416 N Franklin Street
Fort Bragg, CA 95437
Phone: (707) 961-2823
Fax: (707) 961-2802

City of Fort Bragg

Meeting Agenda

Planning Commission

Wednesday, April 30, 2025 | **6:00 PM** | **Town Hall, 363 N.Main Street and Via Video Conference**

Special Meeting

MEETING CALLED TO ORDER

PLEDGE OF ALLEGIANCE

ROLL CALL

PLANNING COMMISSIONERS PLEASE TAKE NOTICE

Planning Commissioners are reminded that pursuant to the Council policy regarding use of electronic devices during public meetings adopted on November 28, 2022, all cell phones are to be turned off and there shall be no electronic communications during the meeting. All e-communications such as texts or emails from members of the public received during a meeting are to be forwarded to the City Clerk after the meeting is adjourned.

ZOOM WEBINAR INVITATION

This meeting is being presented in a hybrid format, both in person at Town Hall and via Zoom.

When: Apr 30, 2025 06:00 PM Pacific Time (US and Canada)
Topic: Planning Commission

Join from PC, Mac, iPad, or Android:
https://us06web.zoom.us/j/81762425962

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Webinar ID: 817 6242 5962
International numbers available: https://us06web.zoom.us/u/keIqcyyLCL

To speak during public comment portions of the agenda via zoom, please join the meeting and use the raise hand feature when the Chair or Acting Chair calls for public comment on the item you wish to address.

1. PUBLIC COMMENTS ON: (1) NON-AGENDA & (2) CONSENT CALENDAR ITEMS

MANNER OF ADDRESSING THE COMMISSION: All remarks and questions shall be addressed to the Planning Commission; no discussion or action will be taken pursuant to the Brown Act. No person shall speak without being recognized by the Chair or Acting Chair. Public comments are restricted to three (3) minutes per speaker.

TIME ALLOTMENT FOR PUBLIC COMMENT ON NON-AGENDA ITEMS: Thirty (30) minutes shall be allotted to receiving public comments. If necessary, the Chair or Acting Chair may allot an additional 30 minutes to public comments after Conduct of Business to allow those who have not yet spoken to do so. Any citizen, after being recognized by the Chair or Acting Chair, may speak on any topic that may be a proper subject for discussion before the Planning Commission for such period of time as the Chair or Acting Chair may determine is appropriate under the circumstances of the particular meeting, including number of persons wishing to speak or the complexity of a particular topic. Time limitations shall be set without regard to a speaker's point of view or the content of the speech, as long as the speaker's comments are not disruptive of the meeting.

BROWN ACT REQUIREMENTS: The Brown Act does not allow action or discussion on items not on the agenda (subject to narrow exceptions). This will limit the Commissioners' response to questions and requests made during this comment period.

WRITTEN PUBLIC COMMENTS: Written public comments received after agenda publication are forwarded to the Commissioners as soon as possible after receipt and are available for inspection at City Hall, 416 N. Franklin Street, Fort Bragg, during normal business hours. All comments will become a permanent part of the agenda packet on the day after the meeting or as soon thereafter as possible, except comments that are in an unrecognized file type or too large to be uploaded to the City's agenda software application. Public comments may be emailed to CDD@fortbragg.com.

2. STAFF COMMENTS

3. MATTERS FROM COMMISSIONERS

4. CONSENT CALENDAR

All items under the Consent Calendar will be acted upon in one motion unless a Commissioner requests that an individual item be taken up under Conduct of Business.

5. DISCLOSURE OF EX PARTE COMMUNICATIONS ON AGENDA ITEMS

6. PUBLIC HEARINGS

6A. 25-120 Receive a Report, Hold a Public Hearing, and Consider Adopting a Resolution Recommending that the City Council Approve a Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25) and Sign Permit 2-25 (SP 2-25) for a Proposed 49-Unit Senior Housing Project Located at 860 Hazelwood (APN 018-210-29). Statutorily exempt from CEQA pursuant to section 15332 - Class 32 In-Fill Development Projects and 15192 and 15195 Infill Housing Development.

Attachments:
Staff Report 860 Hazelwood 4-30-2025
Att 1 - PC Recommendation - Hazelwood 49 Unit Senior Project
Att 2 - Hazelwood Housing Incentives Staff Report 2-24-2025
Att 3 - Site Plan, Sign Plan
Att 4 - Floor Plans
Att 5 - Community Center Plan
Att 6 - Project Elevations
Att 7 - Project Renderings Hazelwood 4-7-2025
Att 8 - Colors and Materials - Hazelwood
Att 9 - Preliminary landscape plan - Hazelwood
Att 10 - Lighting Plan - Hazelwood
Att 11 - Civil Plans
Att 12 - Stormwater Management Plan - Hazelwood
Att 13 - Geotechnical Report - Hazelwood
Att 14 - NOPH 860 Hazelwood 4-30-25 PC
Hazelwood Project Meeting Powerpoint 4-30-2025
Public Comment

7. CONDUCT OF BUSINESS

ADJOURNMENT

The adjournment time for all Planning Commission meetings is no later than 9:00 p.m. If the Commission is still in session at 9:00 p.m., the Commission may continue the meeting upon majority vote.

STATE OF CALIFORNIA)
)ss.
COUNTY OF MENDOCINO)

I declare, under penalty of perjury, that I am employed by the City of Fort Bragg and that I caused this agenda to be posted in the City Hall notice case on Friday, April 25, 2025.

_____

Maria Flynn
Administrative Assistant, Community Development Department

NOTICE TO THE PUBLIC

Materials related to an item on this agenda submitted to the Commission after distribution of the agenda packet are available for public inspection in the Community Development Department at 416 North Franklin Street, Fort Bragg, California, during normal business hours. Such documents are also available on the City's website at www.fortbragg.com subject to staff's ability to post the documents before the meeting.

ADA NOTICE AND HEARING IMPAIRED PROVISIONS:

It is the policy of the City of Fort Bragg to offer its public programs, services and meetings in a manner that is readily accessible to everyone, including those with disabilities. Upon request, this agenda will be made available in appropriate alternative formats to persons with disabilities.

If you need assistance to ensure your full participation, please contact the City Clerk at (707) 961-2823. Notification 48 hours in advance of any need for assistance will enable the City to make reasonable arrangements to ensure accessibility.

This notice is in compliance with the Americans with Disabilities Act (28 CFR, 35.102-35.104 ADA Title II).

City of Fort Bragg

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Text File

File Number: 25-120

Agenda Date: 4/30/2025 **Version:** 1 **Status:** Passed

In Control: Planning Commission **File Type:** Planning Resolution

Agenda Number: 6A.

Receive a Report, Hold a Public Hearing, and Consider Adopting a Resolution Recommending that the City Council Approve a Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25) and Sign Permit 2-25 (SP 2-25) for a Proposed 49-Unit Senior Housing Project Located at 860 Hazelwood (APN 018-210-29). Statutorily exempt from CEQA pursuant to section 15332 - Class 32 In-Fill Development Projects and 15192 and 15195 Infill Housing Development.

PLANNING COMMISSION STAFF REPORT

TO: **Planning Commission** **DATE: April 30, 2025**

DEPARTMENT: **Community Development**

PREPARED BY: **Marie Jones Consulting**

PRESENTER: **Marie Jones**

AGENDA TITLE: Receive a Report, Hold a Public Hearing, and Consider Adopting a Resolution Recommending that the City Council Approve a Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25) and Sign Permit 2-25 (SP 2-25) for a Proposed 49-Unit Senior Housing Project Located at 860 Hazelwood (APN 018-210-29). Statutorily exempt from CEQA pursuant to section 15332 - Class 32 In-Fill Development Projects and 15192 Infill Housing Development.

APPLICATION NO.:	Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25), Sign Permit (2-25) application submittal January 7, 2025.
APPLICANT:	AMG Associates
PROPERTY OWNER:	Moura Angelina F TTEE
AGENT:	Jacob Soroudi
REQUEST:	Coastal Development Permit, Use Permit, Design Review and Sign Permit to construct a new three-story multi-family project. One building is proposed with a total of forty-nine units. The proposed project includes 41 one-bedroom (613 SF) and 8 two-bedroom (802 SF), with one reserved for an on-site manager. Each unit features a private patio or balcony. The remaining units will be income-restricted for low income seniors (62+) earning 30-60% of the Mendocino County area median income. Amenities include a community center with a kitchen, exercise room, laundry, and business center. The site will include 75 parking spaces (38 EV-adaptable) and 18 bicycle spaces. The

carport roofs will accommodate solar panels that will provide electricity to the Project. Additional on-site amenities include a community garden with raised planter beds, covered picnic tables with BBQs, and a fenced dog park. The project also includes extensive landscaping, a large stormwater bioswale, and offsite improvements to Hazelwood Street. The applicant has requested the following inclusionary housing incentives: an increase in the height limit from 35 feet to 43 feet and a reduction in the required parking.

LOCATION:	860 Hazelwood
APN:	018-210-29-00 (2.997 acres)
ZONING:	High Density Residential (RH)/ Coastal Zone
ENVIRONMENTAL DETERMINATION:	Statutorily exempt from CEQA pursuant to section 15332 – Class 32 In-Fill Development Projects and 15192 Infill Housing Development.

SURROUNDING LAND USES:

NORTH: Moura Senior Housing
EAST: Single Family Residential
SOUTH: Single Family Residential
WEST: Single Family Residential

APPEALABLE PROJECT: Appealable to California Coastal Commission.

RECOMMENDATION

Adopt a Resolution of the Fort Bragg Planning Commission Recommending that the City Council Approve Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25), Sign Permit (SP 2-2025) for a 49-Unit Affordable Senior Multifamily Project and Associated Infrastructure Located at 860 Hazelwood, Subject to the Findings and all Standard and Special Conditions.

PROJECT BACKGROUND

Per the California Coastal Records project, this parcel has been developed since prior to 1970s with a single-family home and an accessory storage building. The property has an onsite well and septic system.

Inclusionary Incentives. On February 24, 2025, the City Council held a public hearing and preapproved the following inclusionary housing incentives for this proposed project.

- An increase in the maximum height from 35 feet to 43 feet for the elevator shaft.
- A reduction in the minimum parking from 114 stalls to 75 parking spaces, which is above the minimum parking required by Density Bonus law. The applicant is not required to use an incentive for the automatic parking reduction required by Density Bonus law.

Please see the attached staff report for the City Council's discussion and deliberation

regarding the requested inclusionary housing incentives (Attachment 1).

DECISION PROCESS

As this project includes inclusionary housing the City Council will have the final approval authority over the inclusionary Housing incentives which are awarded for this project. Consequently, the Planning Commission shall review the project and hold a public hearing and make a recommendation to the City Council regarding the approval or denial of the project via resolution. The City Council will have final review authority for all the permits and the inclusionary incentives.

PROJECT DESCRIPTION

The project applicant proposes to construct a 49-unit multifamily project consisting of the following components:

- One 38-foot-tall building with 41 one-bedroom (613 SF) eight two-bedroom (802 SF) units. One unit will be an on-site manager and the remaining units will be income-restricted for seniors (62+) earning 30-60% of the Mendocino County area median income.
- Each unit features a private patio or balcony.
- Amenities include a community center with a kitchen, exercise room, laundry, and business center.
- The site will include 75 parking spaces (38 EV-adaptable) and 18 bicycle spaces. The carport roofs will accommodate solar panels to provide electricity to the project.
- Additional on-site amenities include a community garden with raised planter beds, covered picnic tables with BBQs, and a fenced dog park.
- Landscaping includes 5,200 SF of building landscaping as well as 9,491 SF of parking lot landscaping, and a large open undeveloped field of 40,000 SF. The Landscaping plan includes 34 native trees.
- The project would also include the installation of sidewalk, curb, and gutter along the parcel boundaries that front Hazelwood Street

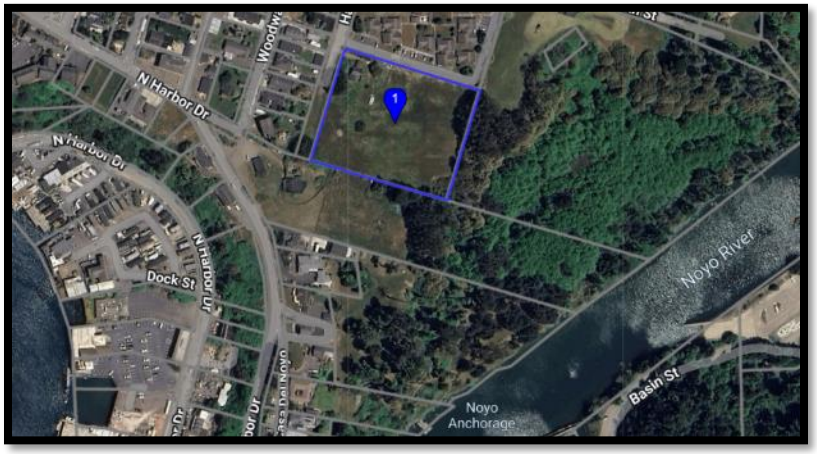


Figure 1: Site Location

COASTAL GENERAL PLAN CONSISTENCY ANALYSIS - HOUSING POLICIES

As conditioned, the project would be consistent with all Coastal General Plan policies. The project is supported by and helps implement many housing policies of the Coastal General Plan and the City's Housing Element as described below. Policies and goals are noted by italics. Coastal General Plan policies which are not housing specific are analyzed under the appropriate section heading on subsequent pages.

The proposed project implements the following Housing Element policies:

Goal H-2 Provide a range of housing, including single-family homes, townhouses, apartments, and other housing types to meet the housing needs of all economic segments of the community.

Policy H-2.7 Infill Housing: Encourage housing development on existing infill sites in order to efficiently utilize existing infrastructure.

The project includes studios and two- and one-bedroom apartments on an infill site.

Policy H-3.2 Encourage Senior Housing: Allow senior housing projects to be developed with density bonuses and flexible parking standards were found to be consistent with maintaining the character of the surrounding neighborhood consistent with the requirements of Policy H-3.5.

The proposed project would provide 48 affordable apartments for seniors.

Policy H-3.9 Housing for the Disabled: Continue to facilitate barrier-free housing in new development.

The project includes forty-nine ADA accessible residential units.

Policy H-4.1 Equal Housing Opportunity: Continue to facilitate non-discrimination in housing in Fort Bragg.

This project will provide housing units without discrimination based on race, gender, sexual orientation, marital status, or national origin.

COASTAL GENERAL PLAN CONSISTENCY ANALYSIS - LAND USE POLICIES

The Coastal General Plan includes the following definition for the parcel's Land Use designation:

> **High Density Residential (RH).** This designation is intended to allow a variety of higher density housing types, including townhouses, ~~apartments~~, and mobile home parks on sites that are large and provide important open space or large properties where the City wishes to see creative planning and design. It is assigned primarily to larger parcels where innovative site design can provide for a mix of housing types, aesthetic and functional open space areas, and other features that enhance the development and the neighborhood. With issuance of a conditional use permit, limited neighborhood-serving commercial uses are permitted, such as convenience stores, cafés and restaurants located primarily on individual parcels or in small clusters of retail establishments. The allowable density range is 10 to 15 units per acre. Residential densities above 6 units per acre may only be permitted for projects which include open space, provide affordable housing, clustered housing, energy conservation, and/or aesthetically pleasing design features.
>
> As an affordable senior apartment project with extensive open space the project meets the requirements of the definition of the Land Use Designation in the Coastal General Plan.

The following Coastal General Plan Policies in the Land Use Element are also relevant to the project:

> *Policy LU-5.7: Adequate parking should be provided to serve coastal access and recreation uses to the extent feasible. Existing parking areas serving recreational uses shall not be displaced unless a comparable replacement area is provided.*
>
> > There is no Coastal Access available or proposed from this site so that project will not have an impact on coastal access.
>
> *Policy LU-10.1 : Preserve Neighborhoods: Preserve and enhance the character of the City's existing residential neighborhoods.*
>
> > The proposed project would be located within an existing neighborhood which includes a number of senior affordable housing apartments and would be compatible with this existing development patterns.
>
> *Policy LU-10.2: Locating New Development. New residential, commercial, or industrial development, except as otherwise provided in the LCP, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. Where feasible,*

new hazardous industrial development shall be located away from existing developed areas.

The proposed project would be located in an area already surrounded by development on three sides. The project complies with this policy.

Policy LU-10.3: The location and amount of new development shall maintain and enhance public access to the coast by: (1) facilitating the extension of transit services where feasible; (2) providing non-automobile circulation within the development that includes circulation connections outside of the development; (3) assuring that the recreational needs of new residents will be supported by onsite recreational facilities and/or off-site local park recreational facilities to ensure that coastal recreation areas are not overloaded; and (4) utilizing smart growth and mixed-use development concepts where feasible to improve circulation and reduce auto use, where such auto use would impact coastal access roads.

1. The proposed project could enhance transit services to the site and Special Condition 26 is included to require the applicant to work with MTA to determine if the addition of a transit stop at the property is warranted and feasible.
2. The project provides pedestrian and bicycle access in and through the project.
3. The project site plan includes community gardens, picnic tables and open space to meet the recreational needs of the residents.
4. The proposed project includes a reduced number of parking spaces (per density bonus law) which will reduce parking and auto use.
   The project complies with this policy.

Policy LU-10.4: Ensure Adequate Services and Infrastructure for New Development. Development shall only be approved when it has been demonstrated that the development will be served with adequate water and wastewater treatment. Lack of adequate services to serve the proposed development shall be grounds for denial of the development.

As analyzed later in the report under the CDP section, this project can be served by existing services. As conditioned, the project complies with this policy.

Policy LU-10.5: Minimize Impacts on Air Quality and Greenhouse Gases. New development shall: 1) be consistent with requirements imposed by an air pollution control district or the State Air Resources Control Board as to each particular development, and 2) minimize energy consumption and vehicle miles traveled.

Fort Bragg is compliant with Air Quality standards except for PM-10. The proposed project would not include any wood-burning stoves and so would

not contribute further to PM-10 emissions. The state Building Code requires multifamily projects to utilize the lowest GHG-producing HVAC systems and on-site PV for energy use reductions. This project would be located in a city and so would minimize vehicle miles traveled relative to other projects in the County. The project complies with this policy.

Policy LU-10.6: Protect Special Communities. New Development shall, where appropriate, protect special communities and neighborhoods which, because of their unique characteristics, are popular visitor destination points for recreational uses.

The proposed project is not located in a special community or neighborhood as defined by the City's LCP.

Policy LU-10.7: Priority for Coastal Dependent Uses. Coastal-dependent developments shall have priority over other developments on or near the shoreline. Except as provided elsewhere in this division, coastal-dependent developments shall not be sited in a wetland. When appropriate, coastal-related developments should be accommodated within reasonable proximity to the coastal-dependent uses they support.

The proposed project is not near the shoreline. There is no wetland on site. Residential housing can be considered coastal-related development because the City has a severe housing crisis and working families (most of whom work in the coastal dependent hotel, restaurant, retail, fishing and logging sectors) cannot find housing and so many coastal related businesses cannot expand or attract/retain employees.

COMPLIANCE WITH CLUDC ZONING STANDARDS

DEVELOPMENT STANDARDS

The proposed project complies with all required zoning standards for the High Density Residential. See Table 2, for specific standards and project details.

Table 2 – Compliance with Zoning Standards

Development Aspect	Zoning Requirement (RH)	Proposed Project	Compliance
Front setback	20 feet	20 feet	Yes
Rear Setback	10 feet	105 feet	Yes
Side Setback	20 ft for multi-story buildings of 3 or more units on a site abutting an RS or RL zone	78 feet (N), 162 feet (S)	Yes
Site Coverage	70%	51%	Yes

Height Limit	35 feet	42’ 7” feet	Yes, per Inclusionary Housing Incentive
Floor Area Ratio (FAR)	No limitation for residential projects	0.36 (47,100/130,550SF)	Yes
Density	10 to 15 units/acre	16.39 units/acre.	Yes, per State Density Bonus Law

SITE STANDARDS

Parking

Seventy-two parking spaces are proposed for the project at a rate of 1.5 spaces/unit. As a 100% affordable project, the applicant is eligible for State Density Bonus Law parking requirements. State Density Bonus Law (65915p1) requires affordable housing projects to meet the following minimum parking ratios:

(A) Zero to one bedroom: one onsite parking space

(B) Two to three bedrooms: one and one-half onsite parking spaces, which requires

Per State Density Bonus Law, the City can only require the following parking

- Forty-one 1-bedroom units = 41 parking spaces
- Eight 2-bedroom units = 12 parking spaces

Maximum required parking = 53 parking spaces. The applicant has achieved compliance with Density Bonus Law parking requirements. The Planning Commission can request a special condition to reduce the parking provided to 53 spaces.

An analysis of the parking lot’s conformance with the CLUDC follows:

- **ADA.** Three of the parking spaces are designated as ADA spaces, and only two are required by CLUDC Chapter 17.36.
- **EV.** California’s CalGreen code requires, for new multifamily projects, that 10% of parking spaces be EV-capable and 40% of parking spaces be EV-ready. The applicant has proposed to meet these requirements with 31 EV parking spaces, which meets this requirement.
- **Bicycles.** The applicant’s site plan includes 18 bicycle parking spaces, which is exceeds the requirement.
- **Motorcycles.** One motorcycle parking space is required for every 50 vehicle spaces provided.

Special Condition 1: Prior to the issuance of the building permit, the applicant shall submit a revised parking plan with one motorcycle parking space for approval by the Community Development Director. The motorcycle parking spaces can replace a regular parking space.

Parking Lot Zoning Standards. The proposed project complies with all but one of the required standards for parking lots as noted in Table 4 below.

Table 4: Development Standards for Proposed Parking Lot		
Develop-ment Standards	**Requirements**	**Proposal**
Parking Lot Visibility	Section 17.42.120 of the CLUDC requires that "off-street parking be located so that it is not visible from the street fronting the parcel."	Yes. The residential parking is located to the north and east of the residential building. Hazelwood is a dead-end street with few parcels fronting the street. Given the need for seniors to readily access their units, the parking location can be found to be in conformance with this requirement.
Parking Space Dimensions	Ninety-degree angle parking should have a minimum space width of 9 feet and a minimum space depth of 18 feet.	Yes. The proposed parking lot offers 9-foot-wide spaces and a space depth of 18 feet.
Driveway width and depth	The minimum driveway width for 90-degree angle parking is 23 feet.	Yes. The proposed parking lot driveway width is 26 feet.
Driveway Cueing Area	Section 17.36.090 B1 requires "A nonresidential development that provides 50 or more parking spaces shall have access driveways that are not intersected by a parking aisle, parking space, or another access driveway for a minimum distance of 20 feet from the street right-of-way, to provide a queuing or stacking area for vehicles entering and exiting the parking area."	Yes. The parking lot entrances are located in back of the right of way by 27 feet, in compliance with this requirement. Moura Senior Housing has a drive way located 23 feet from the northern most driveway into the parking lot. Currently this area has extensive shrubs and trees that inhibit visibility. See Special Condition 2.

Distance from Street Corners	Per 17.36.100B1 Each driveway shall be separated from the nearest street intersection as follows, except where the City Engineer allows less separation: 1. A minimum of 150 feet from the nearest intersection, as measured from the centerline of the driveway to the centerline of the nearest travel lane of the intersecting street	The project complies with this requirement. The driveway on the northeast side of the parcel is 395 feet away from the intersection with South Street.
Parking Lot Landscaping	Per section 17.34.050C5a, Multi-family, commercial, and industrial uses shall provide landscaping within each outdoor parking area at a minimum ratio of 10 percent of the gross area of the parking lot. Location of landscaping. Landscaping shall be evenly dispersed throughout the parking area, as follows: i) Orchard-style planting (the placement of trees in uniformly spaced rows) is encouraged for larger parking areas. ii) Parking lots with more than 50 spaces shall provide a concentration of landscape elements at primary entrances, including, at a minimum, specimen trees, flowering plants, enhanced paving, and project identification. iii) Landscaping shall be located so that pedestrians are not required to cross unpaved landscaped areas to reach building entrances from parked cars. This shall be achieved through proper orientation of the landscaped fingers and islands, and by providing pedestrian access through landscaped areas that would otherwise block direct pedestrian routes.	The proposed site plan includes 19,000 SF of parking lot and 9,500 SF of landscaped area, which exceeds the minimum landscaping requirement of 1,900 SF. i) The landscaping plan includes redwoods, California Sycamore, and shore pines planted throughout the parcel and parking lot as required. ii) Landscaping is not concentrated at the entrance to the property. See Special Condition 3. iii) Landscaped areas do not interfere with pedestrian access throughout the parking lot and the project.

The project site plan complies with most of the site development standards for the parking lot. The Special Conditions below are recommended to address deficiencies:

Special Condition 2: The trees/bushes between Moura Senior Apartments' driveway and the proposed driveway shall be removed to facilitate visibility

between the two driveways. All replacement plantings shall be native plants with a mature height of less than 42 inches.

Special Condition 3: The applicant shall install 50 SF of shrubs and grasses at the parking lot entrance. The parking lot entrances shall include enhanced paving (stamped and colored) crosswalk. These items will be installed prior to the issuance of occupancy permit.

Fencing & Screening

The applicant has proposed a 6-foot-high wood fence along the southern and northern property boundaries. This complies with the zoning standards for fencing.

Landscaping

The submitted landscaping plan includes 34 trees as follows: 14 parking lot shade trees and 20 accent trees. The landscaping plan includes 3,190 SF of common open space, 5,200 SF of building landscaping and 9,500 SF of parking lot and entryway landscaping.

Table 5: Landscaping & Open Space

	Landscaping
Parking Lot Landscaping	9,491 SF
Common Open Space: Dog Park, Picnic Tables, Community Gardens	3,190 SF
Building Landscaping	5,200 SF
Total	**17,881 SF**
Naturalized Open space	40,000 SF
Total	**57,000 SF**

The preliminary landscaping plan is in compliance with the City's CLUDC landscaping requirements and the open space policies of the Coastal General Plan, except that no details are shown for the shrub and ground cover category.

Special Condition 4: Prior to the issuance of Building Permits, the applicant shall submit a revised landscaping plan for review and approval by the Community Development Director. The revised landscaping plan shall identify native California shrubs and ground covers for the proposed landscaped areas of the project site.

Lighting

The CLUDC regulates outdoor lighting fixture height, energy efficiency and light spillover onto adjoining properties. The applicant has submitted light fixture specifications, and the selected lights are night sky compliant and the light standards are 15' which complies with

the maximum height of 16 feet. The lighting plan illustrates that light does not leave the property at appreciable lumens as required by Policy CD-1.9.

Solid Waste Recycling & Material Storage
The site plan includes two solid waste dumpster enclosures, one near the south-west corner of the building and the other near the north east corner of the building. The design of the solid waste enclosures includes sufficient space for trash, recyclable and organic waste collection and storage. Additionally, the enclosures are designed to be secure against animal intrusion. However, it is not clear from the plan set that the trash enclosures are compatible with the appearance of the units, including using the same materials.

> **Special Condition 5:** The applicant shall submit, for approval by the Director of Community Development, an elevation of the proposed trash enclosures which illustrates that they are clad in substantially similar materials/colors as the building.

USE PERMIT ANALYSIS

LAND USE
Multi-family housing requires a Use Permit in the RH (High Density Residential) zoning district. The Use Permit analysis is included later in this report.

COMPLIANCE WITH MULTIFAMILY REQUIREMENTS

The Coastal LUDC section 17.42.120 includes specific standards for multifamily projects and the project's compliance with each standard is analyzed in the table below.

Table 4: Compliance with CLUDC Multifamily Standards

Standard	Requirement	Project	Complies
Front Set Back	No more than 40% of the front setback may be paved.	Less than 12% of the front setback is paved with drive isles.	Yes
Open Space	Section 17.42.120 of the CLUDC requires that multifamily projects provide permanently maintained out-door open space for each dwelling unit (private space) and for all residents (common space). Projects of more than 11 units must provide 100 SF of common open space/unit. Additionally, each unit should have either a 150-SF private patio or a 100-SF balcony.	**Public Open Space.** The project includes 3,190 SF of common landscaped open space but 4,900 SF is required. The project does not meet public open space requirements. The CLUDC requires that the common open space be accessible, continuous and usable, and the proposed project provides this in a picnic area, raised garden beds and pet area. **Private Open Space.** All ground	See Special Condition 6. Yes

		floor units include a 150-SF patio as required by the code. All other units have a 100 SF balcony.	
Storage	Section 17.42.120 of the CLUDC requires that multifamily projects provide a minimum of 100 cubic feet of storage space outside of the unit.	Each unit includes an individual private storage space accessible from outside the unit's patio.	Yes
Window Orientation	Section 17.42.120 of the CLUDC requires that windows that are 10 feet or less from another unit should be located to provide privacy between units.	No units face other units in the project.	Yes
Accessory Structures	Accessory structures and uses (e.g., bicycle storage, garages, laundry rooms, recreation facilities, etc.) shall be designed and constructed with an architectural style, exterior colors and materials similar to the structures in the project containing dwelling units.	Please see special condition 7.	Yes
Outdoor Lighting	Outdoor lighting shall be installed and maintained along all vehicular access ways and major walkways, in compliance with 17.42.120F	The lighting plan complies with City requirements	Yes
Building Facades Adjacent to Streets	At least 75 percent of the facade of each building adjacent to a public street is occupied by habitable space with windows. Each facade adjacent to a street shall have at least one pedestrian entry into the structure.	All of the buildings facing the street include 100% habitable space. The façade facing Hazelwood does not have a pedestrian entry and it would eliminate the private patio for two of the units facing Hazelwood to add an entry. The main building entryway is visible in profile from Hazelwood.	Yes See Inclusionary Incentive 2.

Special Condition 6: The Building Permit Plan Set shall include a site plan that illustrates an additional 710 SF of public open space. This may be achieved either with an expansion of the existing open space facilities or by adding a walking trail to the open space to the south of the building.

Special Condition 7: The applicant shall submit elevations for all accessory structures that illustrate finishes and colors that are similar to those of the apartment building for approval by the Community Development Director prior to issuance of the Building Permit.

Use Permit Findings Analysis. The Planning Commission must make the following findings to approve the Use Permit for a multifamily housing development in the RH zoning district.

1. The proposed use is consistent with the General Plan, any applicable specific plan, and the Local Coastal Program;

As detailed throughout this report and as conditioned, the project is consistent with the Coastal General Plan and Local Coastal Program.

2. The proposed use is allowed within the applicable zoning district and complies with all other applicable provisions of this Development Code and the Municipal Code;

The proposed use is allowed with Use Permit approval in the High Density Residential Zoning District and, as conditioned and analyzed in this report, the use complies with the CLUDC and the Municipal Code.

3. The design, location, size, and operating characteristics of the proposed activity are compatible with the existing and future land uses in the vicinity;

The vicinity includes the following residential land uses: two large senior housing developments to the north, two large multifamily housing developments also to the north, and a number of single-family homes to the west and south. There are two nearby nearly vacant parcels to the east and south. The proposed apartment units would be compatible with current multifamily residential uses in terms of design, location, size and operating characteristics. The project is large at 47,000 SF. The single-family homes located directly to the west of the proposed project could experience additional noise from the project parking lot. The closest home would be about 250 feet from the parking lot. Vehicle door slams, the loudest vehicle noise in a parking lot, are 64 decibels (at 50 feet) or 50 decibels at the closest house (250n feet). 50 decibels is considered “Quite” as follows: “50 dB is as loud as a quiet conversation, a quiet suburb, a quiet office, or a quiet refrigerator.” The proposed project would not place an incompatible sound burden on the neighbors.

4. The site is physically suitable in terms of design, location, shape, size, operating characteristics, and the provision of public and emergency vehicle (e.g., fire and medical) access and public services and utilities (e.g., fire protection, police protection,

potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the type, density, and intensity of use being proposed would not endanger, jeopardize, or otherwise constitute a hazard to the public interest, health, safety, convenience, or welfare, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zoning district in which the property is located.

The proposed site is a flat lot which is easily accessible to emergency vehicles. The project site can effectively access sewer, water and storm drain utilities from the site per the Public Works Department and as required by Special Conditions in this report. The proposed site plan provides for effective vehicular access and solid waste collection. The project includes adequate stormwater filtration and conveyance systems.

DENSITY BONUS ANALYSIS

The CLUDC includes inclusionary housing requirements for projects of more than seven units. The proposed project would be 100% affordable and it exceeds the minimum affordability requirement (15%) of the City's inclusionary ordinance.

As 100% of the units are affordable to seniors with low incomes, the project qualifies, per State law, for a 50% density bonus, a parking reduction, and up to three planning incentives (Government Code 65915.(a)(3)(D)).

Regulatory Agreement. To ensure ongoing affordability, the applicant must enter into an Inclusionary Housing Regulatory Agreement per section 17.32.080 with the City of Fort Bragg. Special Condition below sets the timing and process to enter into the regulatory agreement.

> **Special Condition 8**. Prior to issuance of the Certificate of Occupancy the applicant shall complete and enter into an Inclusionary Housing Regulatory Agreement per all of the requirements of section 17.32.080B with the City of Fort Bragg. The regulatory agreement will regulate 48 units as affordable to low income seniors.

Density Bonus Calculation. With current zoning, the project is eligible for a maximum of 44.9 units (15 units/acre X 2.997 acres). Additionally, per Government Code 65915(f)(2), the applicant is eligible for a 50% density bonus for agreeing to provide 100% of units at a rent affordable to low-income households. Per State Density Bonus law, the applicant could build as many as 67 units, and the applicant has requested 49 units (16.39 units/acre), which is a 9% density bonus and is permissible per state Density Bonus Law.

Inclusionary Housing Incentives. Furthermore, the applicant is allowed to request three zoning incentives from the City Council per Government Code Section 65915 (d)(2)(C). Accordingly, the City Council considered this project, and pre-approved the following two zoning incentives requested by the applicant:

- An increase in the maximum height from 35 feet to 43 feet to accommodate the elevator shaft only.
- Relief from the requirement to have an egress door visible from the street.

MJC recommends approval of the incentive based on the following findings:

1. The requested incentives are required in order to provide for affordable housing costs as defined in Health and Safety Code Section 50052.5, or for rents for the targeted units to be set in compliance with Government Code Section 65915(c).
2. The concession or incentive will not have a specific adverse impact, as defined by Government Code Section 65589.5(d)(2), upon public health and safety, or the physical environment, or on any real property listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the development unaffordable to low and moderate income households.
3. The City has determined that the development incentives requested will not have any adverse effects on coastal resources.
4. The project is not feasible without the incentive.
5. The Fort Bragg City Council has identified affordable housing development as a top priority in the City's Strategic Plan and set a goal to develop 200 units of housing in Fort Bragg by 2026.
6. The Coastal Commission implements the California Coastal Act of 1976, and Section 30604(f) of the Coastal Act requires the Commission to encourage housing opportunities for persons of low or moderate income.

   > *"Section 30604 (f) The commission shall encourage housing opportunities for persons of low and moderate income. In reviewing residential development applications for low- and moderate-income housing, as defined in paragraph (3) of subdivision (h) of Section 65589.5 of the Government Code, the issuing agency or the commission, on appeal, may not require measures that reduce residential densities below the density sought by an applicant if the density sought is within the permitted density or range of density established by local zoning plus the additional density permitted under Section 65915 of the Government Code, unless the issuing agency or the commission on appeal makes a finding, based on substantial evidence in the record, that the density sought by the applicant cannot feasibly be accommodated on the site in a manner that is in conformity."*

7. The State of California has passed regulations to streamline and facilitate the construction of market rate and affordable multifamily developments including regulations that limit the ability of local jurisdictions to deny multifamily housing projects based on subjective criteria and the requirement to provide housing incentives and density bonuses for project that include affordable housing. Statewide housing laws, such as Density Bonus Law, the Housing

Accountability Act, and the Housing Crisis Act, apply in the coastal zone in ways that are also consistent with the Coastal Act.

8. There are relatively few large parcels in Fort Bragg that support multifamily housing, as identified in the City's vacant parcel inventory. Most vacant parcels that can accommodate multifamily housing have an environmental constraint. This parcel does not have an environmental constraint.

COASTAL DEVELOPMENT PERMIT ANALYSIS

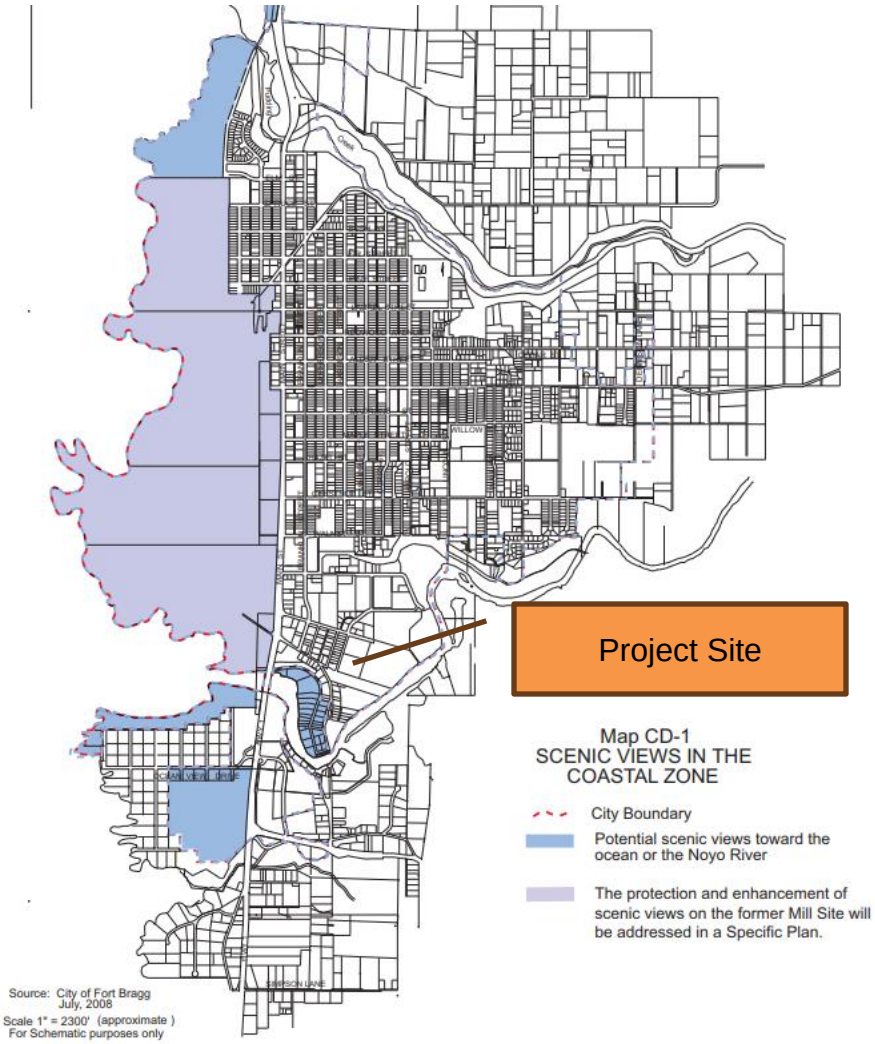
This section analyzes Coastal Resources (visual, archaeological, biological and public access) for the Coastal Development Permit for the project.

