas-
It attributes to the Malatestas ideas that were never written.

This is not an acceptable response.

We now submit our 2024 comments.

Please contact us when any action on this Property occurs

Please call or email when any response is posted and how we can access.

206-232-9847 (206-450-8586 cell use) pamalatesta@comcast.net · rpmalatesta@hotmail.com

January 25, 2024: Response of Patricia and Ron Malatesta to:

PUBLIC NOTICE OF APPLICATION

File No.: CAO23-029

Location of Property: 3036 67th Ave. SE, Mercer Island, WA 98040. TAX Parcel 217450125

Date of Application: November 30, 2023

Comments on the PUBLIC NOTICE OF APPLICATION

In Summary:

1. The East Property Line is incorrectly shown on the drawings. That mistake leads to incorrect assumptions concerning the tree work stated in this application.

2. The trees #2 and #3 are partially on 3031 68th Ave SE property.
   Any work on the property on or near the property line must include the agreement of the Malastests who own the 3031 68th Ave SE property.

3. The hazards the trees #2 and #3 present must be clearly addressed. If the trees under protest (see below) remain standing, the Arborist of the Olympic Nursery, Inc must guarantee in writing the safety of the trees.

East Property Line Conditions

1. On the Site Plan Drawing the trees labeled #2 & #3 are **incorrectly** shown totally on the Malatesta property. The trees' main trunks are partially on the 3031 68th SE property. The east boundary line itself is shown on the 3031 68th Ave SE property. The SE corner fence post noted is on the 3031 68h Ave SE property. The survey marker is clearly west of the fence post.

2. Any location of fencing and trees near the East boundary line must be coordinated with and **approved** by the property owners of the 3031 68th property- The Malatestas.

Requirement of Maintaining Trees:

The city of Mercer Island requires trees to remain on the property or be replaced if removed.. The problem is that the developer has the right to determine those trees that can be removed and where they will be planted.

Tree #1 was a tree in good condition before the excavation but was allowed to be removed to increase the footprint. Once removed, it was determined that trees 2, 3 must be retained. This is not nlogical when tree #1 was in better condition that trees #2 and #3.

"Removable of this tree requires 6 new trees to be located, **close** to the original one as required by the city." (Arborist Report Oct.14, 2022) **Will this be done?**

January 25, 2024: Response of Patricia and Ron Malatesta to:

PUBLIC NOTICE OF APPLICATION

File No.: CAO23-029

Location of Property: 3036 67th Ave. SE, Mercer Island, WA 98040. TAX Parcel 217450125

Date of Application: November 30, 2023

Comments on the PUBLIC NOTICE OF APPLICATION
Tree Fall Hazard to Adjoining properties and people.
The trees #2 and need to be removed. They present a hazard to neighbors,, especially to the Malatestas located at 3031 68th Ave SE.

1. In the COMMENTS dated Dec. 2022, we stated that Trees #2 & #3 constitute a serious hazard to life and property due to their height and vulnerability to large branches breaking away. Both were topped over 60 years ago. We have had several large branches from these trees fall onto our property. If someone had been in the yard and hit, they would have been killed.

3. In the 2023 report, the arborist rated the condition of Trees #2 and #3 as fair to good, candidates for retention. **"Fair or good" was not defined .** An explanation why trees were good candidates for retention was not given..
"Fair or Good", "Candidate for Retention" and "Noteworthy" must be explained.

NOTE 1: In fact, both Trees #2 and #3 have been topped, over 60 years ago.
NOTE 2: In fact,Tree #2 has the ivy growth, not tree #3

Ronald & Patricia Malatesta
206-232-9847
pamalatesta@comcast.net

Ronald Malatesta
Patricia Malatesta

1st comment

Jan. 1, 2023

Grace Manahan, Assistant Planner

City of Mercer Island

Community Planning & Development

COMMENTS TO PUBLIC NOTICE OF APPLICATION FOR A BUILDING PERMIT TO DEMOLISH EXISTING SINGLE FAMILY RESIDENCE AND REBUILD A 5000 SQ FT SINGLE FAMILY RESIDENCE WITH A 897 SQ FT GARAGE

LOCATION OF PROPERTY: 3036 67th Ave. S.E., Mercer Island, WA 98040

TAX PARCEL NUMBER: 2174501025

The following comments to the Building Permit Application are made after telephone discussions with Matt ____ and Jaime Buchan of William E. Buchan, Inc : ,

Tree Fall Hazard to adjoining properties and people.