Visual Resources

The project site is located east of Highway 1 and General Plan Policy CD-1.1 is not relevant to this project.

> *Policy CD-1.1: Visual Resources: Permitted development shall be designed and sited to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance scenic views in visually degraded areas.*
>
> > *Program CD-1.1.1: Require Design Review of new development or significant expansion to existing development located in areas designated "Potential Scenic Views Toward the Ocean or the Noyo River" on Map CD-1: Scenic Views in the Coastal Zone.*
>
> *Policy CD-1.3: Visual Analysis Required. A Visual Analysis shall be required for all development located in areas designated "Potential Scenic Views Toward the Ocean or the Noyo River" on Map CD-1 except development listed in below.*

The proposed project is not located in an area identified as a potentially scenic view on Map CD-1 of the Coastal General Plan (see next page). There are no views towards the ocean or Noyo River across the property from a public right of way.



The Coastal General Plan also includes the following additional visual resource policy:

> *Policy CD-1.4: New development shall be sited and designed to minimize adverse impacts on scenic areas visible from scenic roads or public viewing areas to the maximum feasible extent.*

Hazelwood is not a scenic road. A "Public Viewing Area" is defined in the City's Coastal General Plan as follows:

> *Public Viewing Area. A location along existing scenic public roads and trails or within public parklands or beaches where*

there are scenic views of the beach and ocean, coastline, mountains, ridgelines, canyons and other unique natural features or areas.

None of these features are visible on the property, through the property, or from the property.

Policy CD-2.5 Scenic Views and Resource Areas: Ensure that development does not adversely impact scenic views and resources as seen from a road and other public rights-of-way.

This property is not a scenic resource and there are no scenic views across to or from the property. The California Coastal Act defines scenic resources as the visual and scenic qualities of the coast, including beaches, headlands, bluffs and more. The Act also considers cultural features, historic sites and natural points of interest as scenic resources. The empty field with a few trees does not constitute a scenic resource per this definition of the Coastal Act.

Policy CD-1.5: All new development shall be sited and designed to minimize alteration of natural landforms by:

1. *Conforming to the natural topography.*
2. *Preventing substantial grading or reconfiguration of the project site.*
3. *Minimizing flat building pads on slopes. Building pads on sloping sites shall utilize split level or stepped-pad designs.*
4. *Requiring that man-made contours mimic the natural contours.*
5. *Ensuring that graded slopes blend with the existing terrain of the site and surrounding area.*
6. *Minimizing grading permitted outside of the building footprint.*
7. *Clustering structures to minimize site disturbance and to minimize development area.*
8. *Minimizing height and length of cut and fill slopes.*
9. *Minimizing the height and length of retaining walls.*

The project site is flat and will not require alterations of the natural landform of the site.

Cultural Resources

An archeological survey was completed for the site and the archaeologist concluded that there is no evidence of archaeological sites or other historic resources. The survey provided no special direction for the handling of development in relation to cultural resources other than to recommend the City's standard Condition 6, which defines the standard required response if unknown resources are discovered during construction. No impacts to cultural resources are expected as a result of the project. The City of Fort Bragg consulted with the Sherwood Valley Band of Pomo, which has pre-historic, historic and present-day connections to the Fort Bragg Area. SVBP has not requested Native American monitoring during ground-disturbing activities, however is cultural

resources or human remains are uncovered the applicant shall abide by the following special conditions:

> **Special Condition 9:** If cultural resources are encountered during construction, work on-site shall be temporarily halted within 50 feet and marked off of the discovered materials, and workers shall avoid altering the materials and their context until a qualified professional archaeologist and tribal monitor has evaluated the situation and provided appropriate recommendations. Project personnel shall not collect or move cultural resources. No social media posting.
>
> **Special Condition 10:** If human remains or burial materials are discovered during project construction, work within 50 feet of the discovery location, and within any nearby area reasonably suspected to overlie human remains, will cease (Public Resources Code, Section 7050.5). The Mendocino County coroner will be contacted. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American remains (Public Resources Code, Section 5097).

Environmentally Sensitive Habitat Areas, and Wetland and Riparian Protection
A biological report was completed for the proposed project site in 2023. The survey found no wetlands or ESHA on site as follows:

- **Stream, Rivers, and Anadromous Fish Habitat:** No watercourses were present on or adjacent to the Study Area.
- **Riparian Habitat:** No riparian habitats or wet areas were present on or adjacent to the Study Area.
- **Wetlands:** The closest National Wetland Inventory (NWI) mapped wetland is a Freshwater Forested/Shrub Wetland approximately 220 feet from the Study Area. No wetlands, as defined by the USACE or CCC, were present within the Study Area.
- **Other ESHA:** Other ESHA's such as coastal sand dunes, pygmy forest, rookeries, and marine mammal haul outs are not present within the Study Area.
- **Sensitive Natural Communities:** No sensitive natural communities were identified during the site visits within or adjacent to the Study Area.

The study identified one non-sensitive natural community "*Avena spp. - Bromus spp. Herbaceous Semi-Natural Alliance: Wild oats and annual brome grasslands"* on site. Non-sensitive natural communities are not afforded special protection under CEQA, and/or other Federal, State, and local laws, regulations, and ordinances. The report included no recommendations for the non-sensitive natural community on site.

The project report identifies a possibility for various special status bees, reptiles and bird species but did not identify any during field surveys except for an osprey that flew overhead.

The 2024 biological report included the following relevant special conditions:

Special Condition 11: The applicant shall complete a pre-construction bird survey within and adjacent to any proposed disturbance area within the Project area for nesting raptors and other protected bird species within 14 days prior to disturbance. The nesting survey radius around the proposed disturbance shall be identified prior to the implementation of the protected bird nesting surveys by a California Department of Fish and Wildlife qualified biologist and shall be based on the habitat type, habitat quality, and type of disturbance proposed within or adjacent to nesting habitat, but should be a minimum of 250 feet from any area of disturbance. If any nesting raptors or protected birds are identified during such pre-construction surveys, trees, shrubs or grasslands with active nests should not be removed or disturbed. A no disturbance buffer shall be established around the nesting site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged. The extent of these buffers shall be determined by a CDFW qualified wildlife biologist and shall depend on the special-status species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors shall be analyzed by a qualified wildlife biologist to make an appropriate decision on buffer distances based on the species and level of disturbance proposed in the vicinity of an active nest.

Special Condition 12: The site shall be landscaped with locally native bee-friendly plants and shrubs, such as: Sticky Monkeyflower (Mimulus aurantiacus) and Woolly Bluecurls (Trichostema lanatum). Coffeeberry shrubs (Rhamnus californica), manzanitas (Arctostaphylos sp) and ceanothuses California Poppy (Eschscholzia californica), California Aster (Aster chilensis). The applicant shall provide a revised landscaping plan that includes these plants and shrubs.

Special Condition 13. Furthermore, the open field to the south of the development shall only be mowed in summer, when there is fire risk, to provide native bees with habitat in the early spring. If native bees are observed the applicant shall install a native bee hotel.

Several policies within the Coastal General Plan, specifically CD-1.11, OS-5.1 and OS-5.2, require that existing native trees and vegetation should be preserved and protected, as feasible.

Policy CD-1.11: New development shall minimize removal of natural vegetation. Existing native trees and plants shall be preserved on the site to the maximum extent feasible.

Policy OS-5.1 Native Species: Preserve native plant and animal species and their habitat.

Policy OS-5.2: To the maximum extent feasible and balanced with permitted use, require that site planning, construction, and maintenance of development preserve existing healthy trees and native vegetation on the site.

The site has three trees that would be removed as part of the project. Trees 2 and 3 are non-native Monterey Cypress which are considered locally invasive and so removal of these trees and replacement with the trees selected for the landscaping pallet would increase the number of native trees on the property.

If the Planning Commission would like to retain tree 1, it can only be retained if the easternmost six stalls of the parking lot on the south side of the building are removed from the project.

Optional Special Condition 14. The applicant shall resubmit the site plan illustrating the removal of the easternmost six stalls in the parking lot on the southwest side of the building in order to retain the pine tree on the south side of the building.

As conditioned, the project would include entirely native plant landscaping, and as such will “preserve native plant species and the habitats” on site (the species if not the exact individual plants).

General Plan Policy OS-5.4 prohibits the planting of non-native invasive plants. As conditioned no such plants are proposed form the project site.

> *Policy OS-5.4: Condition development projects, requiring discretionary approval to prohibit the planting of any species of broom, pampas grass, gorse, or other species of invasive non-native plants deemed undesirable by the City.*
>
> Coastal Commission staff have requested a special condition to explicitly prohibit these plants in the future.
>
> **Special Condition 15:** The applicant shall not plant or allow any volunteer growth of any species of broom, pampas grass, gorse, or other species of invasive non-native plants listed on the California Invasive Plant Council (CALIPC) website on the project site.

Public Access

Chapter 17.56 of the Coastal Land Use and Development Code outlines public access requirements:

> 17.56.030: Access Location Requirements. Vertical, lateral, and/or blufftop access shall be required by the review authority in compliance with this Chapter, in the locations specified by the Open Space, Conservation, and Parks Element of the Coastal General Plan.
>
> The project is not in an area used by the public to access the coast nor is it identified in the Coastal General Plan as a location for public access to the Noyo River (see Map OS-3 of the Coastal General Plan).

Special Communities, Neighborhoods, and Recreational and Visitor Serving Uses

The project will not impact a special community or neighborhood nor displace any potential recreational or visitor-serving uses.

Adequacy of water supply, sewage disposal, solid waste, and public roadway capacity

The following Coastal General Plan policy requires the City to determine if the project will be served adequately with existing utilities:

> Policy PF-1.3: Ensure Adequate Service Capacity for Priority Uses.
>
> a. New development that increases demand for new services by more than one equivalent dwelling unit (EDU) shall only be permitted in the Coastal Zone if,
>
> - Adequate services do or will exist to serve the proposed development upon completion of the proposed development, and
> - Adequate services capacity would be retained to accommodate existing, authorized, and probable priority uses upon completion. Such priority uses include, but are not limited to, coastal dependent industrial (including commercial fishing facilities), visitor serving, and recreational uses in commercial, industrial, parks and recreation, and

public facilities districts. Probable priority uses are those that do not require an LCP amendment or zoning variance in the Coastal Zone.

b. Prior to approval of a coastal development permit, the Planning Commission or City Council shall make the finding that these criteria have been met. Such findings shall be based on evidence that adequate service capacity remains to accommodate the existing, authorized, and probable priority uses identified above.

As analyzed and conditioned below, the 49-unit apartment project will be served by existing services. Per the Department of Public Works, the proposed project shall pay required capacity fees as outlined in the special condition below:

Special Condition 16: Payment of Drainage, Water, Sewer, Police Facility and Fire Facility Capacity Fees will be required prior to issuance of the building permit. ***Estimated*** Fees are shown below:

a. Water Capacity Fees for 49 units is estimated at $113,358.56.
b. Sewer Capacity Fees for 49 units is estimated at $93,364.60.
c. Drainage Fee is estimated at $0.75 per SF of impervious surface. At 50,600 SF of impervious, the fee is estimated to be $37,987.50.
d. Police Facilities Fees for approx. 32,305 SF residential space is estimated at $10,498.80.
e. Fire Facilities Fees for approx. 32,305 SF residential space is estimated at $6,531.42.

Actual fees will be determined at the time of building permit submittal and will be based on the fee schedule in effect at the time of submittal.

Special Condition 17: All materials, workmanship, and construction of the utilities shall conform to the City of Fort Bragg Standard Specifications or an approved alternate. All public improvements to drainage conveyance, sewer and water systems shall be dedicated to the City.

WATER SUPPLY

The City's ongoing need for water storage during severe drought conditions has been partially addressed with the construction of the City's Summers Lain Reservoir, which provides an additional 15 million gallons (MG) of raw water storage to help ensure a reliable water supply during the late summer months when flows are low at the City's three water sources.

On a daily basis, the City currently produces about 50 gallons of treated water per resident or 110 gallons per day per single family home. However, residents in apartments utilize less water (80 gallons/unit/day) than single family homes, due to less outdoor watering. The City's Impact Fee Nexus Study (2024) found that apartments utilize 80 gallons per day/unit, and this number has been used in the table to estimate total water demand for this project.

Water Budget Proposed 49-unit Project at 860 Hazelwood				
Unit Size	Number of Units	Estimated Residents/ Unit	Total Water Use/ Year (gallons)	Total Water Use/ Day (gallons)
1-bedroom	41	1.5	1,197,200	3,280
2-bedroom	8	3	233,600	640
Total	**49**	**85.5**	**1,430,800**	**3,920**

The 49 new units would serve a maximum of 86 residents, who would use a total of 1.4 million gallons/year. This new project increases water demand by 0.7% for the City's Water Enterprise.

A number of new water systems have recently been added to the City's water system, which significantly exceed the new water demand created by the proposed project.

1. **Package Desalination Plant.** The City has already constructed and currently operates a package desalination system which allows the City to pump brackish water from the Noyo River during high tides and low stream flows, which significantly increases the time periods in which the City can collect water while reducing the negative impact of water withdrawal during extreme drought conditions (low water flow on the river). The desalination system can process up to 144,000 gallons per day in drought conditions, which is quite significant as total water demand in a drought year is about 550,000 gallons per day. With the package desalination plant, the City can serve this project without withdrawing additional water during low flow conditions when the tide is out, which is the only time period with pumping limitations. Instead, the City can withdraw more water during high tides when the water is brackish and when there are no impacts on fish. Additionally, the City can withdraw water during high tides and store it in the raw water pond for future treatment thereby ensuring adequate water availability even when there are multiple extremely low tides in a row during any given time period.
2. **Water Treatment Plant Upgrade.** The City's water treatment system was recently upgraded and has sufficient plant capacity to increase water production by an additional 102% (or double the amount of water currently utilized).
3. **Water meter conservation project.** This project started in 2021 will be completed in 2025 and result in conservation of 20 million gallons of water per year or 54,795 gallons per day.
4. **Raw Water Line Replacement.** The City has started construction to replace the raw water line from the unnamed creek on Simpson Lane to the raw water ponds. This project

will be completed in 2025 and is designed to eliminate significant water leaks from the distribution system. This project will eliminate more than 1 MG of water loss/year from the raw water system or about 2,740 gallons per day.

The Table below summarizes the completed and underway water projects and total water availability increases for each project. As illustrated in the table, these projects would result in an additional 201,534 gallons of water available per day, which would more than offset the proposed project's water demand of 3,920 gallons per day. The already completed package desalination plant is sufficient, by itself, to provide 36 times more water than is needed by the proposed development.

Completed Water Availability Projects		
Project	**Annual Water (gallons)**	**Daily Water (Gallons)**
Package Desalination Plant (2022)	52,560,000	144,000
Raw Water Line Replacement (2025)	1,000,000	2,740
Water Meter Conservation Project (2025)	20,000,000	54,795
Subtotal	***73,560,000***	***201,534***
Proposed Project Projected Water Use (2026)	(1,430,800)	(3,920)
Net Available Water Post Project	**72,129,200**	**197,614**

Additionally, the City has started planning and permitting for the following additional projects:

- **Water storage project**. This new facility, undergoing permitting (EIR), may be built in 2026/27 and would consist of three surface reservoirs with a total of 135-acre feet (60 million gallons) of new water storage, which is sufficient water storage to provide all water needs of the City for four months, without any further water withdrawal from the City's three water sources. This water storage is intended to meet all City water needs in severe drought conditions.
- **Offshore desalination wave energy buoy**. This pilot project is undergoing permitting and would provide water to the Wastewater Treatment Facility (WWTF). Upon completion, this project will produce half a million gallons of desalinated water/year. The MND has been completed and circulated. Permitting and installation is anticipated in 2025. Once the pilot project is complete the City will evaluate it to determine if this is a good long-term water solution that may be scaled up.
- **Recycled Water Project.** This project could provide up to 182 million gallons of recycled water per year. An RFP has been let to complete a feasibility study for this project.

The table below illustrates the net water impact of three proposed projects that are in the feasibility, design or permitting stage.

Planned & In-Permitting Water Projects		
Project	**Annual Water (gallons)**	**Daily Water (Gallons)**
Water Storage Project	60,000,000	164,384
Water Desalination Buoy	500,000	1,370
Recycled Water Project	182,000,000	498,630
Total	**242,500,000**	**664,384**

Water Service. The project is served by a water main that is located on Hazelwood. Public Works staff recommend the following Special Conditions:

Special Condition 18: Prior to the issuance of the building permit, the final utility hookup configuration shall be approved by the Public Works Director or designated staff.

Special Condition 19: The exact location of the Utility hookup configuration in the City right of way shall be approved by the by the Public Works Director or designated staff at the time of review of the encroachment permit application.

Special Condition 20: The water main is located at north side of parcel and shall be extended to serve the property by the applicant. If feasible, the water main shall be looped into the existing water main on N. Harbor Drive through the property located to the south of the proposed project.

Special Condition 21: Connection fees will be assessed if the project utilizes City forces to install water or sewer services. Fees will be based on the size and the distance of the connection and will be charged the rate in effect at the time of the building permit submittal.

Special Condition 22: If the contractor installs the connection to the City water main, the work must be overseen by a certified distribution operator and all work shall be performed in compliance with water main construction standards and guidelines, including providing sufficient notice.

Special Condition 23: An approved backflow device will be required on all service connections. Contact Heath Daniels at (707) 813-8031 for specific backflow information.

Special Condition 24: The Applicant shall provide documentation that water pressures can be achieved or that they have a means (via pressure pump, tank, etc.) for enhancing their system to meet water pressure standards. Documentation may be submitted at the time of the building permit.

WASTEWATER

The City's Wastewater Treatment Plant was significantly updated in 2016 and has sufficient capacity to serve the new development.

Special Condition 25: Prior to issuance of a grading permit or building permit, the developer shall meet the following requirements:

a. The City would prefer that the connection be made at the existing sewer manhole at the intersection of N Harbor and the alley west of Woodward so that the sewer may flow entirely by gravity to the treatment plant, if gravity flow cannot be achieved by connecting to the existing sewer main in Hazelwood. The exact location of the utility hookup configuration in the City right-of-way shall be approved by the Public Works Director or designated staff at the time of review of the encroachment permit application.
b. Sewer cleanouts will be required on all laterals per City Standard 309-310.
c. The new sewer main shall be adequately sized to achieve standards established by the FBMC and reasonably designed to convey wastewater for future development of the parcel. FBMC section 14.28.040 states that the minimum size of a sewer lateral shall be 4 inches in diameter. The minimum slope of a sewer lateral shall be two feet per 100 feet (2% slope). Exceptions will be reviewed and approved at the discretion of the District Manager.
d. New wastewater laterals shall connect the development to the constructed sewer main, to the satisfaction of the Director of Public Works.
e. All new wastewater force mains will remain in the ownership of property owner and all maintenance of associated lift stations and force main will remain the owner's responsibility.
f. Payment of Connection fees and Capacity fees are shall be made prior to the issuance of the building permit..

CIRCULATION

City staff determined that a traffic study was not warranted for this project and that the project would result in reduced Vehicle Miles Traveled (VMT) due to its location in the City.

As described below the project complies with the following circulation policies of the Coastal General Plan:

Policy C-1.1 Level of Service Standards: Establish the following Level of Service (LOS) standards:

- Signalized and All-Way-Stop Intersections Along Highway - One LOS D
- Side Street Stop Sign Controlled Intersections Along Highway One (Side Street Approach) LOS

D, or LOS F if there are less than 15 vehicles/hour left turns plus through movements from the side street and the volumes do not exceed Caltrans rural peak hour signal warrant criteria levels.

The proposed project has the potential to impact two intersections.

- S Main Street / CA Hwy 1 at South Street. This street would be minimally impacted because seniors do not generally drive at peak traffic times (morning and evening commute). Additionally, a special condition for the recently approved Grocery Outlet project does require that this intersection be restriped and signed for traffic to turn north bound only from South Street onto highway 1, if the City determines that traffic safety becomes a concern once Grocery Outlet is under operation. This change in the traffic flow would eliminate any hazards associated with south bound turns onto Highway1 from South Street.
- S Main Street / CA Hwy 1 at Cypress Street. This intersection is signalized and so the level of service (LOS) would not be impacted by additional traffic.

This residential apartment project would generate less than 200 vehicular trips per day per the ITI Trip Generation Manual, and this is an insufficient traffic load for the project to impact Level of Service at any of the intersections, therefore the project will not exceed current LOS limits per Policy C-1.3 of the Coastal General Plan. And Per Policy C-2.3 a traffic study was not required for this project. However, a painted crosswalk at the intersection of Hazelwood and South Street would be a good traffic safety measure that would improve pedestrian safety for residents from the project.

Special Condition 26: The applicant shall obtain an encroachment permit from the City of Fort Bragg to paint a crosswalk on South Street at the intersection with Hazelwood, per City Specifications.

Policy C-8.3: Transit Facilities in New Development. Continue to require the provision of bus stops, bus shelters, benches, turnouts, and related facilities in all major new commercial, industrial, residential, and institutional developments.

Special Condition 27: The applicant shall work with MTA to determine if the addition of a transit stop at the property is warranted and feasible. If a transit stop is feasible and desirable the applicant shall install a bus stop on the sidewalk at a location per the request of MTA prior to final of the building permit.

Policy C-9.2: Require Sidewalks. Require a sidewalk on both sides of all collector and arterial streets and on at least one side of local streets as a condition of approval for new development.

As conditioned below, the project will include sidewalk improvements to Hazelwood Street.

Improvements. The proposed project will require considerable street and frontage improvements along Hazelwood Street to comply with Section 17.30.090 of the CLUDC,

including: installation of sidewalk, curb and gutter along the project frontage on the east side of Hazelwood. Special conditions are recommended below to address this deficiency.

Special Condition 28: The developer shall submit to the City Engineer, for review and approval, improvement drawings for required public improvements. The plans shall be drawn by, and bear the seal of, a licensed Civil Engineer. Street Section Standards for Minor and Collector streets is City Standard No. 204.

Special Condition 29: Prior to the issuance of a Certificate of Occupancy for the project, the following public improvement will be completed by the applicant per the direction of the Director of Public Works and according to City standards:

a) Frontage improvements will be required the length of Hazelwood Street to the entrance of the furthest driveway and include a hammerhead turnaround or similar fire-department-approved terminus. The project will include improvements of the street section to full width (40'), including sidewalk, curb and gutter on the east side, and a gravel shoulder on the west side.
b) The developer shall submit to the City Engineer improvement drawings for the required street improvements and sidewalk improvements. The plans shall be drawn by, and bear the seal of, a licensed Civil Engineer.
c) All frontage improvements (ADA compliant driveway aprons, corner ramps, sidewalk, curb, gutter, conform paving, etc.) shall be designed and constructed according to current City Standards.
d) An encroachment permit will be required for any work in the public right of way. Please submit the application at least 2 weeks in advance of the proposed activity to allow sufficient time for processing.

STORMWATER

Storm Water Runoff Pollution Control/Project of Special Water Quality Concern
The Coastal General Plan includes a number of storm water policies that are relevant to this project including:

Policy OS-9.2: Minimize Increases in Stormwater Runoff. Development shall be designed and managed to minimize post-project increases in stormwater runoff volume and peak runoff rate, to the extent feasible, to avoid adverse impacts to coastal waters.

The proposed project includes a large bioretention basin to reduce the peak runoff volume and rate to avoid adverse impacts to coastal waters. The project applicant also reduced impervious surfaces and increased pervious areas, at the request of the City as follows:

- The proposed design utilizes a hammerhead turnaround in lieu of a

looped drive aisle around the building in order to reduce impervious surface area.
    - Perimeter parking bays and the turnarounds are proposed as permeable pavement. Permeable pavement is also proposed at the driveway entrances.
    - The number of proposed parking spaces has been reduced to 75 spaces to minimize paving areas.

- The project includes both stormwater bioswales and infiltration planters. The stormwater bioswales direct stormwater from Hazelwood across the southern boundary of the property to a level spreader outlet on the southeast corner of the property, which is the existing low point of the property and currently drains water to the Noyo River. The project also includes a set of stormwater infiltration planters that collect and pre-treat stormwater from the buildings and parking lots, and pre-treat stormwater prior to it being directed through a set of pipes to a large bioretention basin, which also sheet flows to the southeast corner of the property via a level spreader outlet.

- Policy OS-9.5. Maintain and Restore Biological Productivity and Water Quality. The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

  Most of the above policy does not apply to this proposed project. The applicable sections are underlined.

    - As designed the project will control and direct runoff into a large (3,575 SF) bioswale, which will pre-treat the stormwater and slowly infiltrate the stormwater into the groundwater for groundwater recharge. The unlined bioretention basin is designed to biofilter and detain runoff. The basin includes 24 inches of gravel storage below the subdrain to aid infiltration.

    - Roof drains will outlet at grade in landscaped areas where feasible. These areas are not designed as self-retaining areas, as ponding against the building is not advisable. The large bioswale will allow for infiltration of drainage before it flows off site in an existing depression in the southeast corner of the property that currently provides stormwater outflow from the site.

    - The public drainage from Hazelwood Street will continue to flow onto the property as it does in the existing condition. It will flow through a gently

graded vegetated swale located on the southern border of the property to encourage infiltration of the public drainage.

- The project will implement self-retaining areas and permeable pavement throughout the site to maximize infiltration of runoff. Self-retaining planter areas will allow for three inches of ponding below area drains. Permeable pavement will include nine inches of gravel storage below the subdrain. Drainage below the area drains and pavement subdrain will infiltrate.

- Impermeable parking stalls, drive aisles and sidewalks will be directed toward the permeable pavement and self-retaining planter areas.

Policy OS-10.1: Construction-phase Stormwater Runoff Plan. All development that requires a grading permit shall submit a construction-phase erosion, sedimentation, and polluted runoff control plan. This plan shall evaluate potential construction-phase impacts to water quality and coastal waters, and shall specify temporary Best Management Practices (BMPs) that will be implemented to minimize erosion and sedimentation during construction, and prevent contamination of runoff by construction chemicals and materials.

The requirements of this policy are met through Special Condition 33 below.

Policy OS-10.2: Post-Construction Stormwater Runoff Plan. All development that has the potential to adversely affect water quality shall submit a post-construction polluted runoff control plan ("Runoff Mitigation Plan"). This plan shall specify long-term Site Design, Source Control, and, if necessary, Treatment Control BMPs that will be implemented to minimize stormwater pollution and erosive runoff after construction, and shall include the monitoring and maintenance plans for these BMPs.

The requirements of this policy are met through Special Condition 33 below.

Policy OS-10.3: Emphasize Site Design and Source Control BMPs. Long-term post-construction Best Management Practices (BMPs) that protect water quality and control runoff flow shall be incorporated in the project design of development that has the potential to adversely impact water quality in the following order of emphasis:

A) Site Design BMPs: Any project design feature that reduces the creation or severity of potential pollutant sources, or reduces the alteration of the project site's natural flow regime. Examples include minimizing impervious surfaces, and minimizing grading.

B) Source Control BMPs: Any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices, or operational practices that aim to prevent stormwater pollution by reducing the potential for contamination at the source of pollution. Examples include covering outdoor storage areas, use of efficient irrigation, and minimizing the use of landscaping chemicals.

C) Treatment Control BMPs: Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption, or any other physical, biological, or chemical process.

The requirements of this policy are achieved through the proposed: A) minimizing impervious surfaces, and B) a large stormwater management infiltration basin. The following optional Special Condition would further protect stormwater.

Special Condition 30: Project operations shall prohibit the use of inorganic landscaping chemicals. No outdoor storage is permissible on-site.

Policy OS-11.1: Use Integrated Management Practices in Site Design. The city shall require, where appropriate and feasible, the use of small-scale integrated management practices (e.g., Low Impact Development techniques) designed to maintain the site's natural hydrology by minimizing impervious surfaces and infiltrating stormwater close to its source (e.g., vegetated swales, permeable pavements, and infiltration of rooftop runoff).

The project uses an Integrated Stormwater Management System which includes a large bioretention basin on the south side of the parcel, which pre-treats and infiltrates storm water from the parking lots and rooftops through a system of storm drain inlets. In large storm events storm water would sheet flow from the bioretention basin south to an outlet that flows into the Noyo River.

Policy OS-11.2: Preserve Functions of Natural Drainage Systems. Development shall be sited and designed to preserve the infiltration, purification, detention, and retention functions of natural drainage systems that exist on the site, where appropriate and feasible. Drainage shall be conveyed from the developed area of the site in a non-erosive manner.

The site maintains the existing drainage patterns to the extent feasible. Site grading will match existing drainage direction with relatively flat slopes on the northern portion of the site and perimeter slope grading to the south and east. Detention and infiltration features are provided to mitigate increases in peak flow per the project Runoff Mitigation Plan. The northern portion of the site is relatively flat with grades at the south and east sloping more steeply toward the southerly and easterly property lines. The proposed site has been laid out consistently with the existing topography. The main development footprint is proposed on the norther portion of the site. The southern portion and eastern edge of the site will consist of pervious slopes drainage toward to southerly and easterly property lines as in the existing condition.

Policy OS-10.4: Incorporate Treatment Control BMPs if Necessary. If the combination of Site Design and Source Control BMPs is not sufficient to protect water quality and coastal waters consistent with Policy OS-9.3, as determined by the review authority, development shall also incorporate post-construction Treatment Control BMPs. Projects of Special Water Quality Concern (see Policy OS-12.1) are presumed to require Treatment Control BMPs to meet the requirements of OS-9.3. Treatment Control BMPs may include, but are not limited to, those outlined in the City's Storm Water Management program, including biofilters (e.g., vegetated swales or grass filter strips), bioretention, infiltration trenches or basins, retention ponds or constructed wetlands, detention basins, filtration systems, storm drain inserts, wet vaults, or hydrodynamic separator systems.

The proposed project includes the following Treatment Control BMPs: infiltration and retention basin and a vegetative swale.

Policy OS-11.3: Minimize Impervious Surfaces. Development shall minimize the creation of impervious surfaces (including pavement, sidewalks, driveways, patios, parking areas, streets, and roof-tops), especially directly connected impervious areas, where feasible. Redevelopment shall reduce the impervious surface site coverage, where feasible. Directly connected impervious areas include areas covered by a building, impermeable pavement, and/or other impervious surfaces, which drain directly into the storm drain system without first flowing across permeable land areas (e.g., lawns).

The proposed project minimized impervious surfaces by eliminating a loop driveway, eliminating 20 parking spaces, and using pervious paving for parking stalls. The new impervious surfaces will drain into either a bioswale or a retention basin where they will be pretreated prior to sheet flowing through a leveler spreader system and then flowing over the bluff edge through riparian areas to the Noyo River.

Policy OS-11.4: Infiltrate Stormwater Runoff. Development shall maximize on-site infiltration of stormwater runoff, where appropriate and feasible, to preserve natural hydrologic conditions, recharge groundwater, attenuate runoff flow, and minimize transport of pollutants. Alternative management practices shall be substituted where the review authority has determined that infiltration BMPs may result in adverse impacts, including but not limited to where saturated soils may lead to geologic instability, where infiltration may contribute to flooding, or where regulations to protect groundwater may be violated.

This project has been designed to pretreat and infiltrate stormwater from the parking lot and the building into bioswales and an infiltration basin, from which the stormwater overflow would be conveyed to the Noyo River.

Policy OS-11.5: Divert Stormwater Runoff into Permeable Areas. Development that creates new impervious surfaces shall divert stormwater runoff flowing from these surfaces into permeable areas, where appropriate and feasible, to enhance on-site stormwater infiltration capacity.

See above discussions.

Policy OS-11.6: Use Permeable Pavement Materials. To enhance stormwater infiltration capacity, development shall use permeable pavement materials and techniques (e.g., paving blocks, porous asphalt, permeable concrete, and reinforced grass or gravel), where appropriate and feasible. Permeable pavements shall be designed so that stormwater infiltrates into the underlying soil, to enhance groundwater recharge and provide filtration of pollutants. All permeable pavement that is not effective in infiltrating as designed will be replaced with effective stormwater detention and infiltration methods.

See discussion above.

Policy OS-11.9: Provide Storm Drain Inlet Markers. Markers or stenciling shall be required for all storm drain inlets constructed or modified by development, to discourage dumping and other illicit discharges into the storm drain system.

The applicant will need to comply with the Special Condition below:

Special Condition 31: The applicant shall install markers or stenciling for all storm drain inlets as specified by the Department of Public Works.

Policy OS-11.10: Continue Operation and Maintenance of Post-Construction BMPs. Permitees shall be required to continue the operation, inspection, and maintenance of all post-construction BMPs as necessary to ensure their effective operation for the life of the development.

Special Condition 32: The applicant shall undertake annual inspection and maintenance tasks for all on-site BMPs as specified by the civil engineer and/or the Department of Public Works.

This project is categorized as a project of Special Water Quality Concern by the CLUDC, as it has more than 10 dwelling units.

Policy OS-12.1: Developments of Special Water Quality Concern. The categories of development listed below have the potential for greater adverse coastal water quality impacts, due to the development size, type of land use, impervious site coverage, or proximity to coastal waters. A development in one or more of the following categories shall be considered a "Development of Special Water Quality Concern," and shall be subject to additional requirements set forth in Policy OS-12.2 below to protect coastal water quality. Developments of Special Water Quality Concern include the following:

a) Housing developments of ten or more dwelling units.

As a project of Special Water Quality Concern, the project must comply with the following policies:

Policy OS-12.2: Additional Requirements for Developments of Special Water Quality Concern. All Developments of Special Water Quality Concern (as identified in Policy OS-12.1, above) shall be subject to the following four additional requirements to protect coastal water quality:

1) Water Quality Management Plan. The applicant for a Development of Special Water Quality Concern shall be required to submit for approval a Water Quality Management Plan (WQMP), prepared by a qualified licensed professional, which supplements the Runoff Mitigation Plan required for all development. The WQMP shall include hydrologic calculations per City standards that estimate increases in pollutant loads and runoff flows resulting from the proposed development, and specify the BMPs that will be implemented to minimize post-construction water quality impacts.

The Department of Public Works has requested the following Special Condition to comply with this section:

Special Condition 33: All proposed development associated with this project shall be compliant with the Fort Bragg Municipal Code (FBMC) sections 17.64 [Stormwater Runoff Pollution Control] Standards for development and section 12.14 [Drainage Facility improvements].

a) Prior to issuance of the Building Permit the applicant shall submit a final Water Quality Management Plan, SWIPP, and a Runoff Mitigation Plan (RMP) that demonstrates the project meets the post-construction stormwater requirements established by local, state and federal regulations. The City's RMP requirement can be fulfilled by a SWPPP instead. If using a SWPPP to fulfill the RMP, a draft version should be submitted to the City to ensure the project is in compliance prior to filing for a Notice of Intent (NOI) with the state.
b) Calculations must demonstrate compliance with the hydromodification requirements established by the Municipal Separate Storm Sewer System (MS4) Phase II permit E.12.f and the Mendocino County Low Impact Design Manual (LID Manual). The plan must show all calculations for lot coverage and areas of impervious surfaces including building footprints, pavement, sidewalk, etc. This can be shown on either the site plan for the building permit or incorporated into the coastal development site plan. Calculations must demonstrate compliance with the hydromodification requirements established by the Municipal Separate Storm Sewer System (MS4) Phase II permit E.12.f and the Mendocino County Low Impact Design Manual (LID Manual).
    i. While the use of permeable pavers is encouraged to reduce runoff volumes, they do not qualify as a self-retaining area as defined by the Mendocino County LID Manual, so DMA's and associated calculations will require revision. The use of additional bioretention facilities is recommended for landscape/vegetated areas.
    ii. The Preliminary SCP notes that shallow groundwater was encountered at 10-13 feet below existing grade, but sampling was not performed in areas proposed for bioretention, and so further investigation is required to ensure adequate separation between infiltrating surface and the water table. Results of that testing should be

incorporated into the final SCP.

c) Applicant shall provide analysis documenting sufficiency of proposed stormwater facilities or drainage conveyance system to meet requirements established by the City's Land Use Codes.
d) If upgrades to infrastructure are required, the plans shall be drawn by, and bear the seal of, a licensed Civil Engineer and the improvements shall be completed by the developer and dedicated to the City.

2) Selection of Structural Treatment Control BMPs. As set forth in Policy OS-10.4, if the review authority determines that the combination of Site Design and Source Control BMPs is not sufficient to protect water quality and coastal waters as required by Policy OS-9.3, structural Treatment Control BMPs shall also be required. The WQMP for a Development of Special Water Quality Concern shall describe the selection of Treatment Controls BMPs, and applicants shall first consider the BMP, or combination of BMPs, that is most effective at removing the pollutant(s) of concern, or provide a justification if that BMP is determined to be infeasible.

3) 85th Percentile Design Standard for Treatment Control BMPs. For post-construction treatment of runoff in Developments of Special Water Quality Concern, Treatment Control BMPs (or suites of BMPs) shall be sized and designed to treat, infiltrate, or filter the amount of stormwater runoff produced by all storms up to and including the 85th percentile, 24-hour storm event for volume-based BMPs, and/or the 85th percentile, 1-hour storm event (with an appropriate safety factor of 2 or greater) for flow-based BMPs.

4) Goal for Runoff Reduction. In Developments of Special Water Quality Concern, the post-development peak stormwater runoff discharge rate shall not exceed the estimated pre-development rate for developments where an increased discharge rate will result in increased potential for downstream erosion or other adverse habitat impacts.

The applicant has prepared a Preliminary Water Quality Management Plan per code section 17.64.045. That plan includes the following key findings:

a. Storm water runoff has been minimized by incorporation of Low Impact Development (LID) strategies that minimize impermeable areas, maximize permeable areas, and that slow, spread, and sink runoff to recharge groundwater and minimize runoff. Runoff that is expected shall be collected at vegetative swales or bio retention facilities and overflow finally conveyed by a storm drain system approved by the City Engineer.
b. Treatment Control Best Management Practices have been sized and designed to retain and infiltrate runoff produced by all storms up to and including the 85th percentile (.83" in 24-hours) based on the size of the development.
c. Peak stormwater flows would decrease from 0.09 CFS to 0.08 CFS

past construction in a 2-year 24-hour storm event.

Special Condition 34: An Operations and Maintenance Plan shall be developed for all regulated project components by the State NPDES Phase II MS4. The plan shall include provision(s) demonstrating adequate on-going operations and maintenance.

The following additional stormwater policies will be implemented through Special Conditions 20-34 above.

- Policy OS-14.1: Minimize Polluted Runoff and Pollution from Construction.
- Policy OS-14.2: Minimize Land Disturbance During Construction.
- Policy OS-14.3: Minimize Disturbance of Natural Vegetation.
- Policy OS-14.5: Grading During Rainy Season. Grading is prohibited during the rainy season (from November 1 to March 30), except in response to emergencies, unless the review authority determines that soil conditions at the project site are suitable, and adequate erosion and sedimentation control measures will be in place during all grading operations.

Geologic Hazard. The site is located 150 feet inland from the coastal bluff overlooking Noyo Harbor. A geotechnical study was prepared for the project by Allerion Consulting Group. Key findings of the geotechnical study include the following:

- The on-site soils tested are considered corrosive to reinforced concrete. The presence of high acidity (pH values less than 5.5) indicates the soil (or water) can react with the lime in concrete to form soluble reaction products that can leach out of the concrete, resulting in a more porous and weaker concrete.
- variability. Generally, the uppermost soils consisted of loose to medium dense, moist, brown, Silty SAND (Unified Soil Classification: SM) to depths varying between approximately 5½ to 6 feet below existing ground surface (begs). Below the uppermost soils to depths varying between 25 to 26 feet begs, the earth materials consisted of interbedded layers of medium dense, moist, light brown to brown with rust staining, Silty SAND (SM)/ SAND with Silt (SP-SM)/ SAND (SP); and stiff, light gray with rust staining, Lean CLAY (CL).
- Groundwater was encountered after drilling at depths varying between approximately 11 and 13 feet below existing ground surface.
- Soil percolation rates were between 0.94 and 1.03 in/hour.

The report concludes that "from a geotechnical standpoint, the site is considered suitable for the proposed construction provided the conclusions and recommendations presented in this report are incorporated into the design and construction of the project.

Special Condition 35: The applicant shall follow the recommendations of the geotechnical report for all design and construction specifications and shall implement all recommendations related to required special inspections, grading, and construction activities.

Flood Hazard. According to the Federal Emergency Management Agency (FEMA),

flood insurance maps the project site is located outside the 500-year flood plain. No flooding concerns are raised relative to the project.

Fire and Life Safety. The Fire Marshal reviewed the project plans and did not issue a statement of concern regarding fire and life safety. Fire Code requirements will be incorporated in the construction plans as necessary during the building permit review by the Fire Marshall. The new building code requires that all buildings have sprinkler systems, a monitored alarm system, and parking and driveway areas navigable by fire trucks and other emergency vehicles.

> **Special Condition 36:** On-site fire protection shall be as installed as approved by the Fire Chief. Final utility configuration shall be approved by the Public Works Director or designated staff. The applicant shall ensure adequate pressure and flow to the subject site to provide fire suppression flows.

DESIGN REVIEW

Coastal General Policies relevant to project design include the following:

> Policy OS-6.2 Development Review Process: Make energy conservation an important criterion in the development review process.
> Policy OS-6.3 Alternative Energy: Encourage the development and use of alternative sources of energy such as wind, solar, and waves to meet Fort Bragg's energy needs.

As proposed, the project will:

a. Take advantage of passive solar gain for some of the space heating requirements of the project.
b. Achieve insulation values of R-22 for walls and roof.
c. Space heating and water heating will be provided by air-source heat pumps.
d. The project will include PV panels compliance with state energy code.

The combination of these strategies will result in buildings that are energy efficient and maintain minimal utility costs for the residents.

The immediate neighborhood is composed of a mix of multifamily and single-family residential development as illustrated in the photos below:

Image 1: Moura Senior Housing – View from Hazelwood.

Image 2: Moura Senior Housing – View from South Street.

Image 3: Multifamily Housing Project

Image 4: Multifamily Housing Project

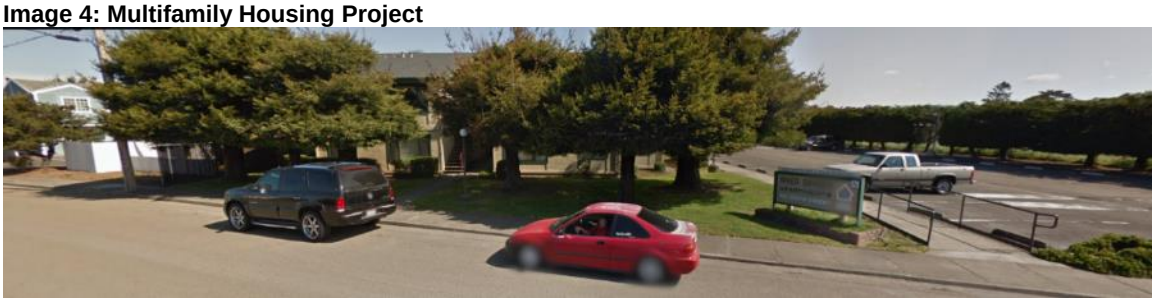


Image 5: Backyards of Single-Family Homes on Hazelwood

The Citywide Design Guidelines provide guidance for Design Review. However, State law limits the application of design review criteria for multifamily projects to non-subjective quantitative criteria only. Each relevant quantitative guideline is summarized in the table below, along with a description of how the project conforms to the quantitative guideline and any Special Conditions required for conformance. The qualitative design guidelines have not been used in this evaluation, as required by State law.

Overall, the project has a modern/contemporary architectural style. The building is well-articulated with many windows, gable roofs, and changes in wall plane which provide a typical multifamily apartment look. All units include small decks or patios which add visual interest to the building. The building includes multiple material types and colors to add visual interest.

Table 5: Compliance with Citywide Design Guidelines

Relevant Quantitative Design Guidelines	Project Compliance
▪ Architectural details and materials shall be incorporated on the lower part of the building facade to relate to human scale. These pedestrian scale elements can include awnings, trellises, windows, building base articulation, and changes in materials, textures, and colors.	▪ The project includes the following pedestrian scale architectural details: change in materials, windows, change in texture, entrances with awnings.
▪ Architectural elements that add visual interest, scale, and character such as projecting balconies, trellises, recessed windows, window and door detailing, or green garden walls should be incorporated to help articulate facades and blank walls.	▪ The project includes balconies, and window and door detailing.
▪ To divide the building mass into smaller scale components, building faces more than 50 feet long should reduce the perceived mass and bulk by one or more of the following: change of roof or wall plane; projecting or recessed elements, such as trellises, balconies, openings, etc.; varying cornice or rooflines; or other similar means.	▪ The project includes changes in roof or wall plain and balconies, and a varying roof line.
▪ Whenever possible, buildings should be	▪ The project is oriented to the “backyard” picnic tables, BBQs, garden area and open

configured around courtyards, gathering areas, and open spaces.	space.
• Doors should be visible from the street and windows should allow residents to have "eyes on the street" for natural surveillance.	▪ Windows are oriented to the street on Hazelwood Ave. However, there are only two private patio doors visible from Hazelwood. ▪ Density Bonus Law Incentive # 2 has been requested to address this inadequacy.
• All building and site design should use passive solar design strategies for space heating and lighting to reduce energy demand to the extent feasible. • Buildings shall incorporate passive solar design and include at least one roof plane that is large enough to accommodate photovoltaic (PV) panels to meet the majority (>50%) of the building's energy needs, when feasible. • Roof forms such as gable, hip or shed roof combinations are strongly encouraged.	▪ The project design emphasizes passive solar gain with many windows located on the south building facade. The long access of the building points east west to maximize solar exposure on the south elevation of the building. ▪ The roof form includes a gable roof.
Materials • Building materials should be durable, require low maintenance, and be of comparable or better quality and image to what is used in the surrounding neighborhood. Frequent changes in building materials should be avoided. • Materials such as brick, stone, copper, etc. should be left in their natural colors. Such materials should not appear thin and artificial. • Materials should enhance different parts of a building's façade and be consistent with the desired architectural style. a. Where appropriate to the architectural style, materials and textures should vary between the base and body of a building to break up large wall planes and add visual base to the building. b. Heavier materials and darker colors should be used lower on the building elevation to form the building base.	• Proposed durable exterior finish materials would include cementitious siding (in various forms) and asphalt shingle roofs. Both materials are encouraged by the Design Guidelines. • No brick or stone are proposed. • The project effectively uses different materials to enhance different parts of the building. • Materials at the base and body of the building are different. • Materials with darker colors are on the building base.

Color • No fewer than two colors should be used on any given façade, and three or more colors are preferred. This includes any "natural" colors such as unpainted brick or stone. The three preferred colors should constitute the primary base color, secondary color and minor trim color.	• All building facades include four colors.
Lighting • Lighting sources shall be hidden unless the sources are an integral part of the design. Lighting fixtures should not project above the fascia or roofline of the building. • Partial or full cutoff lighting is required. Exterior lighting shall be located and designed to avoid shining directly onto nearby residential properties, and shall minimize off-site glare. The latest technical and operational energy conservation concepts should be considered in lighting designs. • Parking lot lighting fixtures shall be no taller than 16 feet in height and shall cast light downward without allowing glare or light to encroach upon neighboring properties.	• Project lighting is hidden. • Full cutoff night sky compliant lighting has been specified. • The proposed lighting fixtures are 16 feet in height.
Fencing • Fences or walls of more than 100 ft should provide variation in the design – via changes in height, materials, embellishments, step backs, gates, etc. - to break up the length and provide visual interest.	• The project includes a fence of more than 100 feet in length along the North and south parcel boundaries. This is a property line security fence. The Special Condition below is provided to comply with this requirement: **Special Condition 37:** The applicant shall provide a step back, embellishment or change in height every 100 feet for all property line fences. This change in design shall be confirmed by the City prior to Occupancy Permit approval.
Open Space • Open space areas should be sheltered from the noise and traffic of adjacent streets or other incompatible uses. Open space siting should give consideration to prevailing breezes and sun orientation in order to provide a comfortable environment. • Ideally, at least 50 percent of the open space area should have access to direct sunlight.	• The outdoor common spaces are located on the southern side of the building and are therefore sheltered from coastal winds and oriented to the sun exposure for a comfortable environment. • All community open space (picnic tables, BBQs and gardens have 100% access to direct sunlight.

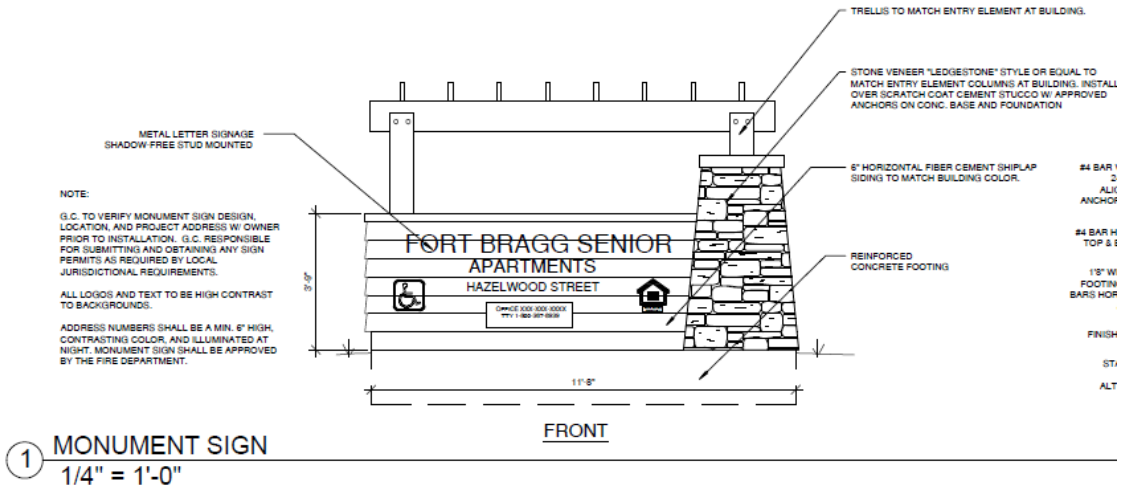
Play Areas • Children's play areas should be visible from as many units as possible and from private open space areas. Direct, convenient access from ground level, private open space to the communal play area is encouraged. • Outdoor play areas should be located adjacent to laundry rooms, community centers, or similar common facilities. Play areas should not be located near public streets, parking, or entry areas unless physically separated by appropriate walls, fencing, or dense landscaping.	• As a senior project it is not required to include a children's play area. However the picnic areas, community gardens, and pet area are directly accessible from many units.
Site Amenities • Building numbers and individual unit numbers shall be readily visible, in a consistent location, well lighted at night, and compatible with the overall design of the development. • Internal circulation signs and visitor parking areas shall also be clearly indicated. A directory that shows the location of buildings and individual dwelling units within the development is encouraged	• The proposed project does not include these mandatory elements. See Special Condition. **Special Condition 38**. The project shall include individual unit numbers that are well lighted and in a consistent location for all units. Visitor Parking shall be clearly marked. A directory shall be installed that shows the locations of all buildings, pathways and unit numbers. These items shall be installed prior to the final of the Building Permit.

The project plans do not provide design details or screening for mechanical equipment. Therefore, a Special Condition has been added to ensure that these components comply with the CLUDC.

> **Special Condition 39.** Prior to the issuance of a Building Permit, the applicant shall submit for the review and approval of the Community Development Director plans for the locations and visual screening of all mechanical equipment proposed to be constructed as part of the project, including but not limited to standpipes, backflow preventers, generators and propane fuel tanks. All equipment shall be visually screened with vegetation, building elements, fencing or wood lattice.

Sign Permit

The applicant has proposed a project sign for the parking lot entrance to the project site on Hazelwood Ave.



The sign complies with the requirements of 17.38.060 as follows:

- The proposed sign complies with the 6-foot height limit.
- The proposed sign is 48 SF (each side) which is below the limit of 100 SF for this development (Table 3-12 of the CLUDC).
- It is an attractive color that matches the design of the project and is made from materials that are included in the apartment project.
- The lighting is modest and appropriate.
- The proposed signage complies with the additional standards of section 17.28.080C freestanding signs.

However, the sign does not comply with the following requirements.

- The sign is located in a traffic visibility area. Therefore, the sign will need to be relocated so that it is not within 20 feet of the intersection of the parking lot drive isle and Hazelwood Street.
- The fake rock veneer on the left side of the sign does not match any element of the building.
- The sign does not include the street address (numbers) as required.

The following special condition is recommended.

> **Special Condition 40:** The sign design shall be modified as follows: 1) the stone veneer shall be removed from the sign design and replaced with a wood post/trellis element to match the other side of the sign; 2) The applicant shall resubmit the site plan illustrating the sign located outside of the traffic visibility area; and 3) the address number shall be added to the sign.

ENVIRONMENTAL DETERMINATION

The project is exempt from CEQA review under sections 15332 Infill Development and sections 15192 & 15195 – Infill Housing Development. All Sections are cited below with side-by-side analysis of the project's compliance with the threshold criteria for each exemption.

§ 15192. Threshold Requirements for Exemptions for Residential Infill Projects.
In order to qualify for the exemption, set forth in sections 15195, an infill housing project must meet all of the threshold criteria set forth below.

Code Section	Compliance Analysis
(A) The project must be consistent with: 1. Any applicable general plan, specific plan, or local coastal program, including any mitigation measures required by such plan or program, as that plan or program existed on the date that the application for the project pursuant to Section 65943 of the Government Code was deemed complete; and 2. Any applicable zoning ordinance, as that zoning ordinance existed on the date that the application for the project pursuant to Section 65943 of the Government Code was deemed complete, unless the zoning of project property is inconsistent with the general plan because the project property has not been rezoned to conform to the general plan.	The subject parcel has a General Plan land use designation of High Density Residential, which allows multifamily development with a Use Permit. The project conforms to General Plan policies and zoning regulations. As conditioned the project complies with the City's LCP.
(B). Community-level environmental review has been adopted or certified.	The City adopted an EIR for the General Plan and Land Use and Development Code in 2006. City's LCP was certified by the Coastal Commission in 2008, which is a CEQA equivalent action.
(C). The project and other projects approved prior to the approval of the project can be adequately served by existing utilities, and the project applicant has paid, or has committed to pay, all applicable in-lieu or development fees.	As analyzed in the Staff Report the project site can be served by existing utilities.

(D). The site of the project: (1) Does not contain wetlands, as defined in Section 328.3 of Title 33 of the Code of Federal Regulations. (2) Does not have any value as an ecological community upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection. (3) Does not harm any species protected by the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.) or by the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code), the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code. (4) Does not cause the destruction or removal of any species protected by a local ordinance in effect at the time the application for the project was deemed complete.	The project site does not contain wetlands. The Project Site is covered with ruderal grasslands and a few specimen trees. The project site has limited value for habitat and is not known to provide habitat for endangered, rare or threatened species. The City does not have an ordinance that protects non-native species from removal.
(E) The site of the project is not included on any list of facilities and sites compiled pursuant to Section 65962.5 of the Government Code.	No phase I report was required because the site has no known previous use that would result in contamination. The site is not listed on any DTSC or RWQCB list of facilities or sites requiring remediation or in violation of a cleanup order. The site does not have any known contamination.
(F) The site of the project is subject to a preliminary endangerment assessment prepared by a registered environmental assessor to determine the existence of any release of a hazardous substance on the site and to determine the potential for exposure of future occupants to significant health hazards from any nearby property or activity. In addition, the following steps have been taken in response to the results of this assessment: (1) If a release of a hazardous substance is found to exist on the site, the release shall be removed, or any significant effects of the release shall be mitigated to a level of insignificance in compliance with state and federal requirements. (2) If a potential for exposure to significant hazards from surrounding properties or activities is found to exist, the effects of the potential exposure shall be mitigated to a level of	See above.

insignificance in compliance with state and federal requirements.	
(G) The project does not have a significant effect on historical resources pursuant to Section 21084.1 of the Public Resources Code.	As noted in this staff report, an arch survey was completed for this site and no archaeological or historic resources were discovered or identified by the survey. The project will not have any impact on a historical or archaeological resource.
(H) The project site is not subject to wildland fire hazard, as determined by the Department of Forestry and Fire Protection, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a wildland fire hazard.	The project is not located in a wildland fire hazard area.
(I) The project site does not have an unusually high risk of fire or explosion from materials stored or used on nearby properties.	The project is surrounded by multifamily and single-family residential uses, none of which pose a risk of fire or explosion.
(j) The project site does not present a risk of a public health exposure at a level that would exceed the standards established by any state or federal agency.	As a vacant field in an urban area, the site does not present a public health risk exposure of any type.
(k) Either the project site is not within a delineated earthquake fault zone or a seismic hazard zone, as determined pursuant to Section 2622 and 2696 of the Public Resources Code respectively, or the applicable general plan or zoning ordinance contains provisions to mitigate the risk of an earthquake or seismic hazard.	The City's LCP contains policies and regulations to mitigate seismic hazards.
(l) Either the project site does not present a landslide hazard, flood plain, flood way, or restriction zone, or the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a landslide or flood.	The project site is not located within a flood zone or any other restrictive zone.
(m) The project site is not located on developed open space.	The site is not designated as or developed as open space.
(n) The project site is not located within the boundaries of a state conservancy.	The site is not located in a state conservancy.
(o) The project has not been divided into smaller projects to qualify for one or more of the exemptions set forth in sections 15193 to 15195.	The project is being evaluated in its entirety.

Section 15195 In-Fill Housing Development Exemption Analysis

CEQA Guideline Section 15195 identifies a categorical exemption for projects characterized as infill housing development. This exemption is intended to promote

housing infill development within urbanized areas. The analysis that supports this exemption is in the table below:

Code Section	Compliance Analysis
(a) Except as set forth in subdivision (b), CEQA does not apply to any development project that meets the following criteria: (1) The project meets the threshold criteria set forth in section 15192; provided that with respect to the requirement in section 15192(b) regarding community-level environmental review, such review must be certified or adopted within five years of the date that the lead agency deems the application for the project to be complete pursuant to Section 65943 of the Government Code.	See above analysis.
(2) The project meets both of the following size criteria: (A) The site of the project is not more than four acres in total area. (B) The project does not include any single level building that exceeds 100,000 square feet.	The project site is 3 acres. The building is 50,841 SF
(3) The project meets both of the following requirements regarding location: (A) The project is a residential project on an infill site. (B) The project is within one-half mile of a major transit stop.	The project site is a residential project on an infill site. A major transit stop at the Hospital is located 0.26 miles from the proposed site.
(4) The project meets both of the following requirements regarding number of units: (A) The project does not contain more than 100 residential units. (B) The project promotes higher density infill housing. The lead agency may establish its own criteria for determining whether the project promotes higher density infill housing except in either of the following two circumstances: 1. A project with a density of at least 20 units per acre is conclusively presumed to promote higher density infill housing. 2. A project with a density of at least 10 units per acre and a density greater than the average density of the	The project contains 49 units. The project provides high density infill at 16 units per acre.

residential properties within 1,500 feet shall be presumed to promote higher density infill housing unless the preponderance of the evidence demonstrates otherwise.	
(5) The project meets the following requirements regarding availability of affordable housing: The project would result in housing units being made available to moderate, low or low-income families as set forth in either A or B below: (A) The project meets one of the following criteria, and the project developer provides sufficient legal commitments to the appropriate local agency to ensure the continued availability and use of the housing units as set forth below at monthly housing costs determined pursuant to paragraph (3) of subdivision (h) of Section 65589.5 of the Government Code: 1. At least 10 percent of the housing is sold to families of moderate income, or 2. Not less than 10 percent of the housing is rented to families of low income, or 3. Not less than 5 percent of the housing is rented to families of low income. (B) If the project does not result in housing units being available as set forth in subdivision (A) above, then the project developer has paid or will pay in-lieu fees pursuant to a local ordinance in an amount sufficient to result in the development of an equivalent number of units that would otherwise be required pursuant to subparagraph (A).	The project will provide 100% of units to seniors of low income. (A-2).

(b) A project that otherwise meets the criteria set forth in subdivision (a) is not exempt from CEQA if any of the following occur: (1) There is a reasonable possibility that the project will have a project-specific, significant effect on the environment due to unusual circumstances. (2) Substantial changes with respect to the circumstances under which the project is being undertaken that are related to the project have occurred since community-level environmental review was certified or adopted. (3) New information becomes available regarding the circumstances under which the project is being undertaken and that is related to the project that was not known, and could not have been known at the time that community-level environmental review was certified or adopted.	There are no unusual circumstances associated with this project. No substantial changes have occurred. No new information has come available.

Section 15332 In-Fill Development Exemption Analysis

The City Council can determine that the project to be exempt from CEQA review under **Section 15332 Infill Development**. CEQA Guideline Section 15332 identifies the Class 32 categorical exemption for projects characterized as infill development. This exemption is intended to promote infill development within urbanized areas. The class consists of environmentally benign infill projects that are consistent with local general plan and zoning requirements. This class is not intended to be applied to projects that would result in any significant traffic, noise, air quality, or water quality effects. Such projects must meet Part 1, conditions (a) through (e), described in the analysis below:

Code Section	Compliance Analysis
(a) The project is consistent with the applicable General Plan designation and all applicable General Plan policies as well as with applicable zoning designation and regulations.	The subject parcel has a General Plan land use designation of High Density Residential and is zoned CH, which allows multifamily development with a Use Permit. The project conforms to General Plan policies and zoning regulations, with the approval of the density bonus afforded by compliance with State Density Bonus Law. As conditioned the project complies with the City's LCP.
(b) The proposed development occurs	The project site is 2.6 acres. The project site

within city limits on a project site of no more than five acres substantially surrounded by urban uses.	is surrounded on all sides by urban uses.
(c) The project site has no value as habitat for endangered, rare or threatened species.	The project site does not contain wetlands. The project site is covered with ruderal grasslands and a few specimen trees. The project site has no value for endangered, rare or threatened species.
(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.	As analyzed and conditioned throughout this report the project would not result in any significant effects on traffic, noise, air quality or water quality.
(e) The site can be adequately served by all required utilities and public services.	As analyzed and conditioned throughout this report the project can be adequately served by all utilities and public services.

Project Consistency with 15300.2 Exceptions

Application of this exemption, as all categorical exemptions, is limited by the factors described in section 15300.2. of CEQA and, these factors have been analyzed in the table below:

15300.2 Exceptions	Analysis of Compliance with Exceptions
(a) Location. Classes 3, 4, 5, 6, and 11 are qualified by consideration of where the project is to be located -- a project that is ordinarily insignificant in its impact on the environment may in a particularly sensitive environment be significant. Therefore, these classes are considered to apply all instances, except where the project may impact on an environmental resource of hazardous or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies	The project is not located in an area that has been mapped or designated as a location with an environmental resource of hazardous or critical concern by any federal, state, or local agencies.
(b) Cumulative Impact. All exemptions for these classes are inapplicable when the cumulative impact of successive projects of the same type in the same place, over time is significant.	There are no other projects in the area which would have a cumulatively significate impact with the proposed project.
(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.	As analyzed throughout this staff report the proposed project will not have a significant effect on the environment.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway.	The project is not located adjacent to or within the view shed of a scenic highway.
(e) Hazardous Waste Sites. A categorical exemption shall not be used for a project located on a site which is included on any list compiled pursuant to Section 65962.5 of the Government Code.	No phase I report was required because the site has no known previous use that would result in contamination. The site is not listed on any DTSC or RWQCB list of facilities or sites requiring remediation or in violation of a cleanup order. The site does not have any known contamination.
(f) Historical Resources. A categorical exemption shall not be used for a project which may cause a substantial adverse change in the significance of a historical resource.	As noted earlier in this staff report, an archaeological survey was completed for this site and no archaeological or historic resources were discovered or identified by the survey. The project will not have any impact on a historical or archaeological resource.

ALTERNATIVE ACTIONS

1. Hold a hearing, close the hearing, deliberate without a decision, and revisit the application at the next scheduled meeting for a decision and the addition of any new findings.
2. Hold the hearing and continue the hearing to a date certain if there is insufficient time to obtain all input from all interested parties. At the date certain the Commission may then deliberate and make a decision.

ATTACHMENTS

1. Resolution of the Fort Bragg Planning Commission Recommending that the City Council Approve Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25), and Sign Permit 2-25 (SP 2-25) for 49 apartments including 41 one-bedroom and 8 two-bedroom units, with one reserved for an on-site manager. The remaining units will be income-restricted for seniors (62+) earning 30-60% of the Mendocino County area median income. Amenities to include a community center, exercise room, management office, laundry, business center, community garden, picnic tables, BBQs and a fenced dog park. The site will offer 75 parking spaces (38 EV adaptable), 18 bicycle spaces. The carport roofs will accommodate solar panels that will provide electricity to the project.
2. Housing Incentives Staff Report: Hold a Hearing Receive Report and Consider Adopting a Resolution of the Fort Bragg City Council Providing Preliminary Preapproval of Inclusionary Housing Incentives for Proposed Senior Housing Project at 860 Hazelwood
3. Project Site Plan, Sign Plan

4. Floor Plans
5. Community Center Floor Plan
6. Project Elevations
7. Project Renderings
8. Colors and Materials
9. Preliminary Landscaping Plan
10. Lighting Plan
11. Civil Plan
12. Stormwater Management
13. Geotechnical Report
14. Notice of Public Hearing

RESOLUTION NO. PC -2025

RESOLUTION OF THE FORT BRAGG PLANNING COMMISSION RECOMMENDING THAT THE CITY COUNCIL APPROVE COASTAL DEVELOPMENT PERMIT 1-25 (CDP 1-25), DESIGN REVIEW 1-25 (DR 1-25), USE PERMIT 1-25 (UP 1-25), AND SIGN PERMIT 2-25 (SP 2-25) FOR A PROPOSED 49-UNIT SENIOR HOUSING PROJECT LOCATED AT 860 HAZELWOOD STREET (APN 018-210-29), SUBJECT TO THE FINDINGS AND ALL STANDARD AND SPECIAL CONDITIONS.

WHEREAS, Jacob Soroudi (AMG Associates) ("Applicant") submitted an applicant for: Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25), and Sign Permit 2-25 (SP 2-25) to construct a multifamily apartment project at 860 Hazelwood St.

WHEREAS, 860 Hazelwood St, Fort Bragg, California (Assessor Parcel Number: 018-210-29) is in the Very High Residential (RH) Zone, Coastal Zone and no changes to the site's current zoning designation are proposed under the Project; and

WHEREAS, the Project is subject to the Fort Bragg Coastal General Plan and Coastal Land Use and Development Code (CLUDC); and

WHEREAS, Section 17.32.020 of the CLUDC requires the City Council to provide preliminary approval or disapproval of applicant-requested incentives, modifications, or waivers of development or zoning standards for the development of new multifamily housing units that include inclusionary housing units; and

WHEREAS, the City Council held a public hearing on February 24, 2025, to accept public testimony and provided preliminary conceptual approval of two inclusionary housing incentives for the proposed Project; and

WHEREAS, the Planning Commission held a public meeting on April 30, 2025 to consider the Project, accept public testimony and consider making a recommendation to City Council; and

WHEREAS, the City Council will have the final approval authority over the inclusionary housing incentives awarded for this project and therefore will have authority overall all project entitlements; and

WHEREAS, pursuant to the California Environmental Quality Act (CEQA) Section 15332 (class 32) of the CEQA Guidelines the project is exempt from CEQA as an "In-Fill Development Project" and per Section 15192 and 15195 as an "Infill Housing Development," and

NOW, THEREFORE, BE IT RESOLVED that the City of Fort Bragg Planning Commission, based on the entirety of the record before it, which includes without limitation, CEQA, Public Resources Code §21000, et seq. and the CEQA Guidelines, 14 California Code of Regulations §15000, et seq.; the Fort Bragg Coastal General Plan; the Fort Bragg Coastal Land Use and Development Code; the Project applications; all site plans, and all reports and public testimony submitted as part of the Planning Commission meeting of April 30, 2025 and Planning Commission deliberations; and any other evidence (within the meaning of Public Resources Code §21080(e) and §21082.2), the Planning Commission

of the City of Fort Bragg hereby recommend, *per the analysis incorporated herein by reference to the project staff report, dated April 30, 2025, that the City Council* approve Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25, and Sign Permit 2-25 (SP 2-25), subject to the findings, standard conditions and special conditions below:

A. General Findings

1. The foregoing recitals are true and correct and made a part of this Resolution;
2. The documents and other material constituting the record for these proceedings are located at the Community Development Department;
3. The proposed project is consistent with the purpose and intent of the zoning district, as well as all other provisions of the Coastal General Plan, Coastal Land Use and Development Code (ILUDC), and the Fort Bragg Municipal Code in general.

NOW, THEREFORE, BE IT RESOLVED that the Fort Bragg Planning Commission makes the following findings and determinations for Coastal Development Permit 1-25 to allow for the construction of a 49-unit senior apartment project proposed for at 860 Hazelwood Street. *per analysis incorporated herein by reference to the project staff report, dated April 30, 2025.*

1. Feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment.
2. The proposed use is consistent with the purposes of the zone in which the site is located.
3. The proposed development is in conformance with the City of Fort Bragg's Coastal General Plan.
4. The proposed location of the use and conditions under which it may be operated or maintained will not be detrimental to the public health, safety or welfare, or materially injurious to properties or improvements in the vicinity.
5. Services, including but not limited to, water supply, sewage disposal, solid waste, and public roadway capacity have been considered and are adequate to serve the proposed development.

NOW, THEREFORE, BE IT RESOLVED that the Fort Bragg Planning Commission makes the following findings and determinations for Use Permit 9-25 to allow for the construction of a 49-unit apartment project proposed for 860 Hazelwood Street. *per analysis incorporated herein by reference to the project staff report, dated April 30, 2025.*

1. The proposed use is consistent with the General Plan, any applicable specific plan, and the Local Coastal Program;
2. The proposed use is allowed within the applicable zoning district and complies with all other applicable provisions of this Development Code and the Municipal Code;

3. The design, location, size, and operating characteristics of the proposed activity are compatible with the existing and future land uses in the vicinity;
4. The site is physically suitable in terms of design, location, shape, size, operating characteristics, and the provision of public and emergency vehicle (e.g., fire and medical) access and public services and utilities (e.g., fire protection, police protection, potable water, schools, solid waste collection and disposal, storm drainage, wastewater collection, treatment, and disposal, etc.), to ensure that the type, density, and intensity of use being proposed would not endanger, jeopardize, or otherwise constitute a hazard to the public interest, health, safety, convenience, or welfare, or be materially injurious to the improvements, persons, property, or uses in the vicinity and zoning district in which the property is located.

NOW, THEREFORE, BE IT RESOLVED that the Fort Bragg Planning Commission makes the following findings and determinations for Design Review Permit 1-25 to allow for the construction of a 49-unit affordable senior apartment project proposed for 860 Hazelwood Street. *per analysis incorporated herein by reference to the project staff report, dated April 30, 2025.*

1. Complies with the purpose and requirements of this Section (Design Review in the CLUDC)
2. Provides architectural design, building massing, and scale appropriate to and compatible with the site surroundings and the community.
3. Provides attractive and desirable site layout and design, including building arrangement, exterior appearance and setbacks, drainage, fences and walls, grading, landscaping, lighting, signs, etc.
4. Provides efficient and safe public access, circulation and parking.
5. Provides appropriate open space and landscaping, including the use of water efficient landscaping.
6. Is consistent with the Coastal General Plan, and applicable specific plan, and the certified Local Coastal Program.
7. Complies and is consistent with the City's Design Guidelines.

NOW, THEREFORE, BE IT RESOLVED that the Fort Bragg Planning Commission makes the following findings and determinations for the Density Bonus Law incentives to allow for the construction of a 49-unit affordable senior apartment project proposed for 860 Hazelwood Street. *per analysis incorporated herein by reference to the project staff report, dated April 30, 2025.*

1. The requested incentives are required in order to provide for affordable housing costs as defined in Health and Safety Code Section 50052.5, or for rents for the targeted units to be set in compliance with Government Code Section 65915(c).
2. The concession or incentive will not have a specific adverse impact, as defined by Government Code Section 65589.5(d)(2), upon public health and safety, or the physical environment, or on any real property listed in the California Register of Historical Resources and for which there is no feasible method to satisfactorily mitigate or avoid the specific adverse impact without rendering the development unaffordable to low and moderate income households.

3. The City has determined that the development incentives requested will not have any adverse effects on coastal resources.
4. The project is not feasible without the incentive.
5. The Fort Bragg City Council has identified affordable housing development as a top priority in the City's Strategic Plan and set a goal to develop 200 units of housing in Fort Bragg by 2026.
6. The Coastal Commission implements the California Coastal Act of 1976, and Section 30604(f) of the Coastal Act requires the Commission to encourage housing opportunities for persons of low or moderate income.