In my separate communications with Matt and Jaime, I expressed my serious concern that Trees 2 & 3 are an extreme hazard to adjoining properties and to 3036 67th Ave SE itself. Past high wind conditions have resulted in a large branch (5" dia. 15-20 ft long) falling onto the property at 3031 68th Ave SE. Multiple attempts to mitigate this problem with the previous property owner have been unsuccessful. Since the last storm with wind gusts exceeding 60 mph, Trees 2 & 3 have had substantial growth on and over the east property line abutting the property at 3031 68th Ave SE.

In discussing the ARBORIST REPORT (dated Oct. 14, 2022) with Jaime B. on Friday, Dec. 16, 2022, he stated he would have the arborist, Tom Quigley, take another look at Trees 2 & 3. Since then a neighbor, Isabella Fu at 3030 68 Ave SE, talked to Jaime Buchan and was told that those limbs, which would be likely to break off in high winds, would be removed. Any work done to mitigate the hazard of falling limbs and even trees need to be in consultation and agreement with the property owner(s) at 3031 68th Ave SE.

East Property Line Conditions

Surveys (and survey markers) done by the property owners at 3031 68th Ave SE and 3036 67th Ave SE must be reconciled before commencing to do any work at or near the property line.

Any removal and/or replacement of the fence also needs to be done in consultation and agreement beforehand with the property owner(s) at 3031 68th Ave SE.

Placement of Western Red Cedars, Trees 4-7, at East Property Line, View A1.1

The ultimate growth (as high as 200ft.) of western red cedars, four in total, along the eastern property line, will severely reduce the views of neighboring properties uphill from 3036 67th Ave SE. Property values have been known to be reduced by tens of thousands of dollars by the loss of views. In addition growth of these trees will within 10 years or sooner encroach upon the 3031 68th Ave SE property.

We appreciate the consideration of neighbor's views by the city building height limitation, which is being adhered to, but to see the purpose of it ignored by the proposed addition of the four Western Red

Response for :
Malatesta Public Comment Letter dated January 2024

Ron Malatesta is concerned about the dangers of trees 2&3 as detailed in the original comment letter dated 2023. Below is an expert for a memo prepared by Tom Quigley the arborist for this project.
I have also included the full copy of the memo for the Malatesta's records.

The invasive ivy was removed and both trees were climbed to perform inspections of the old topping cuts. The neighbor to the immediate east came out and shared with us that he had lived in the home for 50 years and that the trees had been topped prior to that. While he had submitted information related to a large limb falling from the trees, I believe I understood him to say that the particular incident had occurred many years ago. The following two photos were taken February 29, 2024. They show that the topping cuts have completely 'healed' over with no decaying wood or decay column present. There were no other obvious conditions that would indicate the presence of decay. While in Tree #2, we removed an 8" diameter limb that had grown to become a co-dominant stem that appeared unsightly. We also removed three limbs that were over-weighted and hung precariously downward from Tree #3. No climbing or limb removal was done above about 30' in the trees.

City arborist John Kenney also indicated that I should suggest an alternate species to the planned planting of Western Red Cedar trees in the backyard of the subject property. I have reviewed plan stet A1.1 and agree that replacing four(4) of the four Western Red Cedar trees with Vine maple will make for happier uphill neighbors and will provide a better planting pallet, long-term.