   "Section 30604 (f) The commission shall encourage housing opportunities for persons of low and moderate income. In reviewing residential development applications for low- and moderate-income housing, as defined in paragraph (3) of subdivision (h) of Section 65589.5 of the Government Code, the issuing agency or the commission, on appeal, may not require measures that reduce residential densities below the density sought by an applicant if the density sought is within the permitted density or range of density established by local zoning plus the additional density permitted under Section 65915 of the Government Code, unless the issuing agency or the commission on appeal makes a finding, based on substantial evidence in the record, that the density sought by the applicant cannot feasibly be accommodated on the site in a manner that is in conformity."
7. The State of California has passed regulations to streamline and facilitate the construction of market rate and affordable multifamily developments including regulations that limit the ability of local jurisdictions to deny multifamily housing projects based on subjective criteria and the requirement to provide housing incentives and density bonuses for project that include affordable housing. Statewide housing laws, such as Density Bonus Law, the Housing Accountability Act, and the Housing Crisis Act, apply in the coastal zone in ways that are also consistent with the Coastal Act.
8. There are relatively few large parcels in Fort Bragg that support multifamily housing, as identified in the City's vacant parcel inventory. Most vacant parcels that can accommodate multifamily housing have an environmental constraint. This parcel does not have an environmental constraint.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Fort Bragg Planning Commission makes the following findings and determinations regarding the Sign Review Permit SP 2-25 for this project *per the analysis incorporated herein by reference to the project staff report, dated April 30, 2025*:

1. The proposed signs do not exceed the standards of Sections 17.38.070 (Zoning District Sign Standards) and 17.38.080 (Standards for Specific Sign Types), and are of the minimum size and height necessary to enable pedestrians and motorists to readily identify the facility or site from a sufficient distance to safely and conveniently access the facility or site;

2. That the placement of the sign on the site is appropriate for the height and area of a freestanding or projecting sign;
3. That a flush or projecting sign relates to the architectural design of the structure. Signs that cover windows, or that spill over natural boundaries, and/or cover architectural features shall be discouraged;
4. The proposed signs do not unreasonably block the sight lines of existing signs on adjacent properties;
5. The placement and size of the sign will not impair pedestrian or vehicular safety;
6. The design, height, location, and size of the signs are visually complementary and compatible with the scale, and architectural style of the primary structures on the site, any prominent natural features on the site, and structures and prominent natural features on adjacent properties on the same street; and
7. The proposed signs are in substantial conformance with the design criteria in Subsection 17.38.060.F (Design criteria for signs).

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Fort Bragg Planning Commission does hereby recommend that the City Council approve Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25, and Sign Permit 2-25 (SP 2-25) to construct an affordable senior multifamily apartment project at 860 Hazelwood St subject to the following standard and special conditions:

SPECIAL CONDITIONS

1. Prior to the issuance of the building permit, the applicant shall submit a revised parking plan with one motorcycle parking space for approval by the Community Development Director. The motorcycle parking spaces can replace a regular parking space.
2. The trees/bushes between Moura Senior Apartments' driveway and the proposed driveway shall be removed to facilitate visibility between the two driveways. All replacement plantings shall be native plants with a mature height of less than 42 inches.
3. The applicant shall install 50 SF of shrubs and grasses at the parking lot entrances from the existing planting list on the landscaping plan. The parking lot entrances shall include enhanced paving (stamped and colored) crosswalk. These items will be installed prior to the issuance of occupancy permit.
4. Prior to the issuance of Building Permits, the applicant shall submit a revised landscaping plan for review and approval by the Community Development Director. The revised landscaping plan shall identify native California shrubs and ground covers for the proposed landscaped areas of the project site.
5. The applicant shall submit, for approval by the Director of Community Development, an elevation of the proposed trash enclosures which illustrates that they are clad in substantially similar materials/colors as the building.
6. The Building Permit Plan Set shall include a site plan that illustrates an additional 710 SF of public open space. This may be achieved either with an expansion of the existing open space facilities or by adding a walking trail to the open space to the south of the building.
7. The applicant shall submit elevations for all accessory structures that illustrate finishes and colors that are similar to those of the apartment building for approval by

the Community Development Director prior to issuance of the Building Permit.

8. Prior to issuance of the Certificate of Occupancy the applicant shall complete and enter into an Inclusionary Housing Regulatory Agreement per all of the requirements of section 17.32.080B with the City of Fort Bragg. The regulatory agreement will regulate 48 units as affordable to low income seniors.
9. If cultural resources are encountered during construction, work on-site shall be temporarily halted within 50 feet and marked off of the discovered materials, and workers shall avoid altering the materials and their context until a qualified professional archaeologist and tribal monitor has evaluated the situation and provided appropriate recommendations. Project personnel shall not collect or move cultural resources. No social media posting.
10. If human remains or burial materials are discovered during project construction, work within 50 feet of the discovery location, and within any nearby area reasonably suspected to overlie human remains, will cease (Public Resources Code, Section 7050.5). The Mendocino County coroner will be contacted. If the coroner determines that the remains are of Native American origin, it is necessary to comply with state laws regarding the disposition of Native American remains (Public Resources Code, Section 5097).
11. The applicant shall complete a pre-construction bird survey within and adjacent to any proposed disturbance area within the Project area for nesting raptors and other protected bird species within 14 days prior to disturbance. The nesting survey radius around the proposed disturbance shall be identified prior to the implementation of the protected bird nesting surveys by a California Department of Fish and Wildlife qualified biologist and shall be based on the habitat type, habitat quality, and type of disturbance proposed within or adjacent to nesting habitat, but should be a minimum of 250 feet from any area of disturbance. If any nesting raptors or protected birds are identified during such pre-construction surveys, trees, shrubs or grasslands with active nests should not be removed or disturbed. A no disturbance buffer shall be established around the nesting site to avoid disturbance or destruction of the nest site until after the breeding season or after a qualified wildlife biologist determines that the young have fledged. The extent of these buffers shall be determined by a CDFW qualified wildlife biologist and shall depend on the special-status species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors shall be analyzed by a qualified wildlife biologist to make an appropriate decision on buffer distances based on the species and level of disturbance proposed in the vicinity of an active nest.
12. The site shall be landscaped with locally native bee-friendly plants and shrubs, such as: Sticky Monkeyflower (Mimulus aurantiacus) and Woolly Bluecurls (Trichostema lanatum). Coffeeberry shrubs (Rhamnus californica), manzanitas (Arctostaphylos sp) and ceanothuses California Poppy (Eschscholzia californica), California Aster (Aster chilensis). The applicant shall provide a revised landscaping plan that includes these plants and shrubs.
13. Furthermore, the open field to the south of the development shall only be mowed in summer, when there is fire risk, to provide native bees with habitat in the early spring. If native bees are observed the applicant shall install a native bee hotel.

14. The applicant shall resubmit the site plan illustrating the removal of the easternmost six stalls in the parking lot on the southwest side of the building in order to retain the pine tree on the south side of the building.
15. The applicant shall not plant or allow any volunteer growth of any species of broom, pampas grass, gorse, or other species of invasive non-native plants listed on the California Invasive Plant Council (CALIPC) website on the project site.
16. Payment of Drainage, Water, Sewer, Police Facility and Fire Facility Capacity Fees will be required prior to issuance of the building permit. Estimated Fees are shown below:
    a. Water Capacity Fees for 49 units is estimated at $113,358.56.
    b. Sewer Capacity Fees for 49 units is estimated at $93,364.60.
    c. Drainage Fee is estimated at $0.75 per SF of impervious surface. At 50,600 SF of impervious, the fee is estimated to be $37,987.50.
    d. Police Facilities Fees for approx. 32,305 SF residential space is estimated at $10,498.80.
    e. Fire Facilities Fees for approx. 32,305 SF residential space is estimated at $6,531.42.
17. All materials, workmanship, and construction of the utilities shall conform to the City of Fort Bragg Standard Specifications or an approved alternate. All public improvements to drainage conveyance, sewer and water systems shall be dedicated to the City.
18. Prior to the issuance of the building permit, the final utility hookup configuration shall be approved by the Public Works Director or designated staff.
19. The exact location of the Utility hookup configuration in the City right of way shall be approved by the by the Public Works Director or designated staff at the time of review of the encroachment permit application.
20. The water main is located at north side of parcel and shall be extended to serve the property by the applicant. If feasible, the water main shall be looped into the existing water main on N. Harbor Drive through the property located to the south of the proposed project.
21. Connection fees will be assessed if the project utilizes City forces to install water or sewer services. Fees will be based on the size and the distance of the connection and will be charged the rate in effect at the time of the building permit submittal.
22. If the contractor installs the connection to the City water main, the work must be overseen by a certified distribution operator and all work shall be performed in compliance with water main construction standards and guidelines, including providing sufficient notice.
23. An approved backflow device will be required on all service connections. Contact Heath Daniels at (707) 813-8031 for specific backflow information.
24. The Applicant shall provide documentation that water pressures can be achieved or that they have a means (via pressure pump, tank, etc.) for enhancing their system to meet water pressure standards. Documentation may be submitted at the time of the building permit.
25. Prior to issuance of a grading permit or building permit, the developer shall meet the following requirements:
    a. The City would prefer that the connection be made at the existing sewer

manhole at the intersection of N Harbor and the alley west of Woodward so that the sewer may flow entirely by gravity to the treatment plant, if gravity flow cannot be achieved by connecting to the existing sewer main in Hazelwood. The exact location of the utility hookup configuration in the City right-of-way shall be approved by the Public Works Director or designated staff at the time of review of the encroachment permit application.

b. Sewer cleanouts will be required on all laterals per City Standard 309-310.
c. The new sewer main shall be adequately sized to achieve standards established by the FBMC and reasonably designed to convey wastewater for future development of the parcel. FBMC section 14.28.040 states that the minimum size of a sewer lateral shall be 4 inches in diameter. The minimum slope of a sewer lateral shall be two feet per 100 feet (2% slope). Exceptions will be reviewed and approved at the discretion of the District Manager.
d. New wastewater laterals shall connect the development to the constructed sewer main, to the satisfaction of the Director of Public Works.
e. All new wastewater force mains will remain in the ownership of property owner and all maintenance of associated lift stations and force main will remain the owner's responsibility.

26. Payment of Connection fees and Capacity fees are shall be made prior to the issuance of the building permit.The applicant shall obtain an encroachment permit from the City of Fort Bragg to paint a crosswalk on South Street at the intersection with Hazelwood, per City Specifications.
27. The applicant shall work with MTA to determine if the addition of a transit stop at the property is warranted and feasible. If a transit stop is feasible and desirable the applicant shall install a bus stop on the sidewalk at a location per the request of MTA prior to final of the building permit.
28. The developer shall submit to the City Engineer, for review and approval, improvement drawings for required public improvements. The plans shall be drawn by, and bear the seal of, a licensed Civil Engineer. Street Section Standards for Minor and Collector streets is City Standard No. 204.
29. Prior to the issuance of a Certificate of Occupancy for the project, the following public improvement will be completed by the applicant per the direction of the Director of Public Works and according to City standards:
    a. Frontage improvements will be required the length of Hazelwood Street to the entrance of the furthest driveway and include a hammerhead turnaround or similar fire-department-approved terminus. The project will include improvements of the street section to full width (40'), including sidewalk, curb and gutter on the east side, and a gravel shoulder on the west side.
    b. The developer shall submit to the City Engineer improvement drawings for the required street improvements and sidewalk improvements. The plans shall be drawn by, and bear the seal of, a licensed Civil Engineer.
    c. All frontage improvements (ADA compliant driveway aprons, corner ramps, sidewalk, curb, gutter, conform paving, etc.) shall be designed and constructed according to current City Standards.
    d. An encroachment permit will be required for any work in the public right of way. Please submit the application at least 2 weeks in advance of the

proposed activity to allow sufficient time for processing.

30. Project operations shall prohibit the use of inorganic landscaping chemicals. No outdoor storage is permissible onsite.
31. The applicant shall install markers or stenciling for all storm drain inlets as specified by the Department of Public Works.
32. The applicant shall undertake annual inspection and maintenance tasks for all on-site BMPs as specified by the civil engineer and/or the Department of Public Works.
33. All proposed development associated with this project shall be compliant with the Fort Bragg Municipal Code (FBMC) sections 17.64 [Stormwater Runoff Pollution Control] Standards for development and section 12.14 [Drainage Facility improvements].
    a) Prior to issuance of the Building Permit the applicant shall submit a final Water Quality Management Plan, SWIPP, and a Runoff Mitigation Plan (RMP) that demonstrates the project meets the post-construction stormwater requirements established by local, state and federal regulations. The City's RMP requirement can be fulfilled by a SWPPP instead. If using a SWPPP to fulfill the RMP, a draft version should be submitted to the City to ensure the project is in compliance prior to filing for a Notice of Intent (NOI) with the state.
    b) Calculations must demonstrate compliance with the hydromodification requirements established by the Municipal Separate Storm Sewer System (MS4) Phase II permit E. 12. f and the Mendocino County Low Impact Design Manual (LID Manual). The plan must show all calculations for lot coverage and areas of impervious surfaces, including building footprints, pavement, sidewalk, etc. This can be shown on either the site plan for the building permit or incorporated into the coastal development site plan. Calculations must demonstrate compliance with the hydromodification requirements established by the Municipal Separate Storm Sewer System (MS4) Phase II permit E.12.f and the Mendocino County Low Impact Design Manual (LID Manual).
        i. While the use of permeable pavers is encouraged to reduce runoff volumes, they do not qualify as a self-retaining area as defined by the Mendocino County LID Manual, so DMA's and associated calculations will require revision. The use of additional bioretention facilities is recommended for landscape/vegetated areas.
        ii. The Preliminary SCP notes that shallow groundwater was encountered at 10-13 feet below existing grade, but sampling was not performed in areas proposed for bioretention, and so further investigation is required to ensure adequate separation between infiltrating surface and the water table. Results of that testing should be incorporated into the final SCP.
    c) Applicant shall provide analysis documenting sufficiency of proposed stormwater facilities or drainage conveyance system to meet requirements established by the City's Land Use Codes.
    d) If upgrades to infrastructure are required, the plans shall be drawn by, and bear the seal of, a licensed Civil Engineer and the improvements shall be completed by the developer and dedicated to the City.
34. An Operations and Maintenance Plan shall be developed for all regulated project

components by the State NPDES Phase II MS4. The plan shall include provision(s) demonstrating adequate on-going operations and maintenance.

35. The applicant shall follow the recommendations of the geotechnical report for all design and construction specifications and shall implement all recommendations related to required special inspections, grading and construction activities.
36. On-site fire protection shall be installed as approved by the Fire Chief. Final utility configuration shall be approved by the Public Works Director or designated staff. The applicant shall ensure adequate pressure and flow to the subject site to provide fire suppression flows.
37. The applicant shall provide a step back, embellishment or change in height every 100 feet for all property line fences. This change in design shall be confirmed by the City prior to Occupancy Permit approval.
38. The project shall include individual unit numbers that are well lighted and in a consistent location for all units. Visitor Parking shall be clearly marked. A directory shall be installed that shows the locations of all buildings, pathways and unit numbers. These items shall be installed prior to the final of the Building Permit.
39. Prior to the issuance of a Building Permit, the applicant shall submit for the review and approval of the Community Development Director plans for the locations and visual screening of all mechanical equipment proposed to be constructed as part of the project, including but not limited to standpipes, backflow preventers, generators and propane fuel tanks. All equipment shall be visually screened with vegetation, building elements, fencing or wood lattice.
40. The sign design shall be modified as follows: 1) the stone veneer shall be removed from the sign design and replaced with a wood post/trellis element to match the other side of the sign; 2) The applicant shall resubmit the site plan illustrating the sign located outside of the traffic visibility area; and 3) the address number shall be added to the sign.

STANDARD CONDITIONS

1. This action shall become final on the 11th day following the City Council decision.
2. The use and occupancy of the premises shall be established and maintained in conformance with the requirements of this permit and all applicable provisions of the CLUDC.
3. The application, along with supplemental exhibits and related material, shall be considered elements of this permit, and compliance therewith is mandatory, unless an amendment has been approved by the City.
4. This permit shall be subject to the securing of all necessary permits for the proposed development from City, County, State, and Federal agencies having jurisdiction. All plans submitted with the required permit applications shall be consistent with this approval. All construction shall be consistent with all Building, Fire, and Health code considerations as well as other applicable agency codes.
5. The applicant shall secure all required building permits for the proposed project as required by the Mendocino County Building Department.
6. If any person excavating or otherwise disturbing the earth discovers any archaeological site during project construction, the following actions shall be taken: 1) cease and desist from all further excavation and disturbances within 25 feet of the discovery; 2) notify the Fort Bragg Community Development Department within

24 hours of the discovery; and 3) retain a professional archaeologist to determine appropriate action in consultation with stakeholders such as Native American groups that have ties to the area.

7. This permit shall be subject to revocation or modification upon a finding of any one or more of the following:
    a. That such permit was obtained or extended by fraud.
    b. That one or more of the conditions upon which such permit was granted have been violated.
    c. That the use for which the permit was granted is so conducted as to be detrimental to the public health, welfare or safety, or as to be a nuisance.
    d. A final judgment of a court of competent jurisdiction has declared one or more conditions to be void or ineffective, or has enjoined or otherwise prohibited the enforcement or operation of one or more conditions.
8. Unless a condition of approval or other provision of the Coastal Land Use and Development Code establishes a different time limit, any permit or approval not exercised within 24 months of approval shall expire and become void, except where an extension of time is approved in compliance with CLUDC Subsection 17.76.070(B).

NOW, THEREFORE, BE IT FURTHER RESOLVED that this Resolution shall become effective immediately upon its passage and adoption.

The above and foregoing Resolution was introduced by _____, seconded by _____, and passed and adopted at a regular meeting of the Planning Commission of the City of Fort Bragg held on the 30th day of April 2025 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:
RECUSE:

_____
David Jensen, Chair

ATTEST:

_____
Maria Flynn
Administrative Assistant

CITY COUNCIL STAFF REPORT

TO: **City Council** **DATE: February 24, 2025**

DEPARTMENT: **Community Development Department**

PREPARED BY: **Marie Jones, Marie Jones Consulting**

PRESENTER: **Marie Jones, Marie Jones Consulting**

AGENDA TITLE: Hold a Hearing Receive Report and Consider Adopting a Resolution of the Fort Bragg City Council Providing Preliminary Preapproval of Inclusionary Housing Incentives for Proposed Affordable Senior Apartment Project at 860 Hazelwood.

RECOMMENDATION

Adopt a Resolution of the Fort Bragg City Council Providing Preliminary Preapproval of Inclusionary Housing Incentives for Affordable Senior Apartment Project Proposed for 860 Hazelwood.

BACKGROUND

On January 3, 2025 the City received an application for a 49-unit affordable senior housing project proposed for 860 Hazelwood for which the applicant has requested two incentives and a small density bonus in compliance with state law.

DISCUSSION AND ANALYSIS

The inclusionary housing ordinance implements the Housing Element of the General Plan, by offering incentives for the development of housing that is affordable to low- and moderate-income households. Per the Coastal Land Use and Development Code (CLUDC), section 17.32.040 developments of greater than 7 units "must construct 15 percent of all new dwelling units in a residential development as affordable units."

Additionally, in recognition that the inclusionary housing requirement reduces the profitability and therefore the feasibility of a project the ordinance includes a mechanism by which the City Council can "pre-approve" planning incentives prior to submittal of the final permit application and consideration of the project by the Planning Commission and City Council, see CLUDC section 17.32.070 below:

AGENDA ITEM NO. _____

17.32.070 - Inclusionary Housing Incentives

A. Process for describing incentives. A residential development that complies with the inclusionary housing requirements in Subsection 17.32.040.A. (Number of units required), through the actual construction of inclusionary units, shall be entitled to the following procedures and incentives.

1. Voluntary conceptual preliminary approval of incentives.

a. Before the submittal of any formal application for a General Plan amendment, rezoning, Coastal Development Permit, Use Permit, Tentative Map, or other permit or entitlement describing and specifying the location, number, size, and type of the housing development, the developer may submit **a letter of request for incentives identifying any requests for density bonus, incentives, modifications, or waivers of development or zoning standards necessary to make construction feasible for the proposed development, including the inclusionary units**. The Council shall review the preliminary development proposal and the letter of request for incentives within 90 days of submittal at a public hearing and indicate conceptual preliminary approval or disapproval of the proposed development and request for incentives, modifications, or waivers of development or zoning standards.

b. Preliminary approval or disapproval shall not bind the Council, but rather shall be subject to the discretion of the Council to modify its preliminary recommendations based upon a full review of all pertinent project information, including any CEQA analysis, presented at the public hearing on the subject application.

c. The provisions of this Section do not replace, supersede or modify the independent requirement for a CDP approved pursuant to the otherwise applicable policies and standards of the certified LCP.

State law requires the City to grant at least three incentives per Government Code section 659159(d)(2)(c) as the project is proposed at 100% affordable to low-income seniors.

> (C) Three incentives or concessions for projects that include at least 24 percent of the total units for lower income households, at least 15 percent for very low income households, or at least 30 percent for persons and families of moderate income in a development in which the units are for sale.

The applicant has requested the following two incentives (Attachment 1):

1. *"Height: Pursuant to Table 2-5 in the Code, the Project may have a maximum height of 35 feet, which it currently exceeds by 7'8". The entire 3rd story of the development would need to be removed in order for the Project to abide by this development standard, therefore making its removal necessary for the Project's financial feasibility.*
2. *Parking: Pursuant to Table 3-7 in the Code, the Project must provide 2 parking stalls per unit plus guest parking at a rate of 1 stall per 3 units. This would place the mandatory minimum parking count at 114 stalls. As designed, the Project can only accommodate 75 parking spaces. This is above the minimum parking count as outlined in California Government Code (p)(l)(A) and (p)(l)(B)."*

Additionally, according to State Law, the applicant may request a density bonus of 80% based on the level of affordability (100%) of the project. However, the applicant has requested a 9% density bonus to construct the project at 16.39 units/acre instead of the 15 units/acre required in the zoning district.

FISCAL IMPACT

This approval will not have a significant fiscal impact.

ENVIRONMENTAL ANALYSIS

The addition of affordable apartments in Fort Bragg will reduce overall emissions as the City is small and compact and locating residence within the City will result in fewer vehicle miles traveled than new development within the county. Moreover, the consideration and approval of preliminary incentives has been reviewed with respect to the applicability of the California Environmental Quality Act (Public Resources Code Section 21000 *et seq*.) ("CEQA"). City staff has determined that the proposed approval of preliminary incentives amendments does not have the potential for creating a significant effect on the environment and is therefore exempt from further review under CEQA pursuant to State CEQA Guidelines Section 15060(c)(3) because it is not a project as defined by the CEQA Guidelines Section 15378. Adoption of the Resolution does not bind the Council which under the Inclusionary housing ordinance, retains the authority to modify the pre-approval when upon a full review of the pertinent information. These incentives will be subject to review under CEQA and the specific impacts of such projects will be analyzed under CEQA at time of project review and approval of the development project before the Planning Commission and when the Planning Commission recommendation is presented to the Council.

STRATEGIC PLAN/COUNCIL PRIORITIES/GENERAL PLAN CONSISTENCY

The granting of planning incentives and a density bonus for affordable housing is consistent with state law, Program H-2.4.1 of the City's Housing Element and Chapter 17.32 of the Coastal Land Use and Development Code. If approved the project would help implement the City's Strategic Plan housing goal of 200 new housing units by 2026.

COMMUNITY OUTREACH

This project has not been the subject of community outreach. Community outreach is not feasible prior to a fully noticed public hearing for current planning projects.

COMMITTEE REVIEW AND RECOMMENDATIONS

The Planning Commission will hold a Public Hearing on this project in March and forward a recommendation for the project permits to the City Council soon thereafter.

ALTERNATIVES

The City, under the State's density bonus law, can only deny the requested incentives if the City can prove with substantial evidence that the incentives are not required for a financially and physically feasible project. The following facts of the project don't seem to allow for this flexibility.

- This site requires a large stormwater infiltration basin, and it is not feasible to both accommodate the infiltration basin and the minimum density of the site with existing height limits.
- The applicant must at least achieve minimum density at the site to be eligible for Tax

Credit financing. Without the requested height change the project is not financially feasible as it would not achieve minimum densities and would not be eligible for tax credit financing.

- Likewise, the site is not large enough to accommodate all the required parking, the units and the stormwater infiltration basin, nor is the required parking consistent with parking usage for senior apartments.
- Finally, as noted in the applicant's letter, the small addition in height is required to accommodate the elevator shaft which is required by law for senior ADA access.

IMPLEMENTATION/TIMEFRAMES

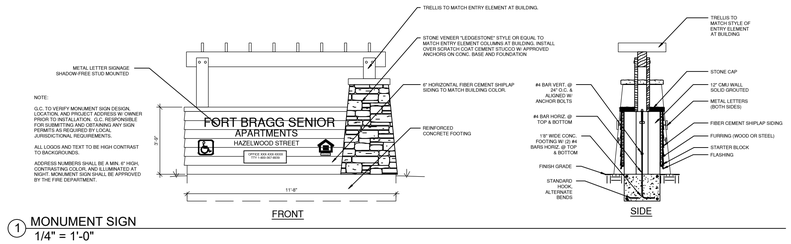
The applicant has submitted final project designs, and their application will be brought forward to the Planning Commission and City Council for consideration in March 2025.

ATTACHMENTS

1. Letter Request for Incentives
2. Resolution of the Fort Bragg City Council Providing Preliminary Preapproval of Affordable Housing Incentives and Density Bonus for a Proposed Senior Apartments Project at 860 Hazelwood.
3. Public Hearing Notice

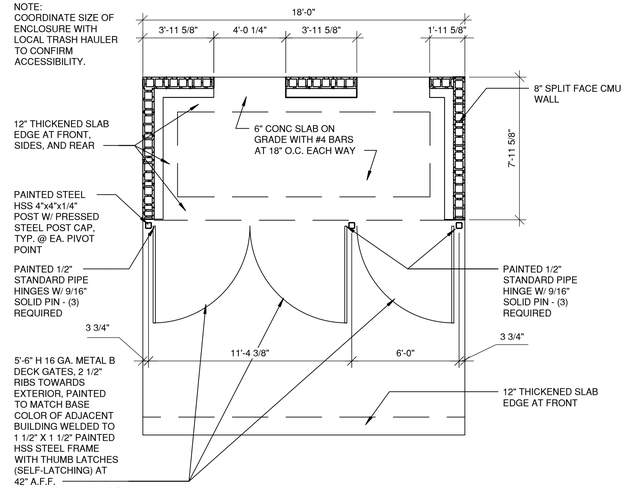
NOTIFICATION

'Notify Me' Housing List
Applicant- AMG & Associates, LLC
Agent- Jacob Soroudi
Property Owner- Angelina F. Moura

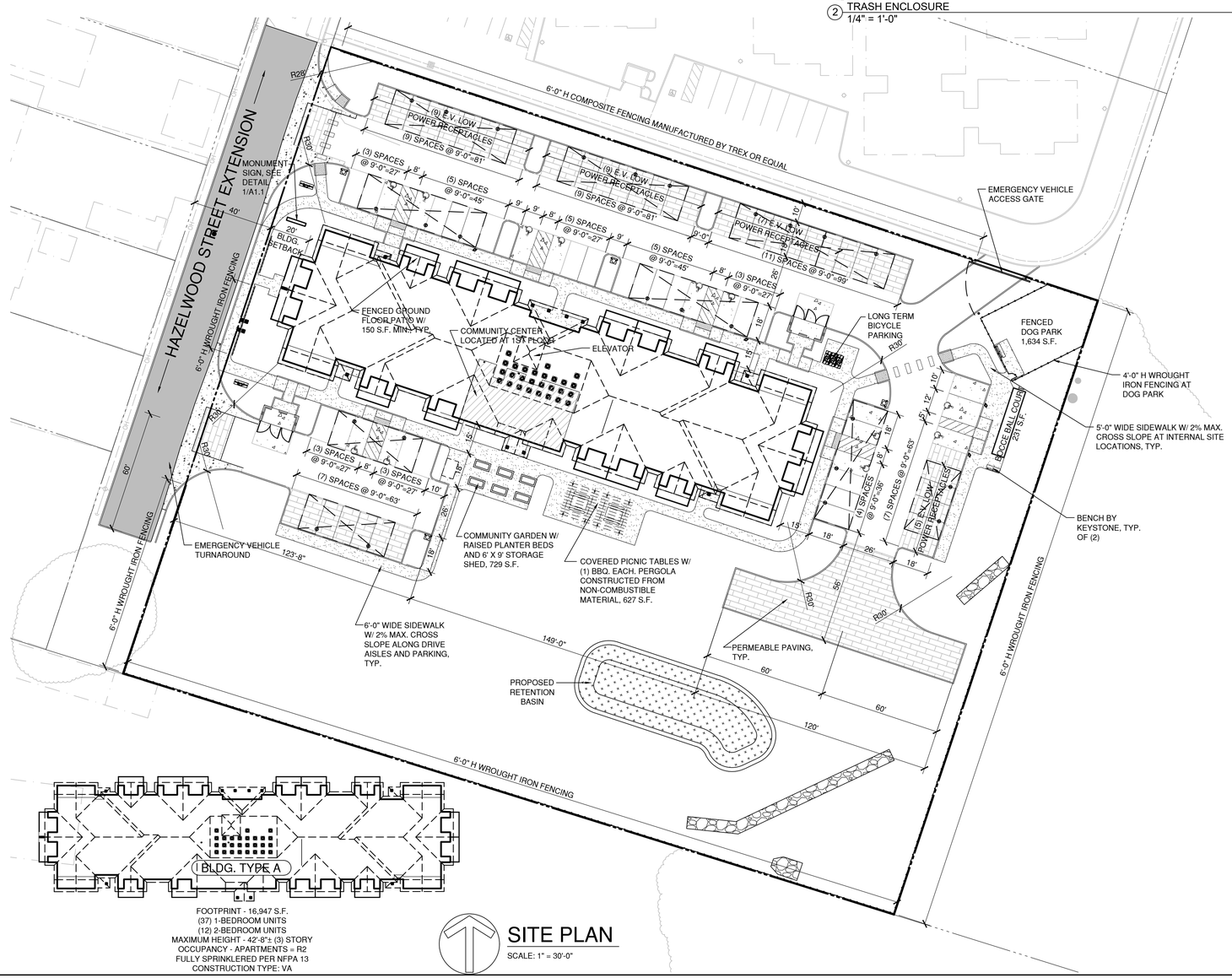


1 MONUMENT SIGN
1/4" = 1'-0"

NOTE:
COORDINATE SIZE OF ENCLOSURE WITH LOCAL TRASH HAULER TO CONFIRM ACCESSIBILITY.



2 TRASH ENCLOSURE
1/4" = 1'-0"



FOOTPRINT - 16,947 S.F.
(37) 1-BEDROOM UNITS
(12) 2-BEDROOM UNITS
MAXIMUM HEIGHT - 42'-8"± (3) STORY
OCCUPANCY - APARTMENTS = R2
FULLY SPRINKLERED PER NFPA 13
CONSTRUCTION TYPE: VA

SITE PLAN
SCALE: 1" = 30'-0"

VICINITY MAP
N.T.S.

APPLICANT
FORT BRAGG PACIFIC ASSOCIATES - A CALIFORNIA LIMITED PARTNERSHIP
DON SLATTERY
430 E. STATE ST. STE. #100
EAGLE, ID 83616
(208) 908-4873

ARCHITECT
PACIFIC WEST ARCHITECTURE
DOUGLAS GIBSON, CALIFORNIA ARCHITECT C29792
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 908-4871

ACCESSIBILITY

	# OF UNITS	PERCENTAGE
ADAPTABLE UNITS (ALL GROUND FLOOR UNITS REQ.)	36	73.47%
ACCESSIBLE UNITS (15% TOTAL)	8	16.33 %
SENSORY IMPAIRED UNITS (10% TOTAL)	5	10.20 %

UNIT MIX SUMMARY

	CONDITIONED SQ. FOOTAGES
(41) 1-BEDROOM UNITS	(41) x 613 S.F. =25,133 S.F.
(8) 2-BEDROOM UNITS	(8) x 802 S.F. = 6,416 S.F.
(49) UNITS TOTAL	25,133 S.F. + 6,416 S.F.= 31,549 S.F.
COMMUNITY CENTER & SHARED AMENITIES	2,367 S.F.
TOTAL	33,916

PARKING SUMMARY

REQUIRED - 1 SPACE PER 1 BEDROOM UNIT + 1.5 SPACES PER 2 BEDROOM UNIT = (1 SPACE * 37) + (1.5 * 12) = 37 + 18 = 55 SPACES PER CALIFORNIA DENSITY BONUS LAW 728

TOTAL PROVIDED: 54 COVERED SPACES (INCLUDING 8 ACCESSIBLE SPACES) + 2 ACCESSIBLE SPACES + 18 STANDARD SPACES + 1 VAN ACCESSIBLE E.V. CHARGING SPACE + 1 STANDARD ACCESSIBLE E.V. CHARGING SPACES+ 1 AMBULATORY E.V. CHARGING SPACE + = 75 SPACES

ALL TENANT PARKING SPACES TO BE ASSIGNED AND REMAINDER OF PARKING SPACES SHALL BE LABELED AS VISITOR PARKING.

ELECTRIC VEHICLE PARKING SUMMARY

REQUIRED - 75 SPACES * 40% = 30 E.V. READY LOW POWER RECEPTACLES
75 SPACES * 10% = 8 E.V. CHARGING SPACES

PROVIDED - 30 E.V. READY LOW POWER RECEPTACLES + 1 VAN ACCESSIBLE E.V. CHARGING SPACE + 1 STANDARD ACCESSIBLE E.V. CHARGING SPACES+ 1 AMBULATORY E.V. CHARGING SPACE + 5 STANDARD E.V. CHARGING SPACE = 38 SPACES

NOTE: ALL E.V. SPACES WILL COMPLY WITH THE CURRENT CALIFORNIA BUILDING CODE AT THE TIME OF CONSTRUCTION.

BICYCLE PARKING SUMMARY

PROVIDED: 12 BICYCLE SPACES + 6 LONG TERM BICYCLE SPACES = 18 BICYCLE SPACES

FIRE SPRINKLER

AUTOMATIC FULLY SPRINKLERED SYSTEM WITH CENTRAL CALL STATION, OFF-SITE MONITORING AND FPC'S AT EXTERIOR ACCESSIBLE FIRE SPRINKLER CLOSETS. NFPA 13

SITE SIZE

130,403.72 S.F.± (2.99 ACRES±)
16.39 UNITS PER ACRE

SITE COVERAGE

	SQ. FT.	PERCENTAGE
BUILDING FOOTPRINT	16,947 S.F.	13.00%
ON-SITE ASPHALT CONCRETE PAVING	32,836.18 S.F.	25.18%
SITE AMENITIES	3,800.56 S.F.	2.91%
CONCRETE WALKS & PADS	7,398.34 S.F.	5.67%
LANDSCAPE, OPEN SPACE	69,421.64 S.F.	53.24%
TOTAL AREA	130,403.72 S.F.	100%

NOTE: ALL NUMBERS PROVIDED ARE **ESTIMATED** FOR SITE COVERAGE

REVISIONS
- - -

COPYRIGHT DATE
4/4/25

DRAWN BY
DE

PROJECT #
AMG24-04

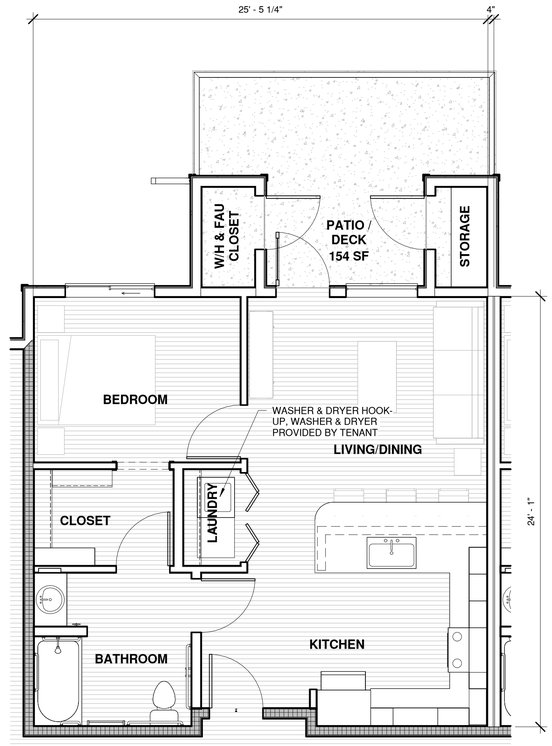
PACIFIC WEST ARCHITECTURE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267
ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEVADA - NEW MEXICO - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

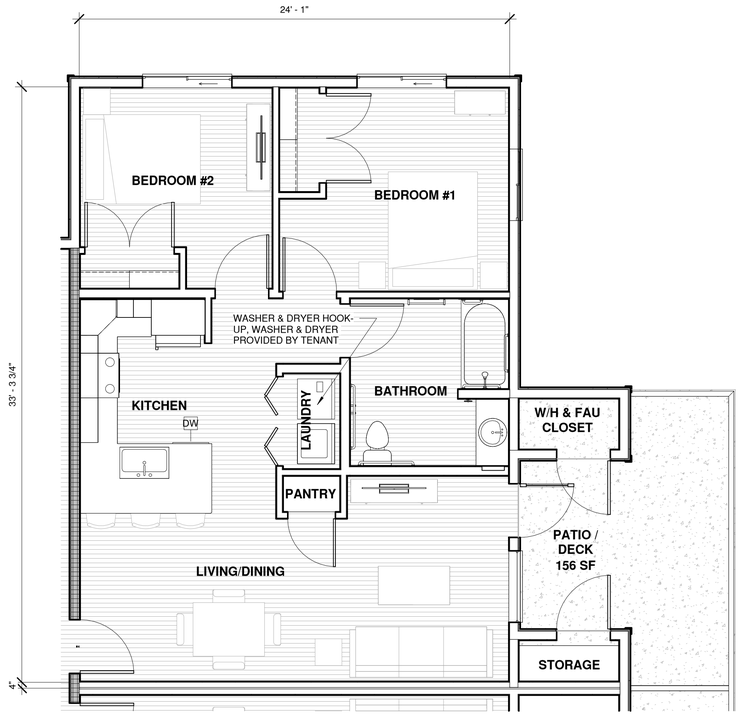
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

A1.1

SCHEMATIC SET / NOT FOR CONSTRUCTION



1 1-BEDROOM UNIT PLAN, TYP. - 613 S.F.
1/4" = 1'-0"



2 2-BEDROOM UNIT PLAN, TYP. - 802 S.F.
1/4" = 1'-0"

REVISIONS

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DE

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PACIFIC WEST ARCHITECTURE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

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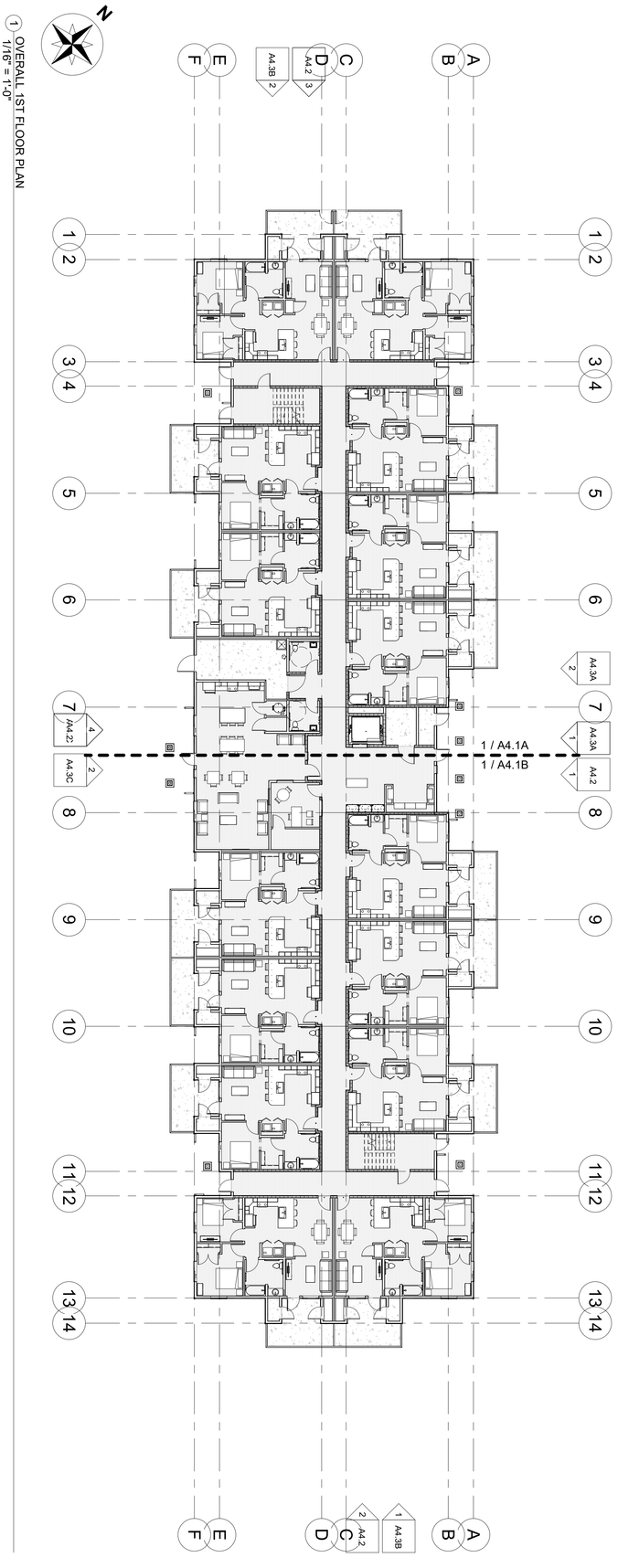
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

SCHEMATIC SET / NOT FOR CONSTRUCTION

A2.1
TYPICAL UNIT PLANS



1 OVERALL 1ST FLOOR PLAN
1/16" = 1'-0"

A4.0A
OVERALL 1ST FLOOR PLAN

PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET CITY, STATE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

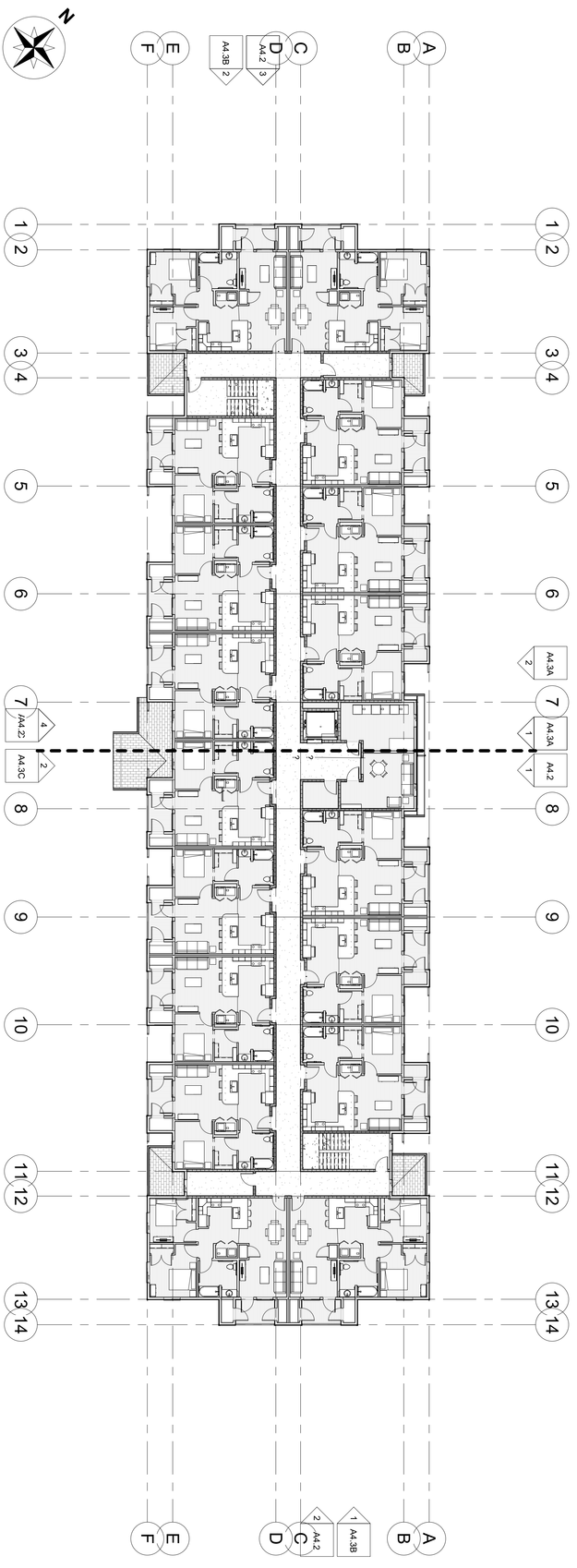
ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEW MEXICO - NEVADA - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

PACIFIC WEST ARCHITECTURE

PROJECT # AMG24-04
DRAWN BY DE
COPYRIGHT DATE 4/4/25

REVISIONS

SCHEMATIC SET / NOT FOR CONSTRUCTION



1 OVERALL 2ND FLOOR PLAN
1/16" = 1'-0"

A4.0B

PROJECT

FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET PENN VALLEY, CA

Pacific West Architecture

430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEW MEXICO - NEVADA - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

PACIFIC WEST ARCHITECTURE

PROJECT # AMG24-04

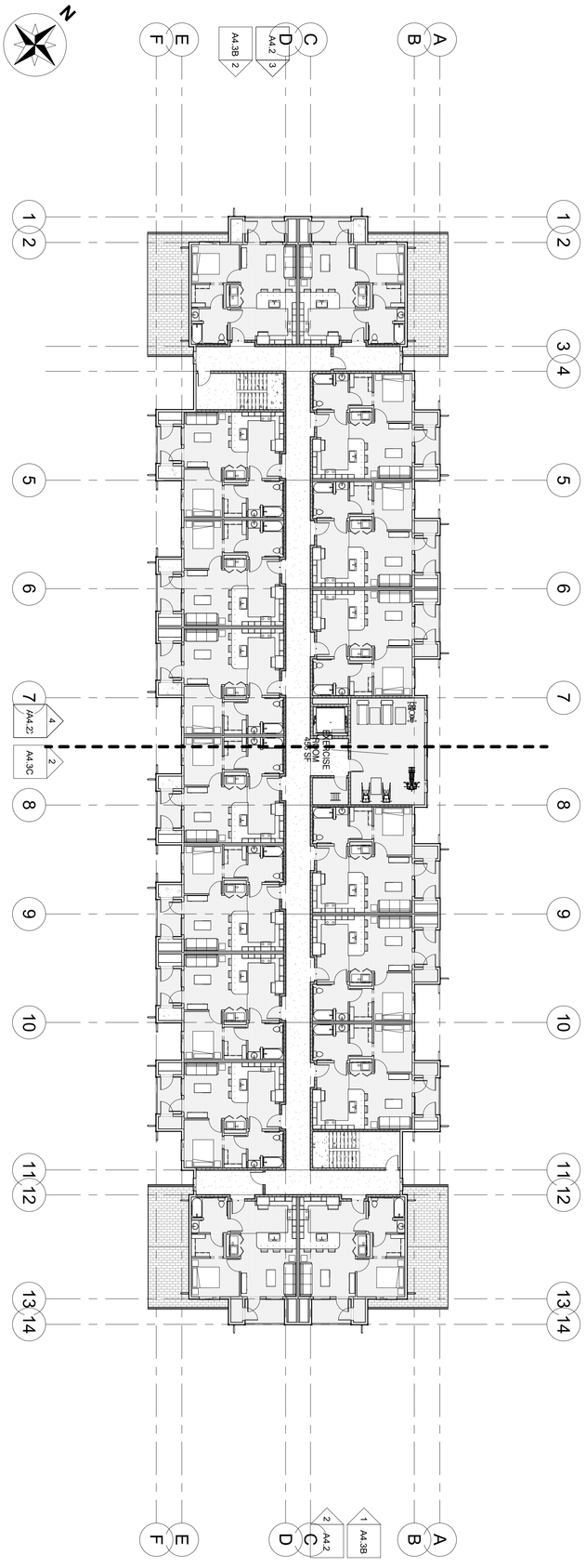
DRAWN BY DE

COPYRIGHT DATE 4/4/25

REVISIONS

SCHEMATIC SET / NOT FOR CONSTRUCTION

1 OVERALL 3RD FLOOR PLAN
1/16" = 1'-0"



A4.0C

PROJECT

FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET PENN VALLEY, CA

Pacific West Architecture

430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

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PACIFIC WEST ARCHITECTURE

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SCHEMATIC SET / NOT FOR CONSTRUCTION

1 ENLARGED 1ST FLOOR PLAN - A
1/8" = 1'-0"

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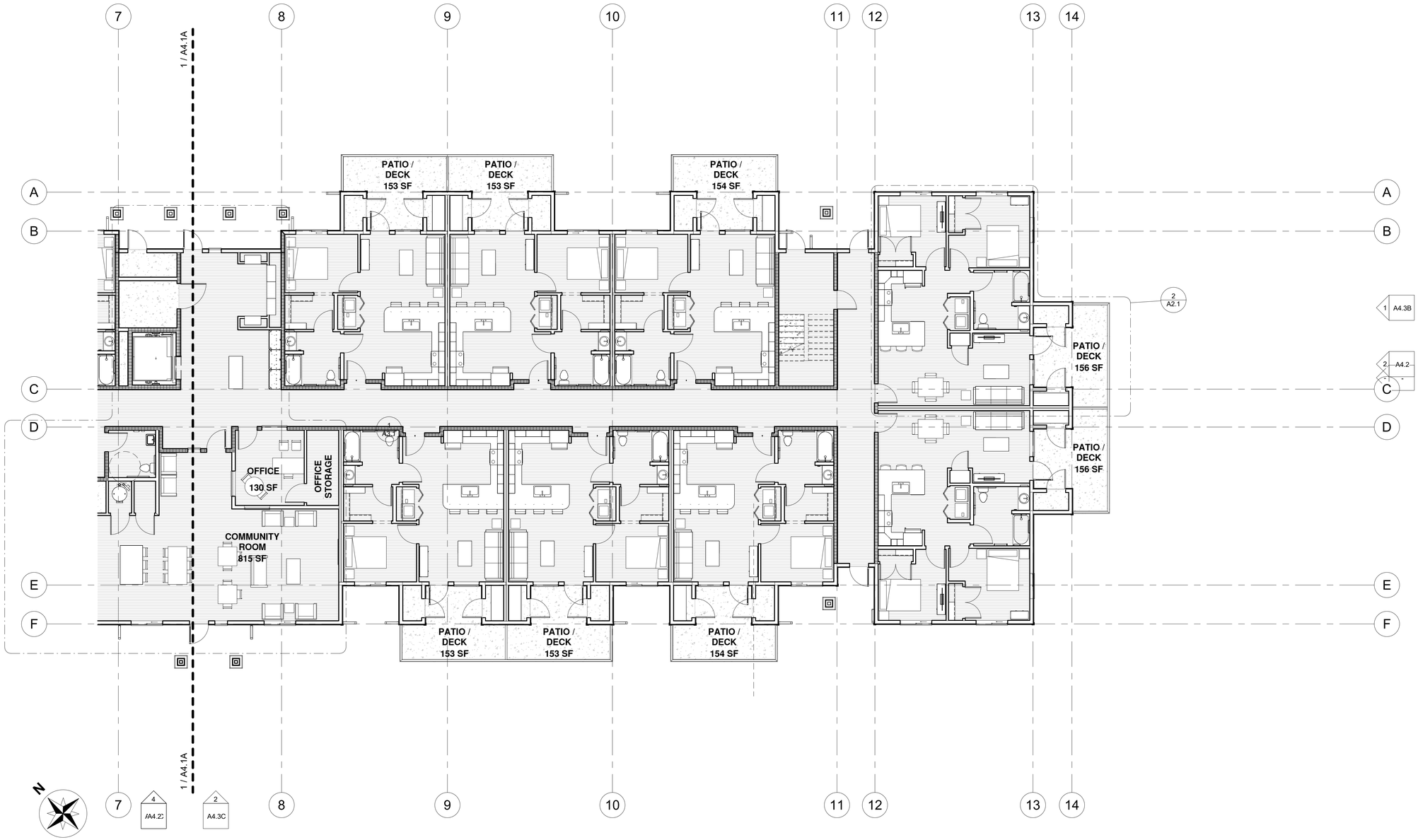
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
PENN VALLEY, CA

A4.1A

SCHEMATIC SET / NOT FOR CONSTRUCTION



1 ENLARGED 1ST FLOOR PLAN - B
1/8" = 1'-0"

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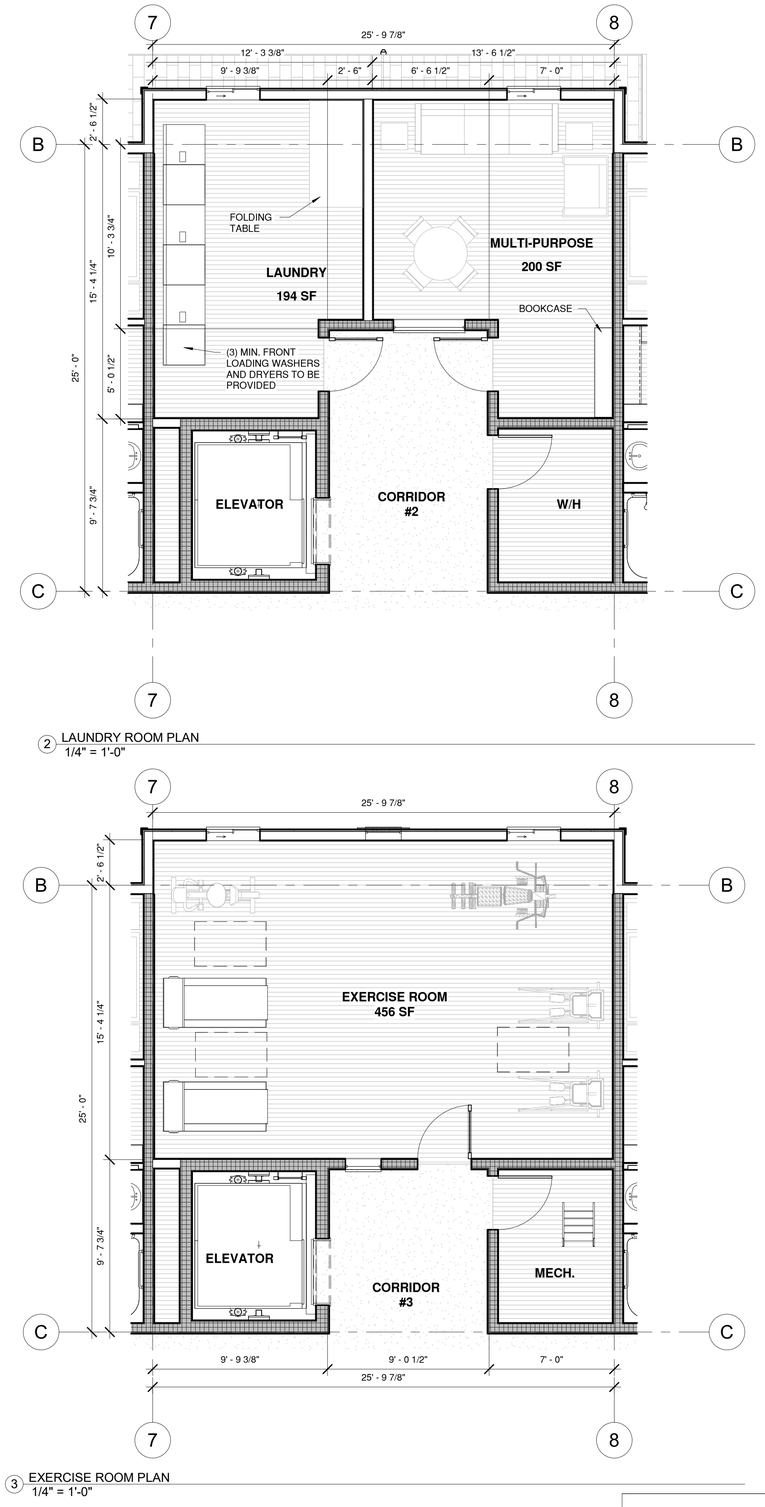
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
PENN VALLEY, CA

SCHEMATIC SET / NOT FOR CONSTRUCTION

A4.1B

1 COMMUNITY CENTER & MAIN ENTRANCE PLAN
1/4" = 1'-0"



2 LAUNDRY ROOM PLAN
1/4" = 1'-0"

3 EXERCISE ROOM PLAN
1/4" = 1'-0"

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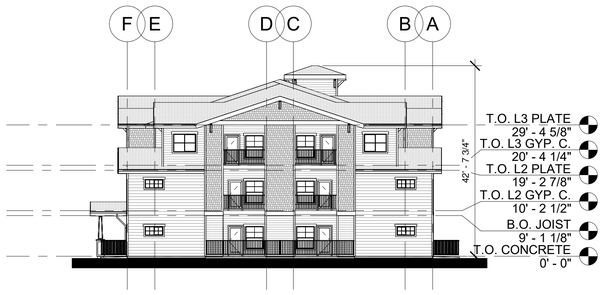
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

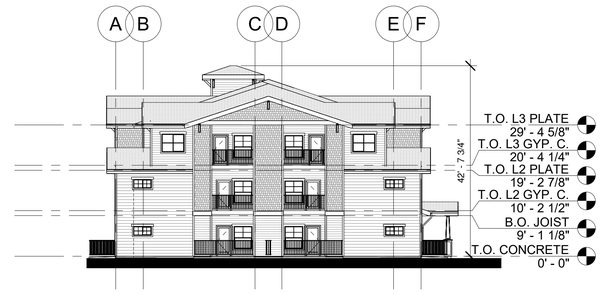
SCHEMATIC SET / NOT FOR CONSTRUCTION

A3.1
COMMUNITY CENTER PLAN

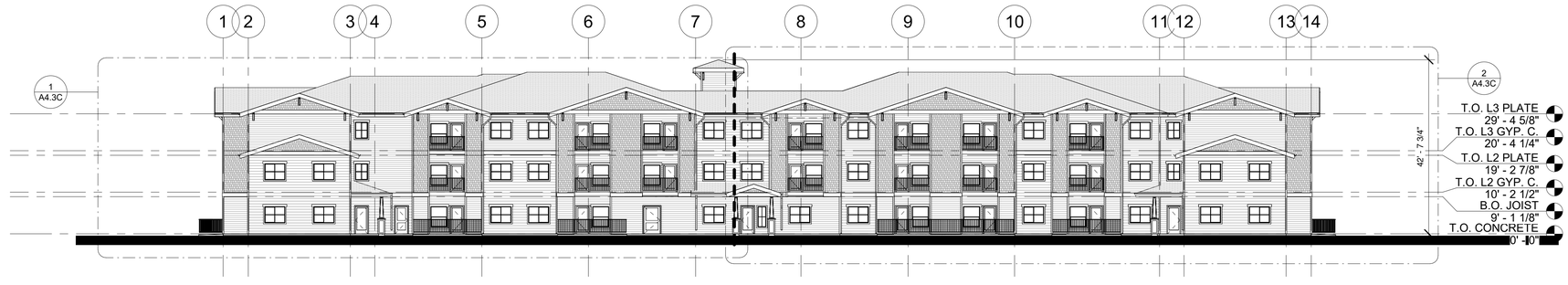
1 FRONT ELEVATION - OVERALL
1/16" = 1'-0"



2 LEFT ELEVATION - OVERALL
1/16" = 1'-0"



3 RIGHT ELEVATION - OVERALL
1/16" = 1'-0"



4 REAR ELEVATION - OVERALL
1/16" = 1'-0"

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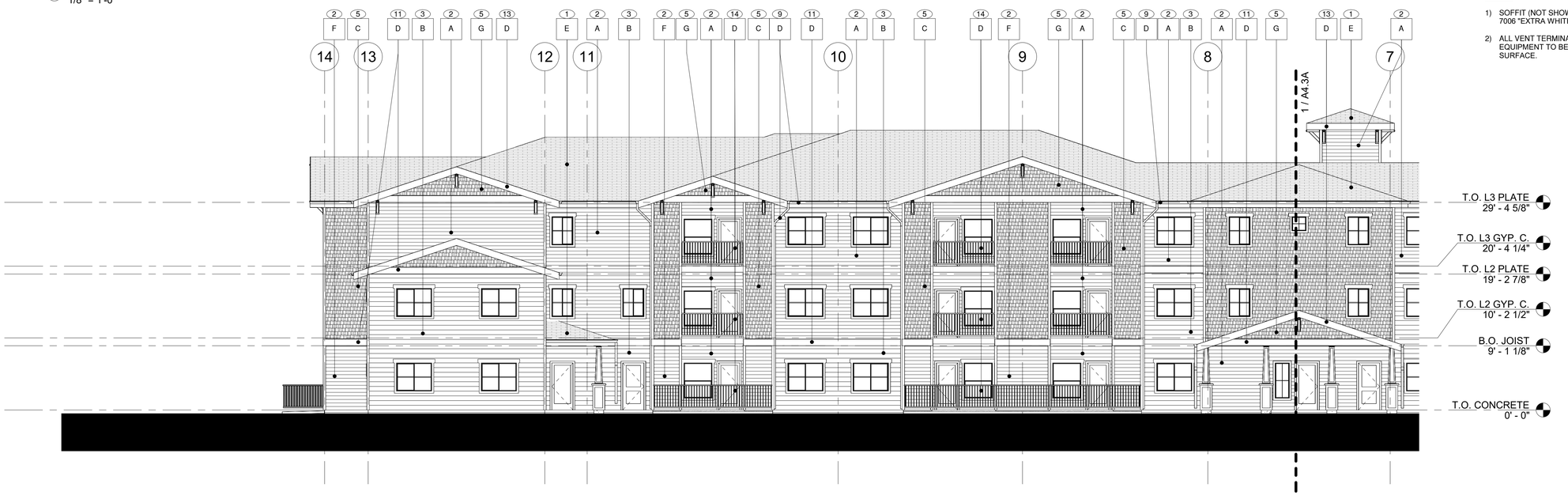
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
PENN VALLEY, CA

A4.2

SCHEMATIC SET / NOT FOR CONSTRUCTION

1 ENLARGED FRONT ELEVATION - A
1/8" = 1'-0"



2 ENLARGED FRONT ELEVATION - B
1/8" = 1'-0"

KEY NOTES

1. 20 YEAR TYPE 'A' COMPOSITE SHINGLE, TYP.
2. PAINTED HORIZONTAL CEMENTITIOUS SIDING WITH 6" REVEAL OR APPROVED EQUAL.
3. PAINTED HORIZONTAL CEMENTITIOUS SIDING WITH 8" REVEAL OR APPROVED EQUAL.
4. NOT USED.
5. PAINTED CEMENTITIOUS SHAKE SIDING OR APPROVED EQUAL.
6. WHITE VINYL WINDOWS. SEE FLOOR PLANS, WINDOW SCHEDULE, AND SPECIFICATIONS.
7. EXTERIOR DOOR. SEE FLOOR PLANS, DOOR SCHEDULE,AND SPECIFICATIONS, PAINT AS NOTED.
8. DOOR/WINDOW TRIM, PAINT AS NOTED.
9. PRE-FINISHED METAL GUTTER. SEE ROOF PLAN FOR EXTENT. COLOR AS NOTED, DOWNSPOUT TO MATCH.
10. NOT USED.
11. 2x HORZONTAL TRIM PAINTED, ALIGN TRIM AS SHOWN. SEE DETAIL 11/A8.1.
12. 4" VERTICAL TRIM, TYP.
13. 1x FINISH FASCIA, MDF OR EQUAL, SEE DETAILS.
14. METAL RAILING SYSTEM. COLOR AS NOTED. SEE BUILDING CROSS SECTIONS, DETAIL 1/A8.3, AND DETAIL 2/A8.3.
15. ARCHITECTURAL GABLE END VENT, PAINT AS NOTED.SEE ROOF PLANS.
16. NOT USED.
17. COLUMN, POST, AND BEAM, REFER TO BUILDING CROSSSECTIONS & DETAILS.
18. WOOD TRIM OR ARCHITECTURAL FEATURE. SEE BUILDING SECTIONS.
19. PAINTED METAL HANDRAIL.
20. 42" TALL CONDENSOR UNIT SCREEN WALL.
21. EXTERIOR MEP EQUIPMENT, SEE MEP PLANS FOR MORE INFORMATION.
22. SEMI-RECESSED FIRE EXTINGUISHER CABINET PER SPECIFICATIONS.
23. NOT USED.
24. PRE-FINISHED ROOF TO WALL FLASHING PER DETAIL 12/A8.1.

MATERIAL FINISHES:

- A SHERWIN WILLIAMS SW 7569 "STUCCO" OR EQUAL.
- B SHERWIN WILLIAMS SW 7702 "SPICED CIDER" OR EQUAL.
- C SHERWIN WILLIAMS SW 6385 "DOVER WHITE" OR EQUAL.
- D GUTTERS, DOWN SPOUTS, EXTERIOR DOORS, TRIM BOARDS, BELLY BANDS, OUTRIGGERS, CORBELS, METAL FASCIA WRAP, RAILINGS: COLOR TO MATCH SHERWIN WILLIAMS SW 6107 "NOMADIC DESERT" OR EQUAL.
- E PABCO ARCHITECTURAL SHINGLES "COLONIAL SLATE" OR EQUAL.
- F SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.
- G SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.

NOTES:

1) SOFFIT (NOT SHOWN) COLOR TO MATCH SHERWIN WILLIAMS SW 7006 "EXTRA WHITE" OR EQUAL..
2) ALL VENT TERMINATIONS AND OTHER EXTERNAL UTILITY EQUIPMENT TO BE PAINTED TO MATCH THE ADJACENT WALL SURFACE.

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(208) 461-0022
fax (208) 461-3267

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PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET PENN VALLEY, CA

A4.3A

SCHEMATIC SET / NOT FOR CONSTRUCTION

KEY NOTES

1. 20 YEAR TYPE 'A' COMPOSITE SHINGLE, TYP.
2. PAINTED HORIZONTAL CEMENTITIOUS SIDING WITH 6" REVEAL OR APPROVED EQUAL.
3. PAINTED HORIZONTAL CEMENTITIOUS SIDING WITH 8" REVEAL OR APPROVED EQUAL.
4. NOT USED.
5. PAINTED CEMENTITIOUS SHAKE SIDING OR APPROVED EQUAL.
6. WHITE VINYL WINDOWS. SEE FLOOR PLANS, WINDOW SCHEDULE, AND SPECIFICATIONS.
7. EXTERIOR DOOR. SEE FLOOR PLANS, DOOR SCHEDULE,AND SPECIFICATIONS, PAINT AS NOTED.
8. DOOR/WINDOW TRIM, PAINT AS NOTED.
9. PRE-FINISHED METAL GUTTER. SEE ROOF PLAN FOR EXTENT. COLOR AS NOTED, DOWNSPOUT TO MATCH.
10. NOT USED.
11. 2x HORZONTAL TRIM PAINTED, ALIGN TRIM AS SHOWN. SEE DETAIL 11/A8.1.
12. 4" VERTICAL TRIM, TYP.
13. 1x FINISH FASCIA, MDF OR EQUAL, SEE DETAILS.
14. METAL RAILING SYSTEM. COLOR AS NOTED. SEE BUILDING CROSS SECTIONS, DETAIL 1/A8.3; AND DETAIL 2/A8.3.
15. ARCHITECTURAL GABLE END VENT, PAINT AS NOTED.SEE ROOF PLANS.
16. NOT USED.
17. COLUMN, POST, AND BEAM, REFER TO BUILDING CROSSSECTIONS & DETAILS.
18. WOOD TRIM OR ARCHITECTURAL FEATURE. SEE BUILDING SECTIONS.
19. PAINTED METAL HANDRAIL.
20. 42" TALL CONDENSOR UNIT SCREEN WALL.
21. EXTERIOR MEP EQUIPMENT, SEE MEP PLANS FOR MORE INFORMATION.
22. SEMI-RECESSED FIRE EXTINGUISHER CABINET PER SPECIFICATIONS.
23. NOT USED.
24. PRE-FINISHED ROOF TO WALL FLASHING PER DETAIL 12/A8.1.

MATERIAL FINISHES:

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- E PABCO ARCHITECTURAL SHINGLES "COLONIAL SLATE" OR EQUAL.
- F SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.
- G SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.

NOTES:

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1 ENLARGED LEFT ELEVATION
1/8" = 1'-0"

2 ENLARGED RIGHT ELEVATION
1/8" = 1'-0"

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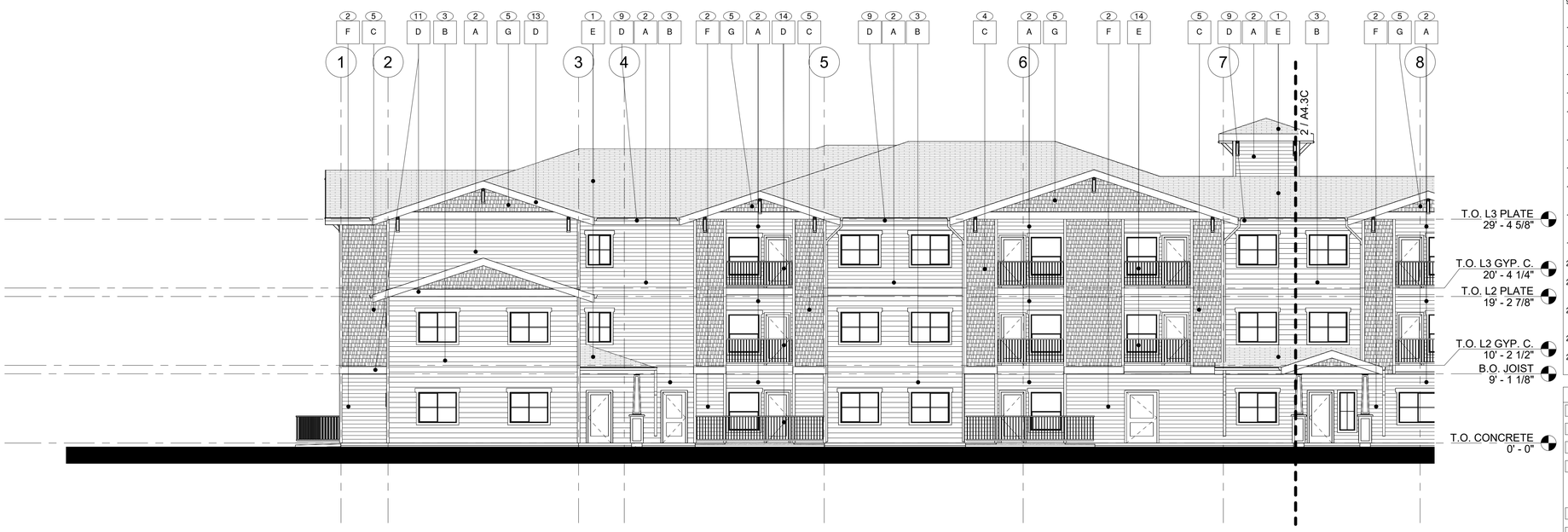
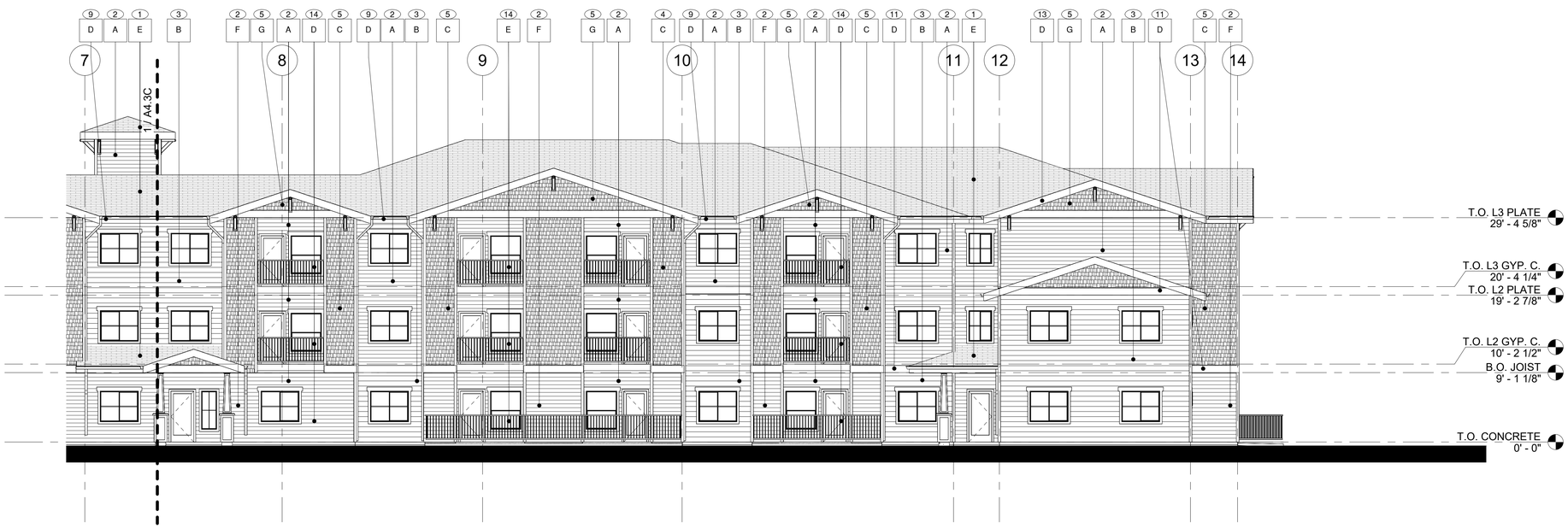
PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
PENN VALLEY, CA

A4.3B

SCHEMATIC SET / NOT FOR CONSTRUCTION



1 ENLARGED REAR ELEVATION - A
1/8" = 1'-0"



2 ENLARGED REAR ELEVATION - B
1/8" = 1'-0"

KEY NOTES

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3. PAINTED HORIZONTAL CEMENTITIOUS SIDING WITH 8" REVEAL OR APPROVED EQUAL.
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8. DOOR/WINDOW TRIM, PAINT AS NOTED.
9. PRE-FINISHED METAL GUTTER. SEE ROOF PLAN FOR EXTENT. COLOR AS NOTED, DOWNSPOUT TO MATCH.
10. NOT USED.
11. 2x HORZONTAL TRIM PAINTED, ALIGN TRIM AS SHOWN. SEE DETAIL 11/A8.1.
12. 4" VERTICAL TRIM, TYP.
13. 1x FINISH FASCIA, MDF OR EQUAL, SEE DETAILS.
14. METAL RAILING SYSTEM. COLOR AS NOTED. SEE BUILDING CROSS SECTIONS, DETAIL 1/A8.3, AND DETAIL 2/A8.3.
15. ARCHITECTURAL GABLE END VENT, PAINT AS NOTED.SEE ROOF PLANS.
16. NOT USED.
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- F SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.
- G SHERWIN WILLIAMS SW 2849 "WESTCHESTER GRAY" OR EQUAL.