CITY OF MERCER ISLAND

COMMUNITY PLANNING & DEVELOPMENT
9611 SE 36TH STREET | MERCER ISLAND, WA 98040
PHONE: 206.275.7605 | www.mercergov.org
Inspection Requests: Online: www.MyBuildingPermit.com VM: 206.275.7730

CONCURRENT REVIEW

I am requesting that my permit submittal be accepted and reviewed concurrently during the review of our land use action (File # _____). I fully understand that the land use application must be approved prior to the issuance of the permit. I take full responsibility for all fees incurred for the permit review and understand that the fees are payable to the City of Mercer Island regardless of the land use outcome. I hold the City harmless for any actions arising from the concurrent review of the permit application, including but not limited to the potential denial of the permit if the land use action is denied.

Signature

11·30·2023
Date

Robert Young
Name

3036 67th Ave SE
Project Address

roberty@kapplerhomeplans.com
email

425-641-5320
Phone #

TERRA ASSOCIATES, Inc.
Consultants in Geotechnical Engineering, Geology
and
Environmental Earth Sciences

November 29, 2023
Project No. T-8718

Mr. Jamie Buchan
William E. Buchan Homes
2630 – 116th Avenue NE, Suite 100
Bellevue, Washington 98004

Subject: Response to City of Mercer Island Comments
3036 – 67th Avenue SE
Mercer Island, Washington

References:
1. Geotechnical Report, 3036 – 67th Avenue SE, Mercer Island, Washington, Project No. T-8718, prepared by Terra Associates, Inc., dated August 22, 2022, 5th revision November 27, 2023

3. Geotechnical Peer Review Comments, prepared by City of Mercer Island, dated October 2023

Dear Mr. Buchan:

As requested, we have reviewed the referenced comments from the City of Mercer Island regarding the project site. The following is our response to the geotechnical comments.

Page 1 – Comment #1

The revised foundation design includes 3-inch and 4-inch diameter pin piles. The revised geotechnical engineering report dated October 10, 2023 does not provide recommendations for 3-inch diameter pin piles. Please provide a revised report or report addendum to provide design capacity recommendation for 3-inch diameter pin piles.

Response

The geotechnical report has been revised to include recommendations for 3-inch diameter pin piles.

Page 1 – Comment #2

It appears that 1241 psf instead of 241 psf was used. Please resubmit revised residual strength stability analysis using 241 psf in the B-2 section. Please provide mitigation measures should the revised analysis result in a FS<1.0.

Response

The post construction section for residual soils B-B' has been revised using a residual strength of 241 for B-2. Our apologies for the typo.

Page 1 – Comment #3

With the SUB5 plan set submission, please provide review letter from geotechnical engineer of record and updated statement of risk.

Response

As requested, we have reviewed Sheets S-0.0 and S-0.1 prepared by Mulhern+Kulp dated November 27, 2023, Sheets A1.1, A2, A8, and D1 prepared by Architectural Innovations, P.S, dated November 27, 2023, and Sheets SP-01, TG-01, and DT-01 prepared by Atwell dated November 20, 2023. Based on our review, the project consists of developing the site with a new single-family residence, associated access, and utilities. The plans indicate the residence will be a three-story, wood-framed structure with an attached garage constructed at grade. An interceptor trench will be installed on the east side of the site with a bottom elevation of 95.70 feet.

Grading to achieve the bottom of footing elevation of 99.66 feet will require excavation depths of 10 to 13 feet below current site grades. Based on our review, there is sufficient room to complete the excavation using conventional excavation techniques with a 1.5:1 (Horizontal: Vertical) temporary excavation slope.

Review of the structural design indicates the foundation for the residence will be supported on 3-inch and 4-inch diameter pin piles driven to refusal. The structural calculations indicate seismic loading was based on Site Class D.

These design parameters are consistent with the recommendations in the referenced report.

As noted, except as amended herein, all recommendations outlined in the referenced geotechnical report are applicable and continue to remain valid for project design and construction. Based on our review of the plans indicated, we conclude they were prepared in general accordance with the recommendations outlined in our report.