NOTES:

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PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
PENN VALLEY, CA

A4.3C

SCHEMATIC SET / NOT FOR CONSTRUCTION

1 AERIAL VIEW FROM HAZELWOOD EXTENSION
N.T.S.

2 PANORAMIC SOUTH ELEVATION VIEW
N.T.S.

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PROJECT

FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET

FORT BRAGG, CA

A5.1C

COLOR RENDERINGS

SCHEMATIC SET / NOT FOR CONSTRUCTION

1 NORTH BUILDING ELEVATION AT MAIN ENTRY
N.T.S.

2 NORTHEAST BUILDING ELEVATION
N.T.S.

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FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET FORT BRAGG, CA

SCHEMATIC SET / NOT FOR CONSTRUCTION

A5.1A

COLOR RENDERINGS

1 SOUTHEAST BUILDING ELEVATION
N.T.S.

2 SOUTH BUILDING ELEVATION AT COMMON AMENITIES
N.T.S.

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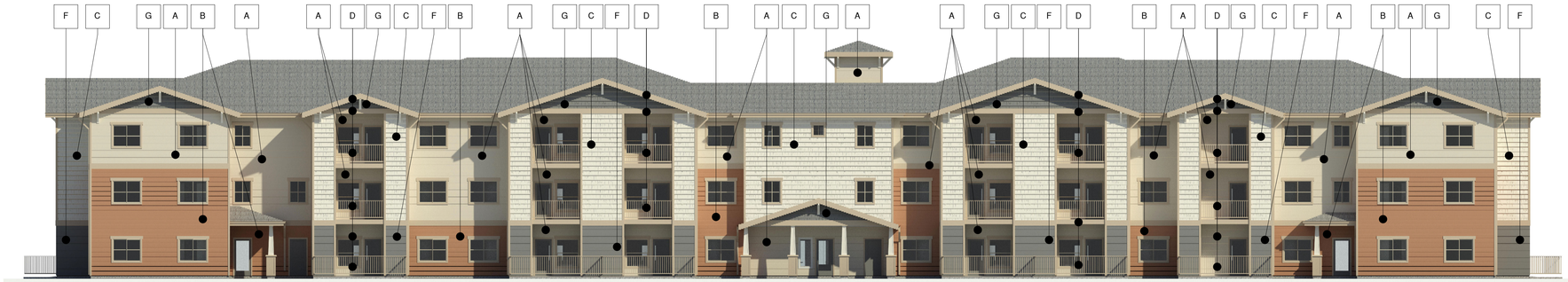
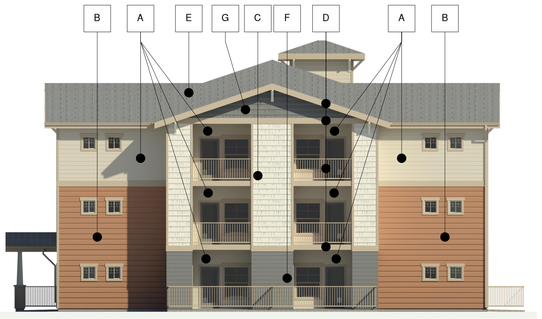
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

A5.1B
COLOR RENDERINGS

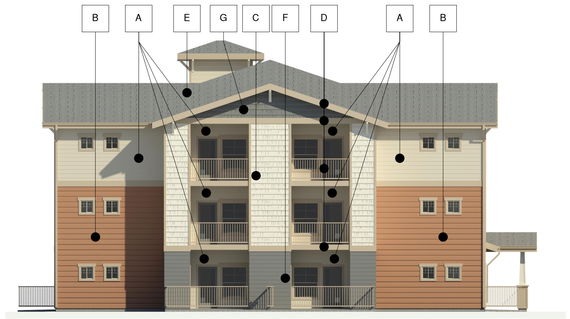
SCHEMATIC SET / NOT FOR CONSTRUCTION



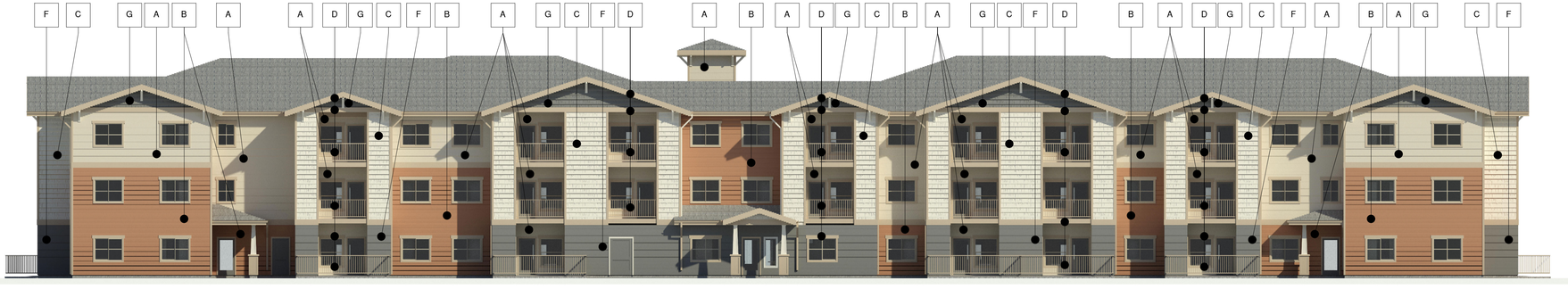
1 NORTH ELEVATION
N.T.S.



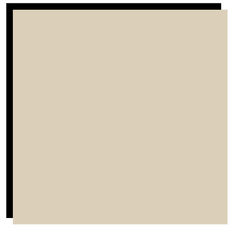
2 WEST ELEVATION
N.T.S.



3 EAST ELEVATION
N.T.S.

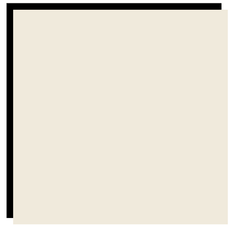


4 SOUTH ELEVATION
N.T.S.



[A] CEMENTITIOUS SIDING - 6" REVEAL
COLOR TO MATCH "STUCCO"
SHERWIN WILLIAMS SW 7569
OR EQUAL

[B] CEMENTITIOUS SIDING - 8" REVEAL
COLOR TO MATCH "SPICED CIDER"
SHERWIN WILLIAMS SW 7702
OR EQUAL



[C] CEMENTITIOUS SHAKE SIDING
COLOR TO MATCH "DOVER WHITE"
SHERWIN WILLIAMS SW 6385
OR EQUAL

[D] FASCIA, TRIM, RAILINGS, GUTTERS, & DOWNSPOUTS
COLOR TO MATCH "NOMADIC DESERT"
SHERWIN WILLIAMS SW 6107
OR EQUAL

[E] ROOFING
"COLONIAL SLATE"
PABCO ARCHITECTURAL SHINGLES
OR EQUAL

[F] CEMENTITIOUS SIDING - 6" REVEAL
COLOR TO MATCH "WESTCHESTER GRAY"
SHERWIN WILLIAMS SW 2849
OR EQUAL

[G] CEMENTITIOUS SHAKE SIDING
COLOR TO MATCH "WESTCHESTER GRAY"
SHERWIN WILLIAMS SW 2849
OR EQUAL

REVISIONS

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1/6/25

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DE

PROJECT #
AMG24-04

PACIFIC WEST ARCHITECTURE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEW MEXICO - NEVADA - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

A4.4
COLOR / MATERIAL BOARD

SCHEMATIC SET / NOT FOR CONSTRUCTION

2024-12-16 13:34

PLANT SCHEDULE

PHOTO	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QTY
TREES					
		CERCIS OCCIDENTALIS	WESTERN REDBUD MULTI-TRUNK	15 GAL	10
		LAVATERA ASSURGENTIFLORA	MALLOW	15 GAL	6
		PINUS CONTORTA	SHORE PINE	15 GAL	5
		PLATANUS RACEMOSA	CALIFORNIA SYCAMORE	15 GAL	10
		SEQUOIA SEMPERVIRENS 'APTOS BLUE'	COAST REDWOOD	15 GAL	15
		UMBELLULARIA CALIFORNICA	CALIFORNIA LAUREL	15 GAL	7

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	QTY
SHRUB AREAS					
	DECOMPOSED GRANITE	4'' DEPTH	---		1,104 SF
	SHRUB & GROUND COVER	PLANTING AREA	---		23,911 SF
	TURF SOD	DROUGHT TOLERANT FESCUE BLEND	---		3,852 SF
	VEGETABLE GARDEN		---		108 SF

PLANTING NOTES:

A. PLACE 2" DEPTH ¾" 'SONOMA GOLD' CRUSHED ROCK OVER LANDSCAPE FABRIC UNDER STAIRWAYS AND UTILITY ACCESS AREAS. INSTALL 'PERMALOC CLEAN LINE' ¼" X 4" ALUMINUM EDGING WITH MILL FINISH (MF), BETWEEN CRUSHED ROCK AND ADJACENT SHRUB BED.

B. PLACE 2-3" SIZE RIVER WASHED COBBLE OVER LANDSCAPE FABRIC WHERE INDICATED.

C. PLACE A 12" WIDE BAND OF 2-3" SIZE COBBLE OVER LANDSCAPE FABRIC AROUND THE PERIMETER OF BIO-RETENTION AREAS AND VEGETATED SWALES TO INTERCEPT DEBRIS PRIOR TO ENTERING INTO THE FILTRATION AREA.. NO EDGING REQUIRED. NOT SHOWN.

D. SOIL PREPARATION AND AMENDING:

1) AFTER ROUGH GRADING OPERATIONS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A SOILS REPORT THAT PROVIDES AN ANALYSIS OF THE EXISTING SOIL THAT STATES WHAT SOIL AMENDMENTS ARE REQUIRED FOR OPTIMUM PLANTING GROWTH. THE CONTRACTOR SHALL INCORPORATE THE RECOMMENDED QUANTITIES BY THOROUGHLY CULTIVATING ALL PLANTING AREAS TO A DEPTH OF EIGHT (8) INCHES. ROUGH FINISH GRADE ALL AREAS.

2) BROADCAST THE FOLLOWING SOIL AMENDMENTS. QUANTITIES GIVEN ARE PER 1,000 SQUARE FEET OF AREA.
- NITROGEN STABILIZED AND IRON FORTIFIED COMPOST:PER SOIL ANALYSIS RECOMMENDATIONS, OR 4 CY FOR BID PURPOSES
- PELLETIZED FERTILIZER (21-0-0) 10LBS., OR AS PER SOIL ANALYSIS RECOMMENDATIONS
- SOIL SULFUR: PER SOIL ANALYSIS RECOMMENDATIONS
- GYPSUM: 100 LBS

3) CULTIVATE AND THOROUGHLY INCORPORATE THE AMENDMENTS INTO THE TOP EIGHT (8) INCHES OF SOIL

4) DE-ROCK AREA TO BE PLANTED BY USING A MECHANICAL ROCK PICKER. ALL ROCKS AND DEBRIS LARGER THAN 1 INCH IN DIAMETER ARE TO BE REMOVED.

A. INSTALL WEED BARRIER FILTER FABRIC OVER DRIP IRRIGATION COMPONENTS, MANUFACTURED OF POLYPROPYLENE, 28 MIL THICKNESS, AND 2.6 OUNCES PER SQUARE YARD. DEWITT PRO-5, OR EQUAL. SECURE FABRIC SEGMENTS, TO SOIL, WITH 6"X1"X6" STEEL 'U' SHAPE PINS. OVERLAP ADJACENT FABRIC SEGMENTS A MINIMUM OF SIX (6) INCHES AND SECURE WITH PINS AT TWENTY FOUR (24) INCHES ON CENTER.

B. INSTALL 3" DEPTH FIR BARK MULCH OVER THE FILTER FABRIC ON ALL SHRUB AND GROUND COVER PLANTING AREAS. BARK MULCH SHALL BE WOOD RESIDUAL DERIVED AND MANUFACTURED FROM PINE, WHITE AND/OR RED FIR TREE BARK. THE MATERIAL SHALL BE EQUAL TO THAT REFERRED TO AS 'WALK ON BARK' IN THE TRADE.

GENERAL NOTES:

A. THE LANDSCAPE PLANS WILL COMPLY WITH THE REQUIREMENTS OF THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO)

B. ELEMENTS OF THE LANDSCAPE DOCUMENTATION PACKAGE:

(A) THE LANDSCAPE DOCUMENTATION PACKAGE SHALL INCLUDE THE FOLLOWING SEVEN (7) ELEMENTS:

(1) PROJECT INFORMATION TABLE:
- (A) DATE
- (B) PROJECT APPLICANT
- (C) PROJECT ADDRESS (IF AVAILABLE, A.P.N., PARCEL AND/OR LOT NUMBER(S))
- (D) TOTAL LANDSCAPE AREA (SQUARE FEET)
- (E) PROJECT TYPE (E.G., NEW, REHABILITATED, PUBLIC, PRIVATE, CEMETERY, HOMEOWNER INSTALLED)
- (F) WATER SUPPLY TYPE, RECYCLED, WELL) AND IDENTIFY THE LOCAL RETAIL WATER PURVEYOR
- (G) CHECKLIST OF ALL DOCUMENTS IN LANDSCAPE DOCUMENTATION PACKAGE
- (H) PROJECT CONTACTS TO INCLUDE CONTACT INFORMATION FOR THE PROJECT APPLICANT, PROPERTY OWNER, PREPARER OF PLANNING APPLICATION
- (I) APPLICANT SIGNATURE AND DATE WITH STATEMENT, "I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE

(2) WATER EFFICIENT LANDSCAPE WORKSHEET:
- (A) HYDRO ZONE INFORMATION TABLE
- (B) WATER BUDGET CALCULATIONS
  1. MAXIMUM APPLIED WATER ALLOWANCE (MAWA)
  2. ESTIMATED TOTAL WATER USE (ETWU)

(3) SOIL MANAGEMENT REPORT:

(4) LANDSCAPE DESIGN PLAN TO INCLUDE FENCING, UTILITY SCREENING AND TREE MANAGEMENT PLAN:

(5) IRRIGATION DESIGN PLAN:

(6) LANDSCAPE GRADING DESIGN PLAN: AND

(7) CERTIFICATES OF COMPLETION AND INSTALLATION.

THOMAS H. PHELPS
LANDSCAPE ARCHITECTURE
IDLA, INC.
California Landscape Architect #4122
ID #LA-16771 * HI #LA-16112
AZ #76633

P.O.BOX 170129
Boise, Idaho 83717
thp@idlainc.net
(208) 906-1300

REVISIONS

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12/18/24

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DE

PROJECT #
AMG24-04

PACIFIC WEST ARCHITECTURE

LICENSED LANDSCAPE ARCHITECT
THOMAS H. PHELPS #4122
Signature
06/31/25
Renewal Date
STATE OF CALIFORNIA

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83816
(208) 461-0022
fax (208) 461-3267

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SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

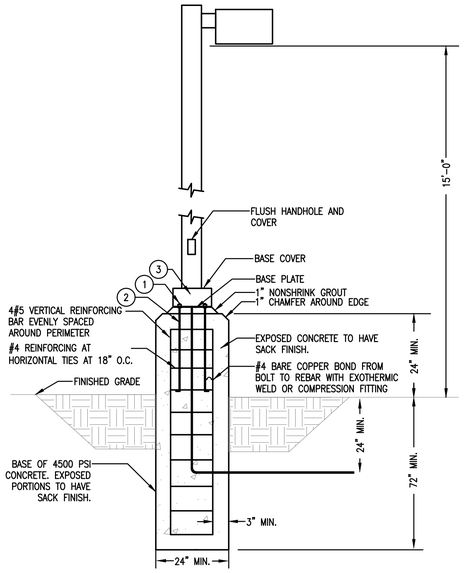
PROJECT

FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET FORT BRAGG, CA

LANDSCAPE MASTER PLAN

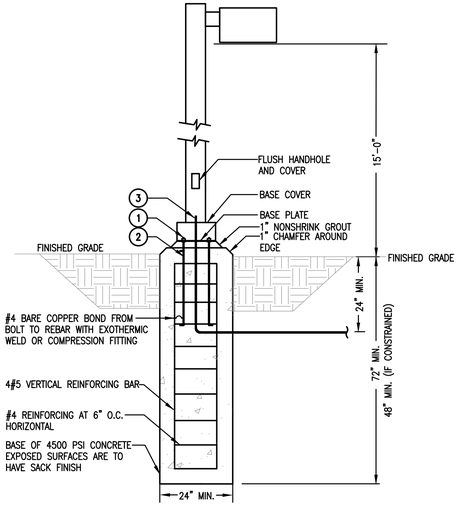
SCHEMATIC SET / NOT FOR CONSTRUCTION



POLE BASE DETAIL KEYED NOTES:

1. PROVIDE GALVANIZED LOCKNUTS AND LOCKWASHERS.
2. PROVIDE ANCHOR BOLTS TO MATCH PATTERN AS PROVIDED BY MANUFACTURER.
3. STUB 3/4"C–6" ABOVE POLE BASE.

1 POLE BASE DETAIL
SCALE: N.T.S.



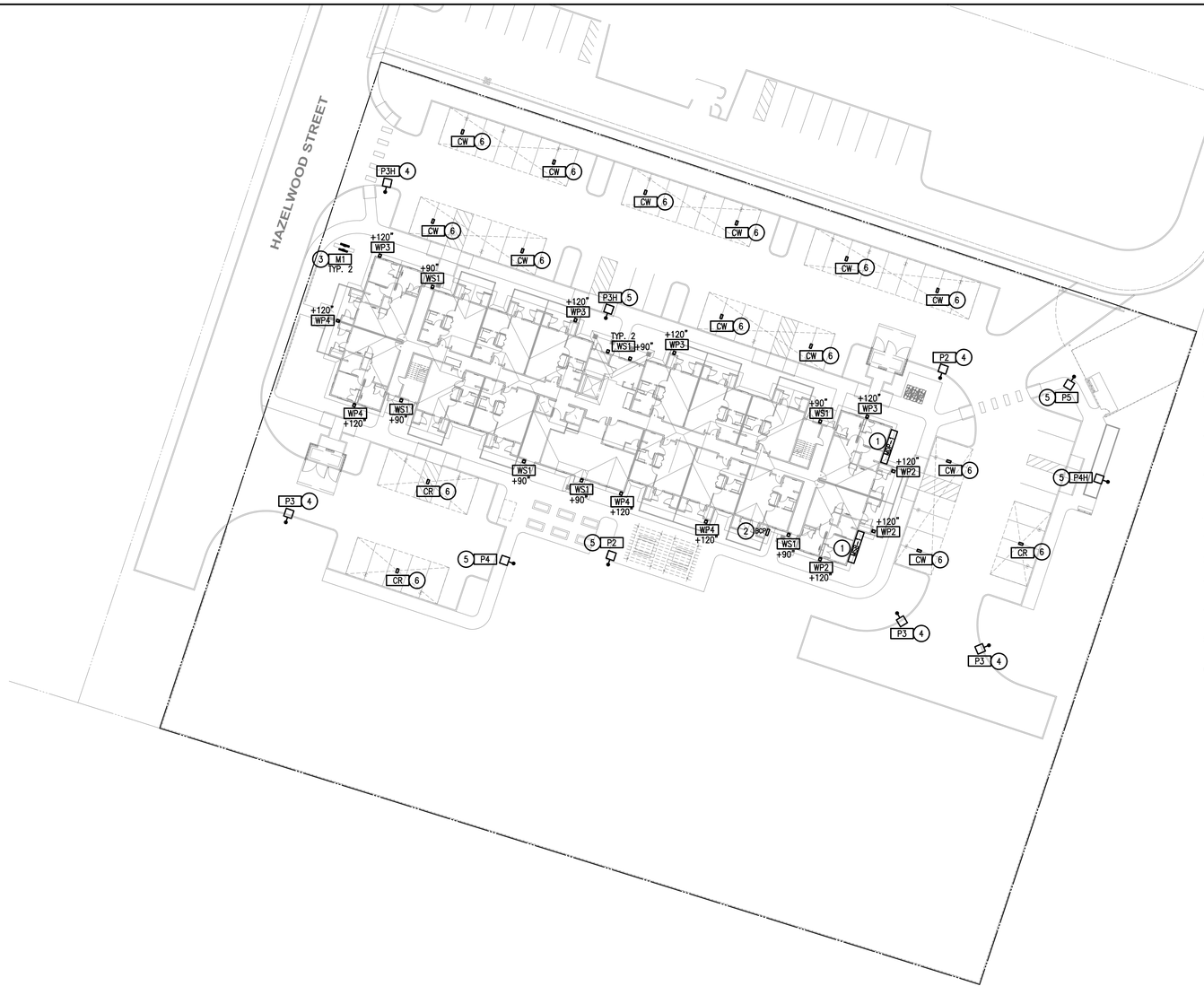
POLE BASE DETAIL GENERAL NOTES:

1. WHERE CONCRETE SLAB OR PAVING IS IN DIRECT CONTACT WITH POLE BASE, THE BASE IS CONSTRAINED AND THE FOOTING EMBED MAY BE REDUCED AS NOTED.

POLE BASE DETAIL KEYED NOTES:

1. PROVIDE GALVANIZED LOCKNUTS AND LOCKWASHERS.
2. PROVIDE ANCHOR BOLTS TO MATCH PATTERN AS PROVIDED BY MANUFACTURER.
3. STUB 3/4"C–6" ABOVE POLE BASE.

2 POLE BASE DETAIL
SCALE: N.T.S.



NORTH

SITE ELECTRICAL PLAN
SCALE: 1" = 30'-0"

LUMINAIRE SCHEDULE								
TAG	MANUFACTURER	CATALOG NUMBER	EM OPTION	LAMPS	WATTS	VOLTS	MOUNTING	DESCRIPTION
CR	LITHONIA	DSXSC LED 10C 700 30K T5R MVOLT		LED	26	120	CANOPY	CARPORT LIGHT FIXTURE
CW	LITHONIA	DSXSC LED 10C 700 30K T5W MVOLT		LED	26	120	CANOPY	CARPORT LIGHT FIXTURE
M1	ECOSENSE	L50/E/48/10/40/90/9X59/MNT-L-LBKT		LED	12	120	SIGN	MONUMENT SIGN
P2	LITHONIA	DSX0 LED P1 30K 80CRI T2M		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
P3	LITHONIA	DSX0 LED P1 30K 80CRI T3M		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
P3H	LITHONIA	DSX0 LED P1 30K 80CRI T3M HS		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
P4	LITHONIA	DSX0 LED P1 30K 80CRI T4M		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
P4H	LITHONIA	DSX0 LED P1 30K 70CRI T4M HS		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
P5	LITHONIA	DSX0 LED P1 30K 80CRI T5M		LED	33.2	120	POLE	POLE MOUNTED AREA LIGHT
WP2	LITHONIA	WDGE2 LED P1 30K 80CRI T2M		LED	11.2	120	WALL	WALL MOUNTED AREA LIGHT
WP3	LITHONIA	WDGE2 LED P1 30K 80CRI T3M		LED	11.2	120	WALL	WALL MOUNTED AREA LIGHT
WP4	LITHONIA	WDGE2 LED P1 30K 80CRI T4M		LED	11.2	120	WALL	WALL MOUNTED AREA LIGHT
WS1	LITHONIA	WPX0 LED ALO-3 30K MVOLT		LED	9	120	WALL	SLIM WALL SCONCE

General Notes:
Design is based upon named manufacturer. Alternates approved upon review.
Contractor shall provide and coordinate all fixture mounting accessories.
Refer to lighting plans for quantity of fixtures.
Provide Lithonia SSS pole sized per site electrical details.

GENERAL SITE NOTES:

1. CONTRACTOR SHALL CONTACT UNDERGROUND UTILITY LOCATING SERVICE PRIOR TO EXCAVATION FOR ELECTRICAL WORK.
2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH ALL OTHER SITE DISCIPLINES INCLUDING BUT NOT LIMITED TO TRADES ASSOCIATED WITH WATER, SEWER, AND GAS INSTALLATIONS.
3. ROUTE ALL EXTERIOR LIGHTING THROUGH A LIGHTING CONTACTOR. PROVIDE PHOTO–CELL ON ROOF AND ELECTRO–MECHANICAL 7–DAY TIME CLOCK ADJACENT TO CONTACTOR CABINET.
4. REFER TO SHEET E1.01 FOR LIGHT FIXTURE SPECIFICATIONS.

SITE KEY NOTES: (#)

1. APPROXIMATE LOCATION OF BUILDING ELECTRICAL GEAR.
2. APPROXIMATE LOCATION OF LOW VOLTAGE EQUIPMENT 'BCP/TTB'.
3. MONUMENT SIGN LIGHTING. FIXTURE TO BE AIMED DOWN AND ILLUMINATE ONLY THE SIGN FACE.
4. REFER TO SITE POLE DETAIL 1 ON THIS SHEET FOR LIGHT POLES LOCATED IN VEHICLE IMPACT ZONES.
5. REFER TO SITE POLE DETAIL 2 ON THIS SHEET FOR LIGHT POLES LOCATED IN LANDSCAPE ZONES.
6. FIXTURE MOUNTED TO BOTTOM SIDE OF CARPORT DECK.

REVISIONS

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PACIFIC WEST ARCHITECTURE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267
ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEVADA - NEW MEXICO - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

PROJECT
FORT BRAGG SENIOR APARTMENTS
FORT BRAGG, CA
HAZELWOOD STREET

SCHEMATIC SET / NOT FOR CONSTRUCTION

E1.00

SITE PHOTOMETRIC PLAN

SCALE: 1" = 30'-0"

NORTH

REVISIONS

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Pacific West Architecture

430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83616
(208) 461-0022
fax (208) 461-3267

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PROJECT

FORT BRAGG SENIOR APARTMENTS

HAZELWOOD STREET

FORT BRAGG, CA

E1.01

SCHEMATIC SET / NOT FOR CONSTRUCTION

D-Series
LED Surface Canopy

BAA BABA

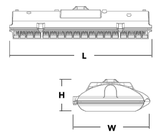
d-series

Catalog Number	SEE LUMINAIRE SCHEDULE
Notes	
Type	CR, CW

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Length: 17-3/4" (45.1 cm)
Width: 8-1/2" (21.6 cm)
Height: 3-7/16" (8.7 cm)
Weight (max): 16 lbs (7.3 kg)



Introduction

The D-Series LED Surface Canopy luminaire is ideal for covered walkways or drive-thrus, semi-covered outdoor aisles, and walk-in coolers and freezers. Its five optical choices provide the design flexibility to potentially reduce luminaire counts while still meeting IES criteria, lowering overall energy consumption.

Its expected service life of over 100,000 hours (20 years of nighttime operation) combined with the available motion/ambient sensor offers an extremely low maintenance solution that yields quick payback.

Ordering Information

EXAMPLE: DSXSC LED 20C 700 40K T5M MVOLT SRM DWHXD

DSXSC LED

Series	LEDs	Drive current	Color temperature	Distribution	Voltage	Mounting
DSXSC LED	10C 10 LEDs (one engine) [4,5] 20C 20 LEDs (two engines) 30C 30 LEDs (three engines)	350 350 mA 530 530 mA 700 700 mA 1000 1000 mA (1 A)	30K 3000 K 40K 4000 K 50K 5000 K AMBPC Amber phosphor converted [1]	T5E Type V, entryway [4] T5M Type V, medium T5W Type V, wide T5R Type V, rectangular ASY Asymmetric	MVOLT [3] 277 [3] 120 [3] 347 [3] 208 [3] 480 [3] 240 [3]	**Shipped included** SRM Surface mount (12-inch length supply leads)

Options			Finish (required)
Shipped installed HS House-side shield (housing visor) [7] SF Single fuse (120, 277, 347V) [6] DF Double fuse (208, 240, 480V) [6] SPD Separate surge protector [8] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) [48,51] PIR Motion/ambient sensor for 8-15' mounting heights [12] PIRH Motion/ambient sensor for 15-30' mounting heights [12]	PIR3FC3V Motion/ambient sensor for 8-15' mounting heights and for typical applications requiring daylight harvesting and Title 24 compliance [12] PIRH3FC3V Motion/ambient sensor for 15-30' mounting heights and typical applications requiring daylight harvesting and Title 24 compliance [12]	**Shipped separately** BDS Bird shroud [9]	DWHXD White DNAXD Natural aluminum DDBXD Dark bronze

Accessories

Ordered and shipped separately.

DSXSOS U House-side shield (1 per light engine)
DSXSCBDSU DWHXD U Bird shroud for SRM on surface J-box only, white (specify finish)

NOTES

1 Available with 700mA or 1000mA option only.
2 Not available with 347 or 480V.
3 AMBPC only available with 530mA or 700mA.
4 DesignLights Consortium qualified.
5 MVOLT driver operates on any line voltage from 120-277V (50/60 Hz). Specify 120, 208, 240 or 277 options only when ordering with fusing (SF, DF options).
6 N/A with one light engine (10C). Only available with 700mA or 1000mA.
7 Also available as a separate accessory; see Accessories information at left.
8 Single fuse (SF) requires 120, 277 or 347 voltage option. Double fuse (DF) requires 208, 240 or 480 voltage option.
9 See the electrical section on page 3 for more details.
10 DMG not available with all PIR options
11 Dimming driver standard. Available in layouts up to 30'. Not available with 347V or 480V. Not available with fusing.
12 PIR & PIR3FC3V specifies the Acuity Controls SBOR 16 OOP motion/ambient sensor, the PIRH & PIRH3FC3V specifies the Acuity Controls SBOR 6 OOP motion/ambient sensor.

D-Series Size 0
LED Area Luminaire

BAA BABA

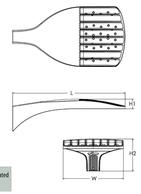
d-series

Catalog Number	SEE LUMINAIRE SCHEDULE
Notes	
Type	P2, P3, P3H, P4, P4H, P5

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

EPA: 0.44 ft² (0.04 m²)
Length: 26.18" (66.5 cm)
Width: 14.06" (35.7 cm)
Height H1: 2.26" (5.7 cm)
Height H2: 7.46" (18.9 cm)
Weight: 23 lbs (10.4 kg)



Introduction

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficacy, long-life luminaire.

The photometric performance results in sites with excellent uniformity, greater pole spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications, with typical energy savings of 70% and expected service life of over 100,000 hours.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

Design Select options indicated by this color background.

Ordering Information

EXAMPLE: DSX0 LED P6 40K 70CRI T3M MVOLT SPA NLTAIR2 PIRHN DDBXD

DSX0 LED

Series	LEDs	Color temperature [1]	Color Rendering Index [1]	Distribution	Voltage	Mounting
DSX0 LED	**Forward optics** P1 P5 P2 P6 P3 P7 P4 **Rotated optics** P10 [1] P12 [1] P11 [1] P13 [1]	(this section 70CRI only) 30K 3000K 40K 4000K 50K 5000K (this section 80CRI only, extended lead times apply) 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	70CRI 70CRI 70CRI 80CRI 80CRI 80CRI 80CRI 80CRI	AFR Automotive front row T1S Type I short T2M Type II medium T3M Type III medium T3LG Type III low glare [1] T4M Type IV medium T4LG Type IV low glare [1] TFTM Forward throw medium T5M Type V medium T5LG Type V low glare T5W Type V wide BLC3 Type III backlight control [1] BLC4 Type IV backlight control [1] LCCO Left corner cutoff [1] RCCO Right corner cutoff [1]	MVOLT (120V-277V) [1,2] HVOLT (347V-480V) [1,2] XVOLT (277V-480V) [1,2] 120 [16,28] 208 [16,28] 240 [16,28] 277 [16,28] 347 [16,28] 480 [16,28]	**Shipped included** SPA Square pole mounting (#8 drilling, 3.5" min. SQ pole) RPA Round pole mounting (#8 drilling, 3" min. RND pole) SPA5 Square pole mounting (#5 drilling, 3" min. SQ pole) [1] RPA5 Round pole mounting (#5 drilling, 3" min. RND pole) [1] SPA8N Square narrow pole mounting (#8 drilling, 3" min. SQ pole) WBA Wall bracket [9] MA Mast arm adapter (mounts on 2 3/8" OD horizontal tenon)

Control options		Other options		Finish (required)
Shipped installed NLTAIR2 PIRHN nLight AIR gen 2 enabled with bi-level motion / ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc [13,15,16,18] PIR High/low, motion/ambient sensor, 8-40' mounting height, ambient sensor enabled at 2fc [13,18,19] PER NEMA twist-lock receptacle only (controls ordered separate) [19] PER5 Five-pin receptacle only (controls ordered separate) [16,19]	PER7 Seven-pin receptacle only (controls ordered separate) [19,39] FAO Field adjustable output [13,18] BL30 Bi-level switched dimming, 30% [16,19] BL50 Bi-level switched dimming, 50% [16,19] DMG 0-10v dimming wires pulled outside fixture (for use with an external control, ordered separately) [17]	**Shipped installed** HS Houseside shield (black finish standard) [47] L90 Left rotated optics [1] R90 Right rotated optics [1] CCE Coastal Construction [22] HA 50°C ambient operation [22] BAA Buy America(n) Act Compliant SF Single fuse (120, 277, 347V) [24] DF Double fuse (208, 240, 480V) [24] **Shipped separately** EGSR External Glare Shield (reversible, field install required, matches housing finish) BSDB Bird Spikes (field install required)	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white

TRÖV

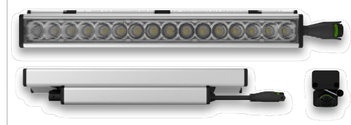
OVERVIEW • SPECIFICATIONS • ORDERING | INTERIOR + EXTERIOR | **L50 GRAZE**

DATE	PROJECT	FIRM	L50/E/48/10/40/90/9X59/MNT-L-LBKT	TYPE	M1

THE L50 INCLUDES PATENTED OPTICAL DESIGN THAT DELIVERS THE WIDEST RANGE OF BEAM ANGLE OPTIONS FOR PRECISE COVE, WALL GRAZING, WALL WASHING OR LINE OF LIGHT APPLICATIONS. EXCLUSIVE FLIP TO FLAT™ HINGE DESIGN PROVIDES FLEXIBILITY WHEN MANAGING SMALL COVE DETAILS. TROV OFFERS SMOOTH, FLICKER FREE DIMMING DOWN TO 0%.

FEATURES :

- DIM TO 0%, ELV REVERSE PHASE
- 24 BEAM ANGLES
- MULTI-VOLT
- FLIP TO FLAT™
- 6 CCT OPTIONS
- 80+ AND 90+ CRI OPTIONS
- IP54 INTERIOR AND IP66 EXTERIOR OPTIONS



MODEL/ SIZE	INTERIOR/ EXTERIOR	LENGTH	POWER	CCT	CRI	VOLTAGE	OPTICS
L50	I E	12" 48"	02 04 06 08 10 12	WHITE CCT 22 27 30 35 40 50	MONO COLOR 80 90* AM RD***	MULT (120-277V)	GRAZING 9 x 9 9 x 17 9 x 29 9 x 59 15 x 15 15 x 33 15 x 65 COVE 120° Asym LINE OF LIGHT LOL WASHING 25 x 25 25 x 33 25 x 45 25 x 75 33 x 33 33 x 25 40 x 40 40 x 48 40 x 60 40 x 90 70 x 70 70 x 40 70 x 90

EXAMPLE: L50-I-48-10-27-90-MULT-15x65 *90 CRI not available in 2200K or 5000K **120 is only available with Exterior option. See L35 spec sheet for interior cove options. ***Red is not available in 12W or 10W. ****Green is not available in 12W.

PERFORMANCE	WATTS	OPTIC	LUMEN OUTPUT	EFFICACY
	2W	9°x 29°	158 lm/LF (519 lm/m)	79 lm/W
	4W	9°x 29°	389 lm/LF (1277 lm/m)	97 lm/W
	6W	9°x 29°	620 lm/LF (2035 lm/m)	103 lm/W
	8W	9°x 29°	864 lm/LF (2833 lm/m)	108 lm/W
	10W	9°x 29°	1046 lm/LF (3432 lm/m)	105 lm/W
	12W	9°x 29°	1217 lm/LF (3990 lm/m)	101 lm/W

ALL LUMEN DATA IS FROM 4000K 80CRI FIXTURES. PLEASE SEE PHOTOMETRY SPEC SHEET FOR ADDITIONAL LUMEN DATA.

COLOR RENDERING INDEX	80+, 90+				
COLOR CONSISTENCY	2-STEP MACADAM ELLIPSE				
LUMEN DEPRECIATION / RATED LIFE	WATTS	L70 @ 25C	L70 @ 50C	L90 @ 25C	L90 @ 50C
	2W-12W	>100,000	>70,000	>50,000	>25,000

*CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR

* CALCULATIONS FOR LED FIXTURES ARE BASED ON MEASUREMENTS THAT COMPLY WITH IES LM-80 TESTING PROCEDURES AND IES TM-21 CALCULATOR

ELECTRICAL												
POWER CONSUMPTION	2W*/LF (6.6W/M) ; 4W/LF (13.2W/M) ; 6W/LF (19.8W/M) ; 8W/LF (26.4W/M) ; 10W/LF (33W/M) ; 12W/FL (39.6W/M) * 3W/LF (9.9W/M) at 220V -277V											
MAX FIXTURE RUN LENGTH		2W/LF		4W/LF		6W/LF		8W/LF		10W/LF		12W/LF
	Volts	Max Run all T	Max Run all 4'	Max Run all T	Max Run all 4'	Max Run all T	Max Run all 4'	Max Run all T	Max Run all 4'	Max Run all T	Max Run all 4'	Max Run all T	Max Run all 4'
	120	214	214	186	186	152	152	114	114	91	91	76	76
	220	374	392	340	340	277	277	209	209	95	167	95	139
	277	374	494	374	428	349	349	263	263	95	190	95	176
POWER FACTOR	4W, 6W, 8W, 10W, 12W >0.9, 2W<0.9											
OPERATING VOLTAGE	MULTIVOLT: 110-277VAC, 50/60 Hz											
DRIVER	INTEGRAL TO FIXTURE; DE-RATED POWER AND SYNCHRONOUS START-UP AT FULL BRIGHTNESS											
STARTUP TEMPERATURE	-40°F TO 122°F (-40°C TO 50°C)											
OPERATING TEMPERATURE	-40°F TO 122°F (-40°C TO 50°C)											
STORAGE TEMPERATURE	-40°F TO 176°F (-40°C TO 80°C)											

NOTE: Information on this Spec Sheet is subject to change, please visit ecosenselighting.com/downloads/rise for the most updated information.

ECOSENSE
ECOSENSE LIGHTING INC.
837 NORTH SPRING STREET
SUITE 103
LOS ANGELES, CA 90012
P • 310.496.6255
F • 310.496.6256
T • 855.632.6736
855.6.ECOSEN

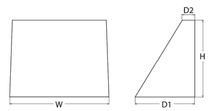
WDGE2 LED
Architectural Wall Sconce
Precision Refractive Optic

Catalog Number	SEE LUMINAIRE SCHEDULE
Notes	
Type	WP2, WP3, WP4

Hit the Tab key or mouse over the page to see all interactive elements.

Specifications

Depth (D1): 7"
Depth (D2): 1.5"
Height: 9"
Width: 11.5"
Weight: (without options) 13.5 lbs



Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true site-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 with industry leading precision refractive optics provides great uniform distribution and optical control. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect.
*See ordering tree for details

WDGE LED Family Overview

Luminaire	Optics	Standard EM, 0°C	Cold EM, -20°C	Sensor	Approximate Lumens (4000K, 80CRI) P0	P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		--	750	1,200	2,000	--	--	--	--
WDGE2 LED	Visual Comfort	10W	18W	Standalone / nLight	--	1,200	2,000	3,000	4,500	6,000	--
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	700	1,200	2,000	3,200	4,200	--	--
WDGE3 LED	Precision Refractive	15W	18W	Standalone / nLight	--	7,500	8,500	10,000	12,000	--	--
WDGE4 LED	Precision Refractive			Standalone / nLight	--	12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI T3M MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Distribution	Voltage	Mounting
WDGE2 LED	P0 [1] P1 [1] P2 [1] P3 [1] P4 [1]	27K 2700K 30K 3000K 40K 4000K 50K 5000K AMB [1] Amber	70CRI [2] 80CRI LW [1] Limited Wavelength	T1S Type I Short T2M Type II Medium T3M Type III Medium T4M Type IV Medium TFTM Forward Throw Medium	MVOLT 347 [1] 480 [1]	**Shipped included** SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket (dry / damp locations only) [3] **Shipped separately** AWS 3/8inch Architectural wall spacer PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available

Options			Finish
E10WH Emergency battery backup, Certified in CA Title 20 MAEDBS (10W, 5°C min) E20WC Emergency battery backup, Certified in CA Title 20 MAEDBS (18W, -20°C min) PE Photocell, Button type DMG [1] 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately) BCE Bottom conduit entry for back box (PBBW). Total of 4 entry points. CCE Coastal Construction	**Standalone Sensors/Controls** PIR Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external dusk to dawn switching. PIRH Bi-level (100/35%) motion sensor for 15-30' mounting heights. Intended for use on switched circuits with external dusk to dawn switching PIR1FC3V Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation. PIRH1FC3V Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation. **Networked Sensors/Controls** NLTAIR2 PIR Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 8-15' mounting heights. NLTAIR2 PIRH Embedded wireless controls by nLight with Passive Infrared Occ sensor and on/off photocell for 15-30' mounting heights. NLTAIREM2 Embedded wireless controls by nLight with UL924 listed emergency operation, Passive Infrared Occ sensor and on/off. PIRH photocell for 15-30' mounting heights See page 4 for out of box functionality	DDBXD Dark bronze DBLXD Black DNAXD Natural aluminum DWHXD White DSSXD Sandstone DDBTXD Textured dark bronze DBLBXD Textured black DNATXD Textured natural aluminum DWHGXD Textured white DSSTXD Textured sandstone

CS CONTRACTOR SELECT

LITHONIA LIGHTING.

Catalog Number	WPX0 LED ALO-3 30K MVOLT
Notes	
Type	WS1

Contractor Select™

WPX LED
Wall packs

The WPX LED wall packs are energy-efficient, cost-effective, and aesthetically appealing full-cut off solution for both new construction and HID wall pack replacement/renovation opportunities. Reliable IP66 construction and excellent LED lumen maintenance ensure a long service life.

FEATURES:

- Architectural design at very economical prices
- Energy efficient - payback in less than two years
- Wide range of configuration options available

Note : WPX3 lumen package and all the WPX configuration options are not included in the Contractor Select program. For more information, please visit WPX LED.

5 YEAR warranty

Luminaire	CCT	Lumens	Input Watts	Photocell	Finish	Voltage	Catalog Number	CI Code	UPC	Pallet qty.	Replaces Up To
WPX0	SWW2 3000K/ 4000K/ 5000K	850 - 1,650	6.4-13W	Switchable On/Off	DARK BRONZE	120-277V	WPX0 LED ALO SWW2 MVOLT PE DDBXD M2	*276144J	196182511806	280	70W Metal Halide
WPX1	4000K	2,900	24W	N/A	DARK BRONZE	120-277V	WPX1 LED P2 40K MVOLT DDBXD M4	*265SWK	193048870589	160	150W Metal Halide
WPX2	4000K	6,000	47W	N/A	DARK BRONZE	120-277V	WPX2 LED 40K MVOLT DDBXD M2	*265SX3	193048870756	120	250W Metal Halide
	5000K	6,000	47W	N/A	DARK BRONZE	120-277V	WPX2 LED 50K MVOLT DDBXD M2	*265SX6	193048870770	120	250W Metal Halide

More configurations are available. Click here or visit www.acuitybrands.com and search for WPX LED.

REVISIONS

COPYRIGHT DATE 12/18/24
DRAWN BY DE
PROJECT # AMG24-04

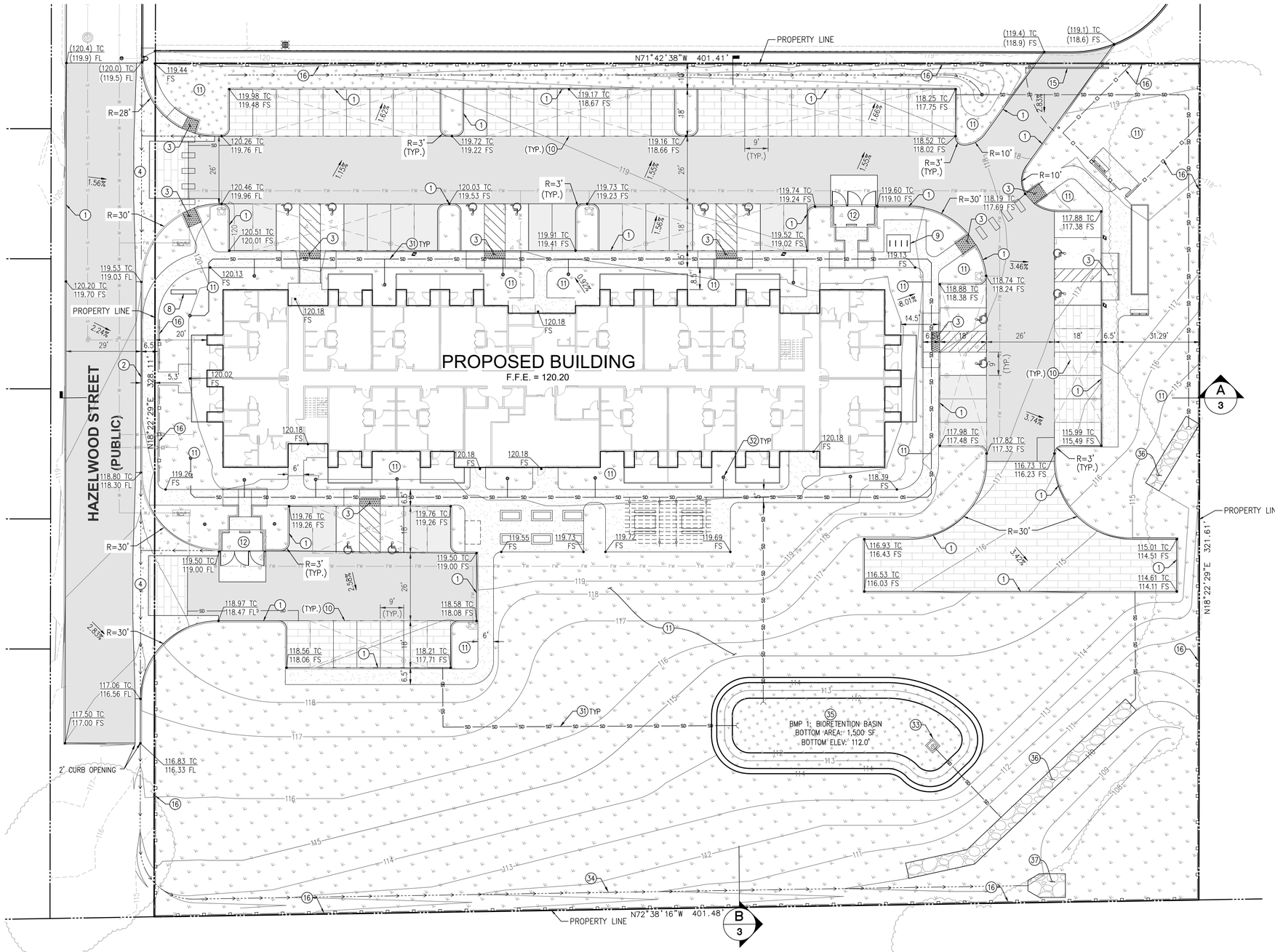
PACIFIC WEST ARCHITECTURE

Pacific West Architecture
430 E. STATE STREET, SUITE 100
EAGLE, IDAHO 83816
(208) 461-0022
fax (208) 461-3267
ALASKA - ARIZONA - CALIFORNIA - COLORADO - HAWAII - IDAHO - LOUISIANA - MONTANA - NEVADA - NEW MEXICO - NORTH DAKOTA - OREGON - SOUTH DAKOTA - U.S.V.I. - UTAH - WASHINGTON - WYOMING

PROJECT
FORT BRAGG SENIOR APARTMENTS
HAZELWOOD STREET
FORT BRAGG, CA

SCHEMATIC SET / NOT FOR CONSTRUCTION

E1.02



LEGEND

- PROPERTY BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- BUILDING SETBACK LINE
- 200 EXISTING CONTOUR
- 200 PROPOSED CONTOUR
- BLOCK WALL
- SD STORM DRAIN
- STORM DRAIN CATCH BASIN
- STORM DRAIN MANHOLE
- PROPOSED CONCRETE
- PROPOSED AC LIGHT PAVEMENT
- PROPOSED AC HEAVY PAVEMENT
- PROPOSED PERMEABLE PAVERS
- PROPOSED LANDSCAPE
- PROPOSED BIORETENTION

CONSTRUCTION NOTES

1. PROPOSED 6" CURB PER STD. NO. 205.
2. PROPOSED 6" CURB & GUTTER PER STD. NO. 205.
3. PROPOSED ACCESSIBLE RAMP WITH TRUNCATED DOMES. TRUNCATED DOMES SHALL BE CAST IN PLACE, YELLOW AND APPROXIMATE FS 33538 OF SAE AMS-STD-595A. (CBC 11B-705.1.1.3.1)
4. PROPOSED STANDARD P.C.C. CROSS GUTTER PER STD. NO. 218.
8. PROPOSED PROPERTY SIGNAGE.
9. PROPOSED BIKE RACKS PER ARCHITECTURAL PLANS.
10. PROPOSED CARPORT PER ARCHITECTURAL PLANS.
11. PROPOSED LANDSCAPE PER LANDSCAPE PLAN.
12. PROPOSED TRASH ENCLOSURE WITH GATE AND BLOCK WALL PER ARCHITECTURAL PLANS.
15. PROPOSED EMERGENCY EXIT ONLY GATE PER ARCHITECTURAL PLANS.
16. PROPOSED FENCE PER LANDSCAPE PLANS.

DRAINAGE CONSTRUCTION NOTES

31. PROPOSED PVC STORM DRAIN PIPE.
32. PROPOSED AREA DRAIN.
33. PROPOSED STORM DRAIN OVERFLOW STRUCTURE.
34. GRADE VEGETATED SWALE SLOPED @ 1.0% MIN.
35. PROPOSED BIO-RETENTION PER DETAIL 1, SHEET 3.
36. PROPOSED STORM RUNOFF LEVEL SPREADER.
37. PROPOSED NON-GROUTED RIP RAP DISSIPATOR.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1" = 20'

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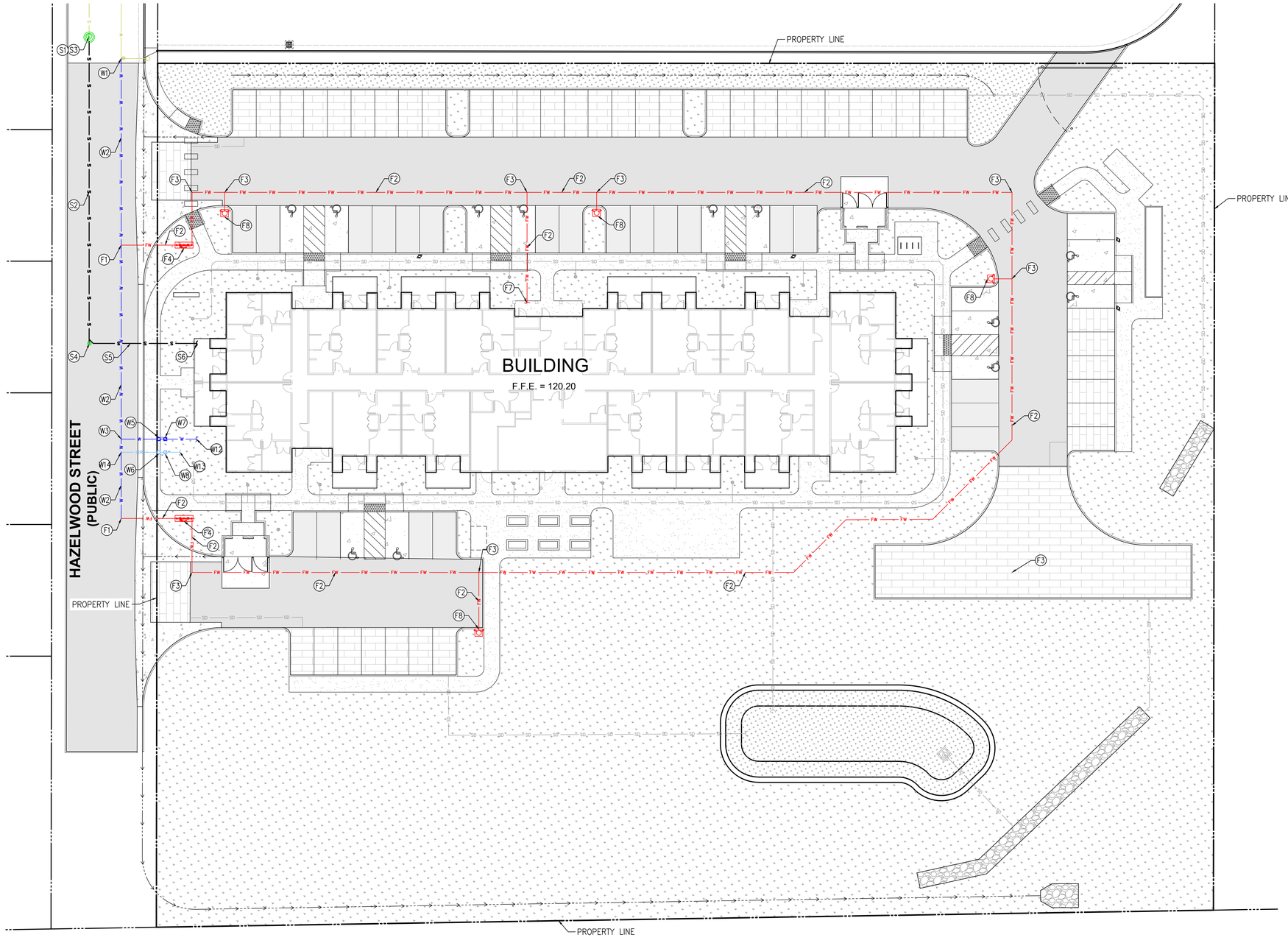
PROFESSIONAL ENGINEER
SHANNON DOW DAVIS
LEADOO
C 86564
CIVIL
STATE OF CALIFORNIA
NOT FOR CONSTRUCTION

REVISIONS	DATE	BY

FORT BRAGG
HAZELWOOD STREET
FORT BRAGG, CA
PRELIMINARY GRADING PLAN

PROJECT NUMBER:	24-043
PREPARED ON:	12/20/24
REVISED ON:	
PREPARED BY:	C.Rogers
CHECKED BY:	SDD
SHEET	1 OF 3



LEGEND

- PROPERTY BOUNDARY LINE
- CENTERLINE
- EASEMENT LINE
- BUILDING SETBACK LINE
- 200 EXISTING CONTOUR
- 200 PROPOSED CONTOUR
- BLOCK WALL
- S SANITARY SEWER (EXISTING)
- S SANITARY SEWER
- W WATER MAIN (EXISTING)
- W WATER MAIN
- FS FIRE WATER MAIN
- IRR WATER IRRIGATION MAIN
- SD STORM DRAIN
- AREA DRAIN
- STORM DRAIN OVERFLOW STRUCTURE
- PROPOSED CONCRETE
- PROPOSED AC LIGHT PAVEMENT
- PROPOSED AC HEAVY PAVEMENT
- PROPOSED PERMEABLE PAVERS
- PROPOSED LANDSCAPE
- PROPOSED BIORETENTION

WATER CONSTRUCTION NOTES

(W1) CONNECT TO EXISTING WATER MAIN.
(W2) INSTALL 12" DIP WATER MAIN.
(W3) INSTALL 2" DOMESTIC WATER SERVICE CONNECTION.
(W5) INSTALL 1.5" WATER METER FOR DOMESTIC SERVICE PER STD. PLAN.
(W6) INSTALL 1" WATER METER FOR IRRIGATION SERVICE PER STD. PLAN.
(W7) INSTALL 2" REDUCED PRESSURE BACKFLOW ASSEMBLY FOR DOMESTIC SERVICE (MAKE MODEL X).
(W8) INSTALL 1" REDUCED PRESSURE BACKFLOW ASSEMBLY FOR IRRIGATION SERVICE (MAKE MODEL X).
(W12) CONTINUATION PER PLUMBING PLAN.
(W13) CONTINUATION PER LANDSCAPE AND IRRIGATION PLANS.
(F7) CONTINUE TO FIRE RISER ROOM PER FIRE PROTECTION SPRINKLER AND MECHANICAL PLANS.
(F8) INSTALL FIRE HYDRANT ASSEMBLY WITH CONCRETE BLOCKING.

FIRE CONSTRUCTION NOTES

(F1) INSTALL MAIN SIZE TEE WITH CONCRETE THRUST BLOCKING.
(F2) INSTALL 6" CL200 C900 AWWA PVC PIPE.
(F3) INSTALL MAIN SIZE BEND/TEE AND CONCRETE THRUST BLOCK.
(F4) INSTALL 6" DOUBLE DETECTOR CHECK ASSEMBLY.

SEWER CONSTRUCTION NOTES

(S1) CONNECT TO EXISTING SEWER MAIN.
(S2) INSTALL 6" SDR-35 PVC SEWER PIPE.
(S3) INSTALL SEWER MANHOLE PER CITY STD. 301.
(S4) INSTALL SEWER CLEANOUT PER CITY STD. 307
(S5) INSTALL SEWER SERVICE LATERAL PER CITY STD. 309.
(S6) CONTINUATION PER PLUMBING PLAN.

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1" = 20'

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PROFESSIONAL ENGINEER
SHANNON DOW DAVIS
LEADOO
69364
CIVIL
STATE OF CALIFORNIA

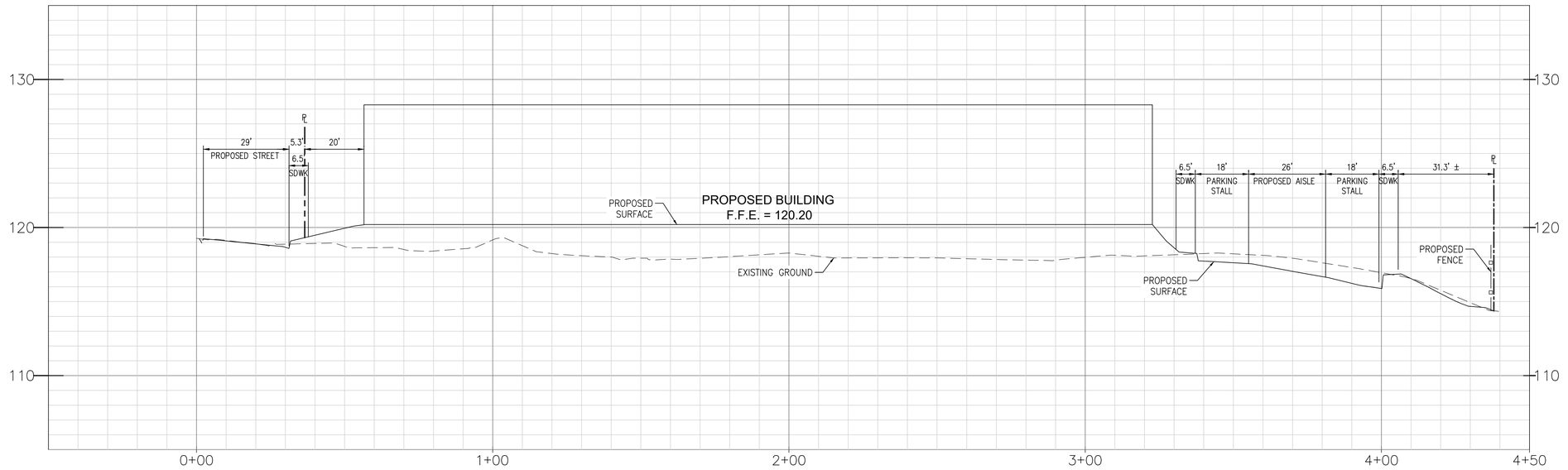
NOT FOR CONSTRUCTION

DATE	REVISIONS	BY

FORT BRAGG
HAZELWOOD STREET
FORT BRAGG, CA
PRELIMINARY UTILITY PLAN

PROJECT NUMBER:	24-043
PREPARED ON:	12/20/24
REVISED ON:	
PREPARED BY:	C.Rogers
CHECKED BY:	SDD

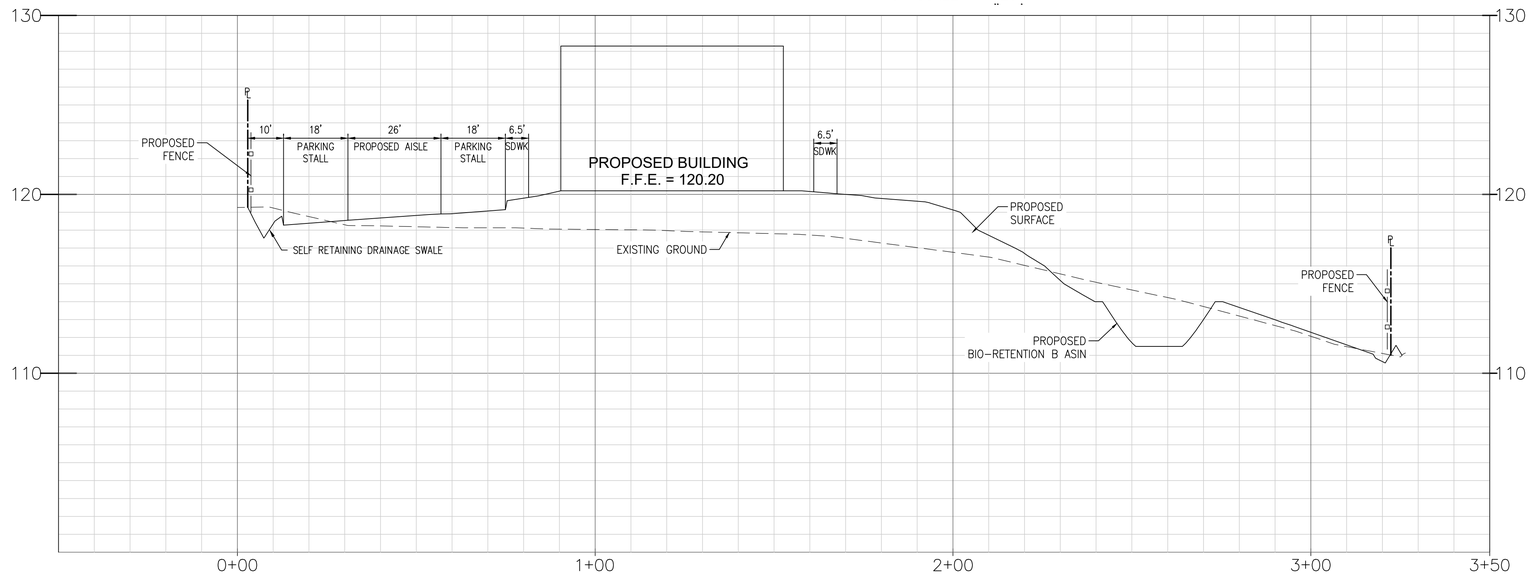
SHEET 2 OF 3



PROFILE: A

HOR SCALE: 1"=20'

VERT SCALE: 1"=4'



PROFILE: B

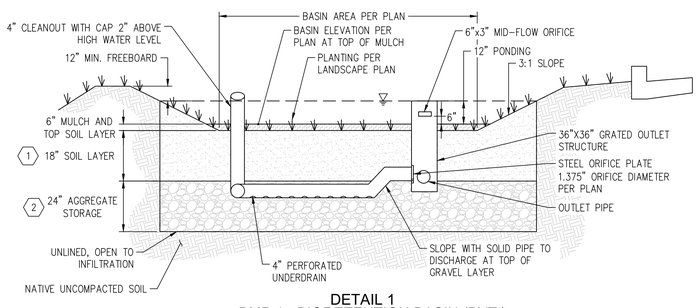
HOR SCALE: 1"=20'

VERT SCALE: 1"=4'

BIORETENTION BASIN NOTES:

BIORETENTION BASIN SHALL COMPLY WITH COUNTY OF MENDOCINO LOW IMPACT DEVELOPMENT STANDARDS MANUAL DATED MAY 2021, APPENDIX 5 SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:

1. SOIL LAYER SHALL COMPLY WITH THE SPECIFICATIONS OF APPENDIX 5 OF THE COUNTY OF MENDOCINO LOW IMPACT DESIGN STANDARDS MANUAL AND SHALL SUPPORT MINIMUM 5 IN/HR INFILTRATION WHEN INSTALLED.
2. GRAVEL LAYER SHALL CONSIST OF CALTRANS CLASS 2 PERMEABLE MATERIAL.



DETAIL 1
BMP 1 - BIORETENTION BASIN (PVT.)
NOT TO SCALE

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SHANNON DOW DAVIS
LEADOG 63664
CIVIL
STATE OF CALIFORNIA

REVISIONS	BY
DATE	

FORT BRAGG
HAZELWOOD STREET
FORT BRAGG, CA

CROSS SECTIONS

PROJECT NUMBER:	24-043
PREPARED ON:	12/20/24
REVISED ON:	
PREPARED BY:	C.Rogers
CHECKED BY:	SDD

SHEET 3 OF 3

Preliminary Water Quality Management Plan
Supplemental Narrative

For

FORT BRAGG SENIOR APARTMENTS

860 HAZELWOOD STREET
FORT BRAGG, CA
APN: 018-210-29-00

Prepared for:

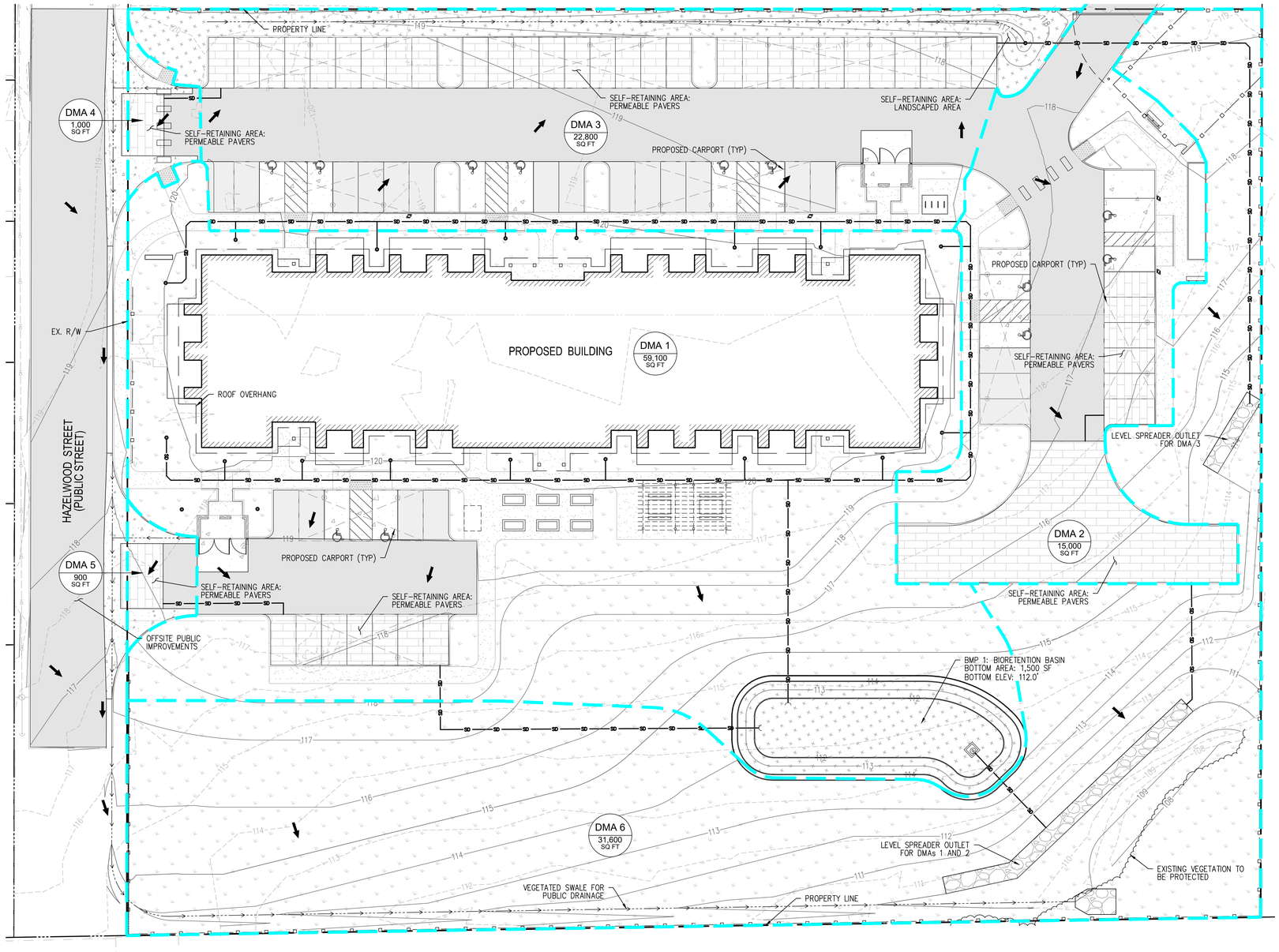
The Pacific Companies
430 E. State Street, Suite 100
Eagle, ID 83616

Prepared by:

Atlas Civil Design, Inc.
872 Higuera Street,
San Luis Obispo, CA 93401
(619) 307-2749

Prepared: December 2024

TABLE OF CONTENTS



SITE INFORMATION

HYDROLOGIC SOIL GROUP: UNCLASSIFIED

DEPTH TO GROUNDWATER: APPROXIMATELY 10'-13'

FLOOD ZONE DESIGNATION: X - AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN PER FEMA

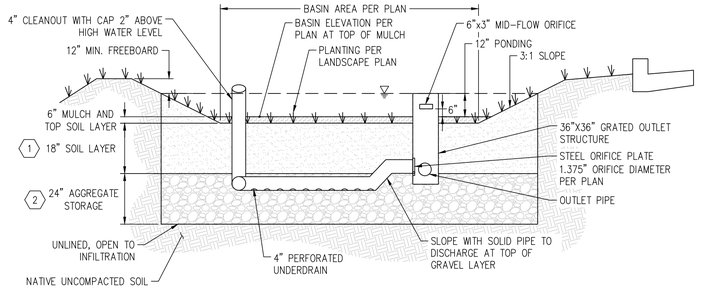
LEGEND

- DMA BOUNDARY
- PROPOSED STORM DRAIN
- PROPOSED CONTOURS
- EXISTING CONTOURS
- BUILDING FOOTPRINT
- LIGHT/HEAVY DUTY AC PAVEMENT
- VEHICULAR CONCRETE PAVEMENT
- PEDESTRIAN CONCRETE
- LANDSCAPE AREA
- PERMEABLE PAVERS
- FLOW DIRECTION
- DMA ID (DMA / XX SQ FT)
- TOTAL AREA IN SQ FT

BIORETENTION BASIN NOTES:

BIORETENTION BASIN SHALL COMPLY WITH COUNTY OF MENDOCINO LOW IMPACT DEVELOPMENT STANDARDS MANUAL DATED MAY 2021, APPENDIX 5 SPECIFICATIONS, INCLUDING BUT NOT LIMITED TO:

1. SOIL LAYER SHALL COMPLY WITH THE SPECIFICATIONS OF APPENDIX 5 OF THE COUNTY OF MENDOCINO LOW IMPACT DESIGN STANDARDS MANUAL AND SHALL SUPPORT MINIMUM 5 IN/HR INFILTRATION WHEN INSTALLED.
2. GRAVEL LAYER SHALL CONSIST OF CALTRANS CLASS 2 PERMEABLE MATERIAL.



BMP 1 - BIORETENTION BASIN (PVT.)
NOT TO SCALE

N

GRAPHIC SCALE
20 0 20 40
(IN FEET)
1" = 20'

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REVISIONS	BY
DATE	

PROJECT SITE MAP
PROPOSED CONDITION
860 HAZELWOOD STREET, CITY OF FORT BRAGG, COUNTY OF MENDOCINO STATE OF CALIFORNIA

PROJECT NUMBER:	24-043
PREPARED ON:	12/20/24
REVISED ON:	
PREPARED BY:	AM
CHECKED BY:	LZ

SHEET 2 OF 2

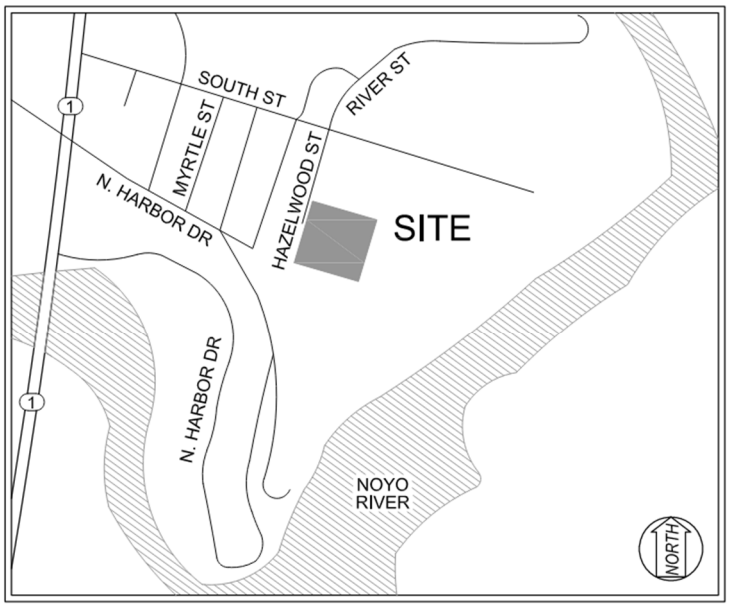
I. PROJECT SUMMARY

Purpose

This narrative accompanies the Stormwater Control Plan for the Fort Bragg Senior Apartments project, prepared on the template per the County of Mendocino Low Impact Development Standards Manual, dated May 2021. The purpose is to provide additional information to demonstrate compliance with applicable stormwater requirements as set forth in the Phase II Small MS4 General Permit, WQ Order No. 2013-0001-DWQ, NPDES No. CAS000004, and its subsequent amendments. The City of Fort Bragg utilizes the County of Mendocino Low Impact Development Standards Manual to ensure compliance with MS4 requirements.

Project Description

The project is located at 860 Hazelwood Street in the City of Fort Bragg within Mendocino County in the State of California. The 2.99-acre site is bounded by an undeveloped public road to the west, a multifamily housing complex to the north, and vacant lots to the east and south. See the Vicinity Map below.



VICINITY MAP
NOT TO SCALE

The project proposes an affordable, senior housing development, consisting of one multifamily housing building with associated parking, hardscape, and landscape improvements.

II. EXISTING CONDITIONS

Existing Condition Overview

The existing project site consists of one single-family structure at the northwest corner with primarily vegetated groundcover on the remainder of the property. The northwest corner of the site, adjacent to the structure, drains toward Hazelwood Street, which is unpaved fronting the site. The northern portion of the site east and south of the structure slopes at approximately 2% southeast. The southern and eastern portions of the site drain at 5% to 10% toward the southern and eastern property lines.

The site receives no significant offsite run-on from the properties to the north, east, and south. Hazelwood Street, a public street to the west of the property, is unpaved and contains no drainage infrastructure. In the existing condition, drainage from the right-of-way flows onto the subject property, draining southeast across the property.