As noted in the reference geotechnical report, the project site is considered a landslide hazard area. Per Section 19.07.160B.3 of the Mercer Island City Code, "Alteration of landslide hazard areas, seismic hazard areas and associated buffers may occur if the conditions listed in subsection (B)(2) of this section are satisfied and the geotechnical professional provides a statement of risk matching one of the following:

a. An evaluation of site-specific subsurface conditions demonstrates that the proposed development is not located in a landslide hazard area or seismic hazard area;

b. The landslide hazard area or seismic hazard area will be modified or the development has been designed so that the risk to the site and adjacent property is eliminated or mitigated such that the site is determined to be safe;

c. Construction practices are proposed for the alteration that would render the development as safe as if it were not located in a geologically hazardous area and do not adversely impact adjacent properties; or

d. The development is so minor as not to pose a threat to the public health, safety and welfare."

Based on our review of the project plans, it is our opinion that, the landslide hazard area will be modified and the development has been designed so that the risk to the site and adjacent property is mitigated such that the site is determined to be safe. Therefore, the site can be developed as planned per the City Code.

We trust the information presented is sufficient for your current needs. If you have any questions or require additional information, please call.

Sincerely yours,
TERRA ASSOCIATES, INC.



11-29-2023

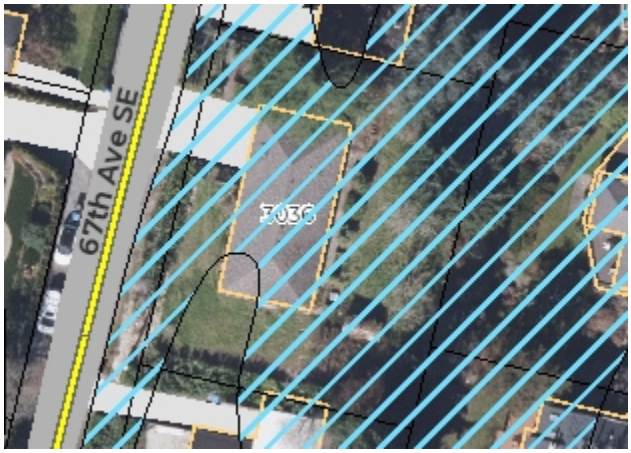
Carolyn S. Decker, P.E.
President

City of Mercer Island Property Hazard Report

Site Address: 3036 67TH AVE SE

Parcel #: 2174501025 **Report Generated on** April 17, 2024

Potential Slide:



Steep Slope:

No Hazard Found

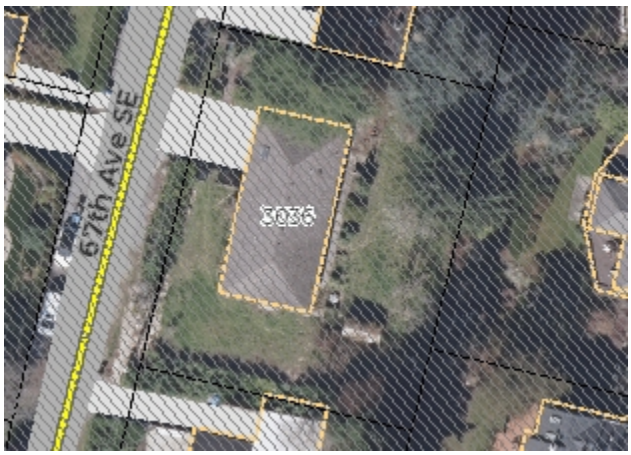
Erosion:



Seismic:

No Hazard Found

Wind Exposure:



Wind Speed Up Values **1.0** **1.3** **1.6** **1.9**



These maps are for the use of City of Mercer Island staff for the purposes of permit application evaluation. It provides a general assessment of known or suspect hazard areas for which the City will require site and project specific evaluation by a Washington State licensed engineer, geologist or engineering geologist prior to issuing a site for development. All areas have not specifically evaluated for hazards and there may be locations that are not correctly represented on these maps. It is the responsibility of the property owners and map users to evaluate risk associated with their proposed development. No site-specific assessment of risk is implied or otherwise indicated by the City of Mercer Island by these maps.