Site soils are considered silty fine sand according to the geotechnical report. Groundwater was encountered approximately 10 to 13 feet below existing grade. See the Project Site Map in Attachment 1 for a depiction of the existing conditions and Attachment 6 for the project-specific geotechnical report.

Opportunities

The area of the site is relatively large compared with the footprint needed to support the proposed development. This allows the proposed design to maintain a large area of pervious landscaping. It also provides the space needed for self-retaining areas and bioretention.

The tested infiltration rates onsite appear to support a moderate level of infiltration, allowing retention of some drainage onsite.

Constraints

No public storm drain infrastructure exists in the near vicinity of the site. Existing drainage runs toward private properties. In order to not exacerbate the cross-lot drainage and because there is no public storm drain to tie into, water must be retained onsite to the extent feasible. Infiltration rates are moderate, but not high, so a large infiltration footprint must be maintained in order to retain drainage within appropriate drawdown times.

Groundwater was encountered 10 to 13 feet below existing grade in the geotechnical investigation borings; however, the borings were not taken in the location of the bioretention basin. Further investigation will be required to determine the groundwater level at the location of the bioretention basin and to ensure adequate separation between the infiltrating surface and water table can be met.

The site receives runon of public drainage from Hazelwood Street, which must continue to pass through the site in the proposed design.

III. Proposed Conditions

Proposed site improvements shall consist of one multifamily housing building, surface parking and associated drive aisles, landscaping, pedestrian hardscape, and outdoor recreation areas.

Project Layout Optimization

The project layout has been optimized per the following low impact design principles.

Minimize Impervious Surfaces

The proposed design utilizes a hammerhead turnaround in lieu of a looped drive aisle around the building in order to reduce impervious surface area. Perimeter parking bays and the turnaround are proposed as permeable pavement. Permeable pavement is also proposed at the driveway entrances. Proposed parking counts have been reduced to the extent feasible in order to minimize paving areas.

Preserve Vegetation

The project borders private lots to the south and east, both of which contain dense areas of trees. The trees within the subject property at the southeast corner of the site will be protected.

Utilize and Conform to Site-Specific Topography

The northern portion of the site is relatively flat with grades at the south and east sloping more steeply toward the southerly and easterly property lines. The proposed site has been laid out consistently with the existing topography. The main development footprint is proposed on the norther portion of the site. The southern portion and eastern edge of the site will consist of pervious slopes drainage toward to southerly and easterly property lines as in the existing condition.

Replicate the Site's Natural Drainage Patterns

The site maintains the existing drainage patterns to the extent feasible. Site grading will match existing drainage direction with relatively flat slopes on the northern portion of the site and perimeter slope grading to the south and east. Detention and infiltration features are provided to mitigate increases in peak flow per the project Runoff Mitigation Plan.

Detain and Retain Runoff Throughout the Site

The overall site limits the ratio of impervious to pervious area to less than 2:1. The project will implement self-retaining landscaped areas and self-retaining permeable pavement throughout the site to maximize infiltration of runoff. Self-retaining planter areas will allow for three inches of ponding below area drains. Permeable pavement will include nine inches of gravel storage below the subdrain. Drainage below the area drains and pavement subdrain will infiltrate.

Impermeable parking stalls, drive aisles and sidewalks will be directed toward the permeable pavement and self-retaining planter areas.

The site will include an unlined bioretention basin, designed to biofilter, detain, and infiltrate runoff. The basin includes 24-inches of gravel storage below the subdrain. Storage below the subdrain will infiltrate.

Roof drains will outlet at grade in landscaped areas where feasible. These areas are not designed as self-retaining areas, as ponding against the building is not advisable. The planter areas will allow for some infiltration of the roof drainage before drainage reaches the area drains.

The public drainage from Hazelwood Street will continue to flow onto the property as it does in the existing condition. It will flow through a gently graded vegetated swale to encourage infiltration of the public drainage.

Site Design Measures

The Phase II MS4 Permit and the Mendocino LID prioritize site design measures with the goal of retaining the 85th percentile, 24-hour storm event to the extent feasible. The manual prioritizes the creation of self-retaining areas, designed to retain a minimum of 3-inches of water with a maximum ratio of tributary impervious area to pervious self-retaining area of 2:1. According to the manual:

> *"In Mendocino County the 85th percentile, 24-hour storm event is equivalent to approximately one inch. When using a 2:1 impervious to pervious ratio for the calculation of the self-retaining area, the area must be able to retain the first 2-inches of stormwater runoff from the impervious areas and the first inch that falls on the self-retaining area itself. This is why the self-retaining area should be depressed in order to achieve this 3-inch retention requirement."*

The manual requires that projects reduce runoff by draining impervious areas to pervious self-retaining areas. If the 2:1 maximum ratio of impervious to pervious area cannot be met, a treatment control BMP must be implemented, with bioretention being the priority.

The proposed project implements site design measures throughout the site. Permeable pavement has been proposed within the perimeter parking bays and the hammerhead turnaround. The permeable pavement is considered to be self-retaining as it will have greater than 3-inches of gravel storage below the subdrain. Self-retaining landscaped areas throughout the site have been proposed.

Where self-retaining areas cannot completely retain the runoff based on the exceedance of the 2:1 impervious to self-retaining area ratio, bioretention has been implemented. The bioretention facility was sized as 4-percent of the tributary area after the application of runoff factors based on surface type.

Self-retaining and bioretention areas are depicted on the Project Site Map in Attachment 1. Calculations are provided in Attachment 3.

Drainage Management Areas

The site has been delineated into six drainage management areas (DMAs) as described below. DMAs were delineated based on the area flowing to each site design feature.

DMA 1 – Area Draining to a Bioretention Facility

DMA 1 encompasses the multifamily building with surrounding landscaped areas, as well as the drive aisle and parking area south of the building. Roof drainage outlets at grade where possible and is captured in landscape swales surrounding the building. Runoff will enter the private storm drain system through area drains. Runoff from the drive aisles, parking stalls, and carport roofs will surface flow onto the permeable pavement in the south parking bay. Runoff below the paver subdrain will infiltrate. When the paver section is full, runoff will enter the subdrain.

As the DMA exceeds the 2:1 ratio of impervious to self-retaining area, bioretention has been provided. Runoff from the paver subdrain and area drains will be piped to a bioretention basin referred to as BMP 1. BMP 1 serves to treat, infiltrate, and detain runoff. Drainage within the bioretention basin will infiltrate below the subdrain. As the water level reaches the subdrain, runoff will exit through an orifice at the subdrain connection to the outlet structure. As the water level rises above the graded bottom of basin, runoff will enter a mid-flow orifice in the outlet structure. In an overflow condition, runoff would enter the grated inlet at the top of the outlet structure. From the outlet structure, drainage is piped to a level spreader outlet at the southeastern corner of the site. The level spreader will dissipate energy, and drainage will spill over evenly toward the property line at the southeastern corner of the site. Drainage leaving the level spreader will travel through existing vegetation to be preserved onsite before leaving the site in the same direction as drainage in the existing condition.

DMA 2 – Area Draining to Self-Retaining Area / Self-Retaining Area

DMA 2 includes the sidewalk, drive aisle, carports and parking east of the building. Drainage surface flows onto the permeable pavement in the parking and hammerhead turnaround. Drainage below the paver subdrain infiltrates. When the paver section is full, runoff will exit through the subdrain. The subdrain will be piped to the level spreader at the southeast corner of the property. DMA 2 has been designed with an impervious to pervious self-retaining area ratio of less than 2:1; therefore, site design requirements have been met.

DMA 3 – Area Draining to Self-Retaining Area / Self-Retaining Area

DMA 3 includes the sidewalk, drive aisle, carports and parking north of the building. Drainage surface flows onto the permeable pavement in the parking as well as into a self-retaining landscaped area designed to allow minimum 3-inches of ponding. Drainage below the subdrain of the pavers and below the raised area drains of the self-retaining area will infiltrate. When the water level reaches the subdrain of the pavers and the area drains in the self-retaining area, drainage will enter the private storm drain, from where it will be piped to a level spreader along the eastern edge of the property. This mimics existing conditions, in which the northeast corner of the site drains toward the eastern property line. DMA 3 has been designed with an impervious to pervious self-retaining area ratio of less than 2:1; therefore, site design requirements have been met.

DMAs 4 and 5 – Area Draining to Self-Retaining Area / Self-Retaining Area

DMAs 4 and 5 consist of the two driveway entrances to the site that will flow offsite into Hazelwood Street. Permeable pavement will be installed within the driveway entrances in order to intercept the drainage to the extent feasible. Drainage below the subdrain will infiltrate. When the water level reaches the subdrain, drainage will be piped toward the eastern property line for DMA 4 and toward BMP 1 for DMA 5. DMAs 4 and 5 have been designed with an impervious to pervious self-retaining area ratio of less than 2:1; therefore, site design requirements have been met.

DMA 6 – Self-Treating Area

DMA 6 includes the pervious graded area surrounding the site that is not tributary to the proposed drainage infrastructure. This area will be planted and does not require treatment or detention as it contains no impervious area and will match the existing conditions. Runoff that is not intercepted in the soil and vegetation will flow toward the south and eastern property lines as in the existing condition.

Offsite

The project proposes the development of a portion of public Hazelwood Street with asphalt pavement, curb, gutter, and sidewalk. The street will be sloped east as in the existing condition. It will be intercepted in the gutter and directed to a proposed vegetated swale. The swale will flow from the public right-of-way onto the subject property and flow along the southerly property line. The swale will allow for the interception of drainage in the soil as infiltration and vegetation as evapotranspiration. Drainage that is not intercepted will flow toward the southeast corner of the site and exit the property as in the existing condition. Treatment of public, offsite drainage has not been tabulated in this analysis.

IV. HYDROMODIFICATION MITIGATION

Overview

According to Section E.12.f of the Phase II MS4 Permit, regulated projects within the California Coastal Ranges shall implement hydromodification management measures, by demonstrating that post-project runoff shall not exceed estimated pre-project runoff for the 2-year, 24-hour storm. The LID Manual notes that if a project has been designed with the 2:1 impervious to self-retaining area ratio for the entire site and that the site supports infiltration of greater than 1 inch per hour, the hydromodification mitigation requirement has been met.

The LID Manual does not provide guidance for how to meet the requirement if the project infiltrates at less than 1 inch per hour or does not meet the required ratio of impervious to self-retaining area for the entire site. The proposed project does not support infiltration of 1 inch per hour with a factor of safety applied to the tested rate and does not comply with the 2:1 ratio for the entire site; therefore, the project has performed hydrology and hydraulic routing calculations for the 2-year, 24-hour storm event to demonstrate compliance.

Hydromodification Mitigation Calculations

In order to demonstrate that the proposed 2-year, 24-hour peak runoff does not exceed that of the existing condition, detention in the permeable pavement and bioretention must be taken into account. Detention analysis requires time distribution of rainfall over a particular storm duration; therefore, the National Resources Conservation Services (NRCS), formerly Soil Conversation Service (SCS), hydrologic procedure was followed.

Calculations described below were performed in Autodesk's Storm Sanitary Analysis program (SSA). SSA input and output can be found in Attachment 4.

NRCS Type IA, 24-hour storm distribution was selected based on the geographic region. Distribution IA is appropriate for the northern California coast per NRCS Technical Release 55, Figure B-2. The storm distribution was applied to the 2-year, 24-hour precipitation depth per NOAA Atlas 14. See reference material in Attachment 5.

Each DMA was modeled as a subbasin in SSA based on area, time of concentration, and curve number. Time of concentration was based on NRCS TR-55 method with calculations occurring directly in SSA. Time of concentration was calculated for the existing condition and for proposed DMA 6, which contains only pervious area. The remaining DMAs were modeled with the minimum time of concentration of five minutes, as they are relatively small with relatively high impervious area.

Composite curve numbers were calculated directly in SSA based on the input impervious and pervious areas for each DMA. Impervious areas were modeled with a curve number of 98, and pervious areas with a curve number of 58. The pervious curve number is from TR-55, Table 2-2c, from the value for meadow with soil type B. This ground cover matches the existing state. Although the NRCS does not list a hydrologic soil group, type B is the most consistent with the soil description and tested infiltration rates.

The existing condition was modeled by running the 2-year, 24-hour storm through the existing subbasin with the above parameters. The model results in a peak flow at the overall discharge point.

For the proposed condition, detention in the permeable pavement and bioretention basin needed to be modeled. The bioretention basin was modeled for DMA 1, and the permeable pavement was modeled for DMAs 2 through 5. The bioretention parameters are per the detail shown on the Project Site Map in Attachment 1. The pavement sections were assumed to have 9-inches of gravel below the subdrain.

The bioretention basin and each paver area were added as a storage node in SSA. A staged storage curve was added representing the depth to volume values for each storage node. Staged storage calculations considered 0.4 porosity for the gravel layers and 0.2 porosity for the basin soil layer.

Infiltration from the basin and paver sections was modeled. The design infiltration rate was calculated by applying a factor of safety of 3 to the tested infiltration rate per the geotechnical report. The design infiltration rate was multiplied by the bottom area of the basin and pavers to obtain an infiltration flow rate for each area. The infiltration flow rate was applied to each storage node based on its bottom area.

Subdrains for the basin and pavers were modeled as orifices in SSA. The paver sections were each modeled with a 4-inch subdrain. The orifice size of the bioretention basin was iterated until the peak 2-year, 24-hour flow rate did not exceed that of the existing condition. The result was an orifice of 1.375-

inches in diameter. A mid-flow orifice was added on the outlet structure above the graded basin bottom for detention of larger storm events per the project Runoff Mitigation Plan. The water level remains below the mid-flow orifice in the 2-year, 24-hour storm event.

The basin and pavers were modeled with overflow structures; however, the sizing resulted in water levels that never reached the overflow for any storage node. For the basin, the grated overflow was modeled as a weir at the grate elevation. For the pavers, the overflow was modeled as a long weir to reflect surface flow leaving the paver area in an overflow condition.

The 2-year, 24-hour storm event was run through the proposed subbasins with runoff then being routed through the storage nodes, orifices, and to the overall outfall. The model results in a peak flow and total at the overall discharge point after considering detention and infiltration in the basin and pavers.

The table below summarizes the results of the hydrologic and hydraulic analysis:

2-Year, 24-Hour Runoff

DMA	Peak Flow (CFS)
Existing	0.09
1	0.06
2	0
3	0
4	0
5	0
6	0.02
Total Proposed	0.08

The analysis shows that the project detention features are sufficient to reduce the proposed peak flow leaving the site in the 2-year, 24-hour storm event to less than that of the existing condition. Therefore, hydromodification mitigation requirements have been met.

V. CONCLUSION

The proposed project has been designed to address site design requirements of the Phase II MS4 Permit as enforced within the Mendocino County LID Manual through the use of self-retaining landscaped areas, permeable pavement, and a bioretention basin. Hydrologic and hydraulic analysis shows that these features are sufficient for compliance with the hydromodification mitigation requirement with the inclusion of a 1.375-inch orifice on the bioretention basin subdrain.

ATTACHMENT 3

Water Quality Calculations

Fort Bragg Senior Apartments - DMA Summary

DMA Area Summary							Site Design Measures								
DMA	Impervious Area (SF)	Impervious Area (AC)	Pervious Area (SF)	Pervious Area (AC)	Total Area (SF)	Total Area (AC)	Paver Area (SF)	Paver Area (AC)	SRA Landscape (SF)	SRA Landscape (AC)	Total SRA (SF)	Total SRA (AC)	Ratio Impervious to SRA	LID Req. met?	Bioretention Area (SF)
1	28200	0.65	30900	0.71	59100	1.36	1100	0.03	0	0.00	1100	0.03	25.6	No	1500
2	8100	0.19	6900	0.16	15000	0.34	4600	0.11	0	0.00	4600	0.11	1.8	Yes	0
3	13100	0.30	9700	0.22	22800	0.52	4700	0.11	4100	0.09	8800	0.20	1.5	Yes	0
4	650	0.01	350	0.01	1000	0.02	350	0.01	0	0.00	350	0.01	1.9	Yes	0
5	550	0.01	350	0.01	900	0.02	350	0.01	0	0.00	350	0.01	1.6	Yes	0
6	0	0.00	31600	0.73	31600	0.73	0	0.00	0	0.00	0	0.00	N/A	Yes	0
Total	50600	1.16	79800	1.83	130400	2.99	11100	0.25	4100	0.09	15200	0.35			
Existing	2300	0.05	0	0.00	130400	2.99									

Table 2. Area Calculations of *Self-retaining Areas* Used to Treat Impervious Areas

1 DMA Name	2 Area (sq. ft.)
1 (Self-retaining)	1,100
2 (Self-retaining)	4,600
3 (Self-retaining)	8,800
4 (Self-retaining)	350
5 (Self-retaining)	350

Table 3. Runoff Factor (surface type)

Roofs and Paving	1.0
Landscaped Area	0.1
Bricks or solid pavers- grouted	1.0
Bricks or solid Pavers-on sand base	0.5
Pervious Concrete Asphalt	0.1
Turfblock or gravel	0.1
Open or Porous pavers	0.1

Tables 4-6 below should be used to quantify the amount of runoff that is reduced by using site design measures. Using the tables in chronological order will calculate the minimum size for your bioretention facility in order to meet the MS4 permit requirements. Several iterations may be need to size facilities according to the site design.

Table 4. Area draining to self-retaining areas

1 DMA Name (must correspond to area on the site map and on Table **1**)	**2** DMA Area (sq. ft.) (Table **1**)	**3** Type of Surface (Runoff Factor Table 3)	**4** Surface with Runoff Factor Column **2** X Column **3**	**5** Area of Self-retaining Area Receiving the Runoff (sq. ft.) (Table 2, Col. 2)	**6** Ratio Col. **4** : Col. **5** Not to exceed 2:1 ratio (if number exceeds 2:1 use table 5 - 6 to reduce tributary area and recalculate or go directly to Table 7)
Example	700	Roof (1.0)	700	100	7:1 (must use site design measures, bioretention or both)
1 (Impervious)	28,200	Roof, paving (1.0)	28,200	1,100	25.6:1
2 (Impervious)	8,100	Paving (1.0)	8,100	4,600	1.8:1
3 (Impervious)	13,100	Paving (1.0)	13,100	8,800	1.5:1
4 (Impervious)	650	Paving (1.0)	650	350	1.9:1
5 (Impervious)	550	Paving (1.0)	550	350	1.6:1

Table 5. Tree Planting and Preservation (if not planting trees, go to Table 6)

1 DMA Name (must correspond to area on the site map)	2 DMA sq. ft. (from Table 4. Col. 6)	3 Deciduous (Input 100 for each deciduous tree)	4 Evergreen (Input 200 for each evergreen tree)	5 Total Tree Credit (Col. **3** + Col. **4**) (DMA runoff reduction)	6 New DMA Area Col. **2** – Col. **5** (for use in Table 6 - 8)
Example	700	--------	200	200	500 (new DMA size that must be treated with methods below Table 6-7)

Table 6. Rain Barrels and Cisterns (if not using site design measures, go to Table 8)

1 DMA Name (must correspond to area on the site map)	2 New DMA sq. ft. (Table 5, Col. 7 or, if no trees used, value from Table 4, Col. 2)	3 Number of Rain Barrels	4 Runoff Reduction from using a standard 55 gallon Rain Barrel = 88 sq. ft. Use the following if size is other than the standard (for every gallon of storage, approx. 1.6 sq. ft. of reduction is achieved)	5 Col. **3 X** Col. **4** (DMA runoff reduction)	6 New DMA Area Col. **2** - Col. **5**
Example	500	1	88	88	412 (go to Table 7 to recalculate Ratio)

Table 7. <u>New</u> Tabulation of areas draining to self-retaining area after use of site design measures (must achieve a 2:1 ratio; if not achievable, use table 8 to calculate the size of bioretention required)

1 DMA Name (must correspond to area on the site map)	**2** New Square footage of DMA (Col 6, Table 4,5,6)	**3** Area of Self-retaining Area Receiving the Runoff (Table 2, Col. 2)	**4** Ratio Column **2 :** Column **3** Not to exceed 2:1
Example	412 (Table 6)	100	4.12:1(still exceeds 2:1 go back, add more trees, rain barrels, or use bioretention – example uses bioretention, Table 8)
1 (Impervious)	28,200	1,100	25.6:1

Table 8. Tabulation of areas draining to Bioretention Facility

1 DMA Name (must correspond to area on the site map)	**2** DMA sq. ft. (Table 1, Col 2 or new DMA sq. ft. Table 7, Col. 2)	**3** Runoff Factor Table 6 (skip if coming from Table 1)	**5** DMA Area Col. **2** x Col. **3**	**6** Standard Sizing Factor	**Minimum facility size** Col. **5** X Col. **6**	If site does not allow for the minimum size, recalculate DMA using additional Site Design Measures to further reduce the tributary size
Example	300	***1*** (already calculated in steps above,	300	0.04	12 sq. ft.	(proposed facility size on site plans)

		for this example)				
1	28,200 Impervious 30,900 Pervious	1 0.1	28,200 SF 3,090 SF	0.04	1,128 SF → 1,252 SF 124 SF Total	1,500 SF provided. Minimum size achieved.
				0.04		
				0.04		
				0.04		

Table 9. Runoff Factors

Roofs and Paving	1.0
Landscaped Area	0.1
Bricks or solid pavers- grouted	1.0
Bricks or solid Pavers-on sand base	0.5
Pervious Concrete Asphalt	0.1
Turfblock or gravel	0.1
Open or Porous pavers	0.1

G. Operation and Maintenance in Perpetuity

Indicate whether an *Operation and Maintenance Plan* is accompanying this document (Appendix 9).

☐ Yes ☐ No

H. Stormwater Control Plan

A Stormwater Control Plan is required for all Regulated Projects. This worksheet is designed to be the SCP if all requested descriptions and site plans have been attached. This document will be used by the plan checker to confirm that adequate stormwater control measures are being implemented on the project.

Indicate whether all supporting descriptions and worksheets are accompanying this document, Stormwater Control Plan

☐ Yes ☐ No

ATTACHMENT 4

Hydromodification Mitigation Calculations

Fort Bragg Senior Apartments - Hydromodification Mitigation Summary

DMA Area Summary							Detention Features		2-year, 24 hour Results
DMA	Impervious Area (SF)	Impervious Area (AC)	Pervious Area (SF)	Pervious Area (AC)	Total Area (SF)	Total Area (AC)	Paver Area (SF)	Bioretention Area (SF)	Peak Flow (CFS)
1	28200	0.65	30900	0.71	59100	1.36	1100	1500	0.06
2	8100	0.19	6900	0.16	15000	0.34	4600	0	0
3	13100	0.30	9700	0.22	22800	0.52	4700	0	0
4	650	0.01	350	0.01	1000	0.02	350	0	0
5	550	0.01	350	0.01	900	0.02	350	0	0
6	0	0.00	31600	0.73	31600	0.73	0	0	0.02
Total	50600	1.16	79800	1.83	130400	2.99			0.08
Existing	2300	0.05	0	0.00	130400	2.99			0.09

Note: Pavement detention not modeled for DMA 1. Self-retaining landscaped area not modeled for DMA 3.

Fort Bragg Senior Apartments - Design Infiltration Rate

Test[1]	Infiltration Rate (in/hr)
P-1	1.03
P-2	0.94
Average	0.985

[1] Per geotechnical infiltration testing results.

Average Infiltration Rate (in/hr)	0.985	in/hr
FS	3	
Design infiltration rate	0.33	in/hr

Project Description

File Name	24-043 Hazelwood Fort Bragg - Existing TR20.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	15	seconds

Number of Elements

	Qty
Rain Gages	4
Subbasins	1
Nodes	1
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	0
Links	0
Channels	0
Pipes	0
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-04	Intensity	inches					User Defined
2	Rain Gage-03	Time Series	TS-02	Cumulative	inches				0.00	
3	Rain Gage-04	Time Series	TS-03	Cumulative	inches				0.00	
4	Rain Gage-05	Time Series	TS-04	Intensity	inches					User Defined

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	E1	2.99	484.00	58.67	3.29	0.40	1.18	0.09	0 00:20:02

Subbasin Hydrology

Subbasin : E1

Input Data

Area (ac)	2.99
Peak Rate Factor	484
Weighted Curve Number	58.67
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Meadow, non-grazed	2.94	B	58
Paved parking & roofs	0.05	B	98
Composite Area & Weighted CN	2.99		58.67

Time of Concentration

TOC Method : SCS TR-55

Sheet Flow Equation :

Tc = (0.007 * ((n * Lf)^0.8)) / ((P^0.5) * (Sf^0.4))

Where :

Tc = Time of Concentration (hr)
n = Manning's roughness
Lf = Flow Length (ft)
P = 2 yr, 24 hr Rainfall (inches)
Sf = Slope (ft/ft)

Shallow Concentrated Flow Equation :

V = 16.1345 * (Sf^0.5) (unpaved surface)
V = 20.3282 * (Sf^0.5) (paved surface)
V = 15.0 * (Sf^0.5) (grassed waterway surface)
V = 10.0 * (Sf^0.5) (nearly bare & untilled surface)
V = 9.0 * (Sf^0.5) (cultivated straight rows surface)
V = 7.0 * (Sf^0.5) (short grass pasture surface)
V = 5.0 * (Sf^0.5) (woodland surface)
V = 2.5 * (Sf^0.5) (forest w/heavy litter surface)
Tc = (Lf / V) / (3600 sec/hr)

Where:

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)

Channel Flow Equation :

V = (1.49 * (R^(2/3)) * (Sf^0.5)) / n
R = Aq / Wp
Tc = (Lf / V) / (3600 sec/hr)

Where :

Tc = Time of Concentration (hr)
Lf = Flow Length (ft)
R = Hydraulic Radius (ft)
Aq = Flow Area (ft^2)
Wp = Wetted Perimeter (ft)
V = Velocity (ft/sec)
Sf = Slope (ft/ft)
n = Manning's roughness

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0	0
Flow Length (ft) :	100	0	0
Slope (%) :	2	0	0
2 yr, 24 hr Rainfall (in) :	3.4	0	0
Velocity (ft/sec) :	0.1	0	0
Computed Flow Time (min) :	16.55	0	0

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	100	130	0
Slope (%) :	1.5	4	0
Surface Type :	Grass pasture	Grass pasture	Unpaved
Velocity (ft/sec) :	0.86	1.4	0
Computed Flow Time (min) :	1.94	1.55	0

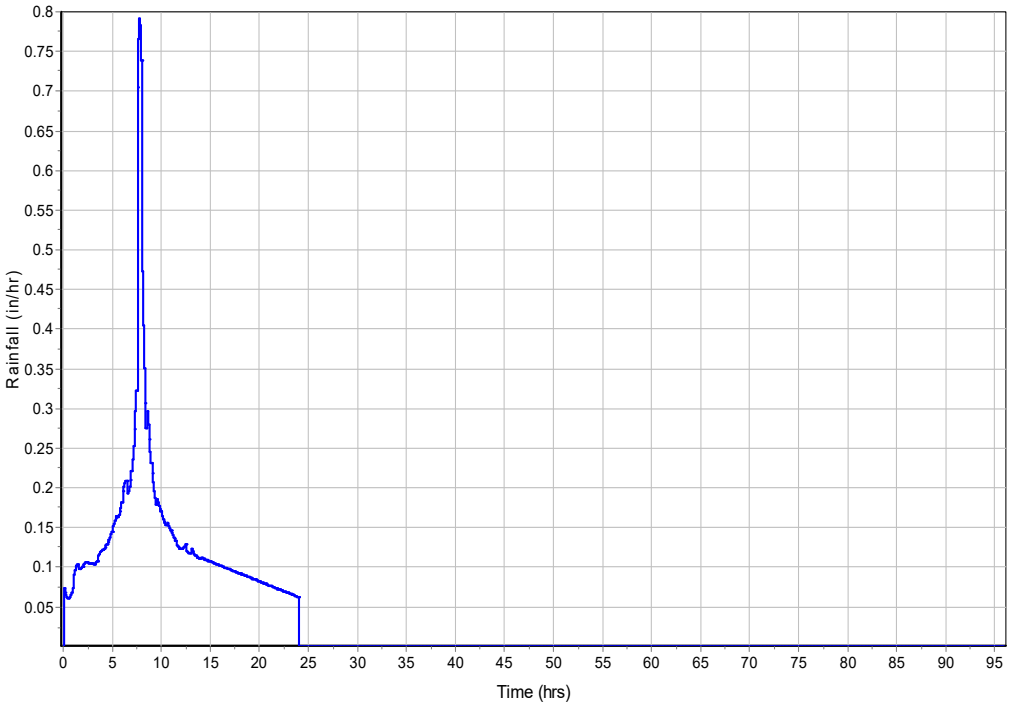
Total TOC (min) 20.04

Subbasin Runoff Results

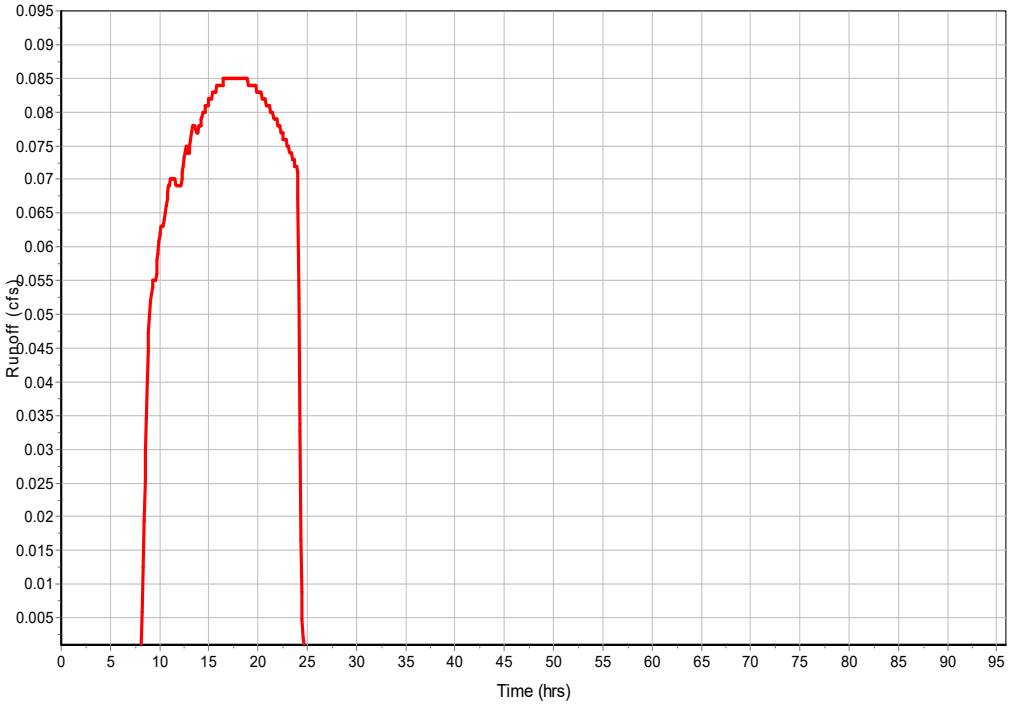
Total Rainfall (in)	3.29
Total Runoff (in)	0.4
Peak Runoff (cfs)	0.09
Weighted Curve Number	58.67
Time of Concentration (days hh:mm:ss)	0 00:20:02

Subbasin : E1

Rainfall Intensity Graph



Runoff Hydrograph



Project Description

File Name	24-043 Hazelwood Fort Bragg - Proposed TR-20 Mitigated.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	SCS TR-20
Time of Concentration (TOC) Method	SCS TR-55
Link Routing Method	Kinematic Wave
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	YES

Analysis Options

Start Analysis On	00:00:00	0:00:00
End Analysis On	00:00:00	0:00:00
Start Reporting On	00:00:00	0:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	15	seconds

Number of Elements

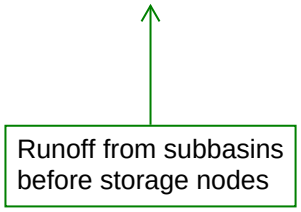
	Qty
Rain Gages	2
Subbasins	6
Nodes	6
Junctions	0
Outfalls	1
Flow Diversions	0
Inlets	0
Storage Nodes	5
Links	11
Channels	0
Pipes	0
Pumps	0
Orifices	6
Weirs	5
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

SN	Rain Gage ID	Data Source	Data Source ID	Rainfall Type	Rain Units	State	County	Return Period (years)	Rainfall Depth (inches)	Rainfall Distribution
1	Rain Gage-01	Time Series	TS-03	Intensity	inches					User Defined
2	Rain Gage-02	Time Series	TS-02	Cumulative	inches				0.00	

Subbasin Summary

SN	Subbasin ID	Area (ac)	Peak Rate Factor	Weighted Curve Number	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
1	P1	1.36	484.00	77.12	3.29	1.28	1.75	0.37	0 00:05:00
2	P2	0.34	484.00	80.35	3.29	1.50	0.51	0.12	0 00:05:00
3	P3	0.52	484.00	81.08	3.29	1.55	0.80	0.19	0 00:05:00
4	P4	0.02	484.00	84.00	3.29	1.71	0.03	0.01	0 00:05:00
5	P5	0.02	484.00	82.00	3.29	1.54	0.03	0.01	0 00:05:00
6	P6	0.73	484.00	58.00	3.29	0.37	0.27	0.02	0 00:12:06



Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft^2)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	Out-01	Outfall	108.00					0.08	108.00					
2	Stor-01	Storage Node	108.00	114.00	108.00		0.00	0.37	111.57				0.00	0.00
3	Stor-02	Storage Node	116.00	119.00	116.00		0.00	0.12	116.29				0.00	0.00
4	Stor-03	Storage Node	116.00	119.00	116.00		0.00	0.18	116.53				0.00	0.00
5	Stor-04	Storage Node	116.00	119.00	116.00		0.00	0.01	116.26				0.00	0.00
6	Stor-05	Storage Node	116.00	119.00	116.00		0.00	0.01	116.22				0.00	0.00

Peak flow from total site after detention

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Reported Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Orifice-01a	Orifice	Stor-01	Out-01		108.00	108.00		1.375		0.06							
2	Orifice-01b	Orifice	Stor-01	Out-01		108.00	108.00		3.000		0.00							
3	Orifice-02	Orifice	Stor-02	Out-01		116.00	108.00		4.000		0.00							
4	Orifice-03	Orifice	Stor-03	Out-01		116.00	108.00		4.000		0.00							
5	Orifice-04	Orifice	Stor-04	Out-01		116.00	108.00		4.000		0.00							
6	Orifice-05	Orifice	Stor-05	Out-01		116.00	108.00		4.000		0.00							
7	Weir-01	Weir	Stor-01	Out-01		108.00	108.00				0.00							
8	Weir-02	Weir	Stor-02	Out-01		116.00	108.00				0.00							
9	Weir-03	Weir	Stor-03	Out-01		116.00	108.00				0.00							
10	Weir-04	Weir	Stor-04	Out-01		116.00	108.00				0.00							
11	Weir-05	Weir	Stor-05	Out-01		116.00	108.00				0.00							

Peak flow leaving storage nodes from orifices and weirs

Subbasin Hydrology

Subbasin : P1

Input Data

Area (ac)	1.36
Peak Rate Factor	484
Weighted Curve Number	77.12
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.65	B	98
Meadow, non-grazed	0.71	B	58
Composite Area & Weighted CN	1.36		77.12

Time of Concentration

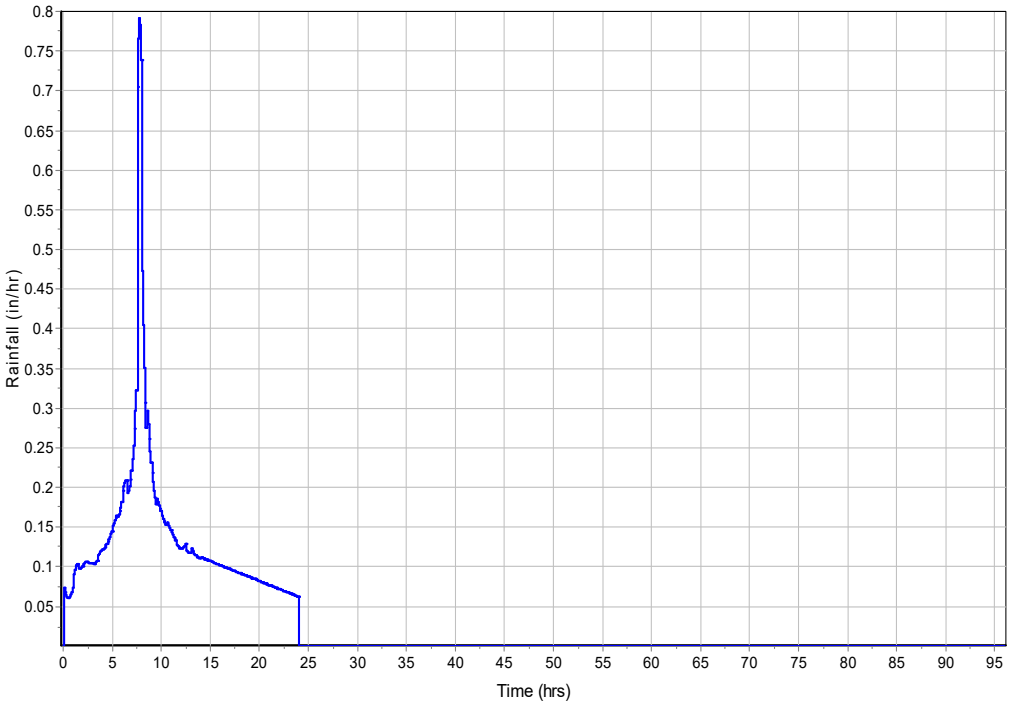
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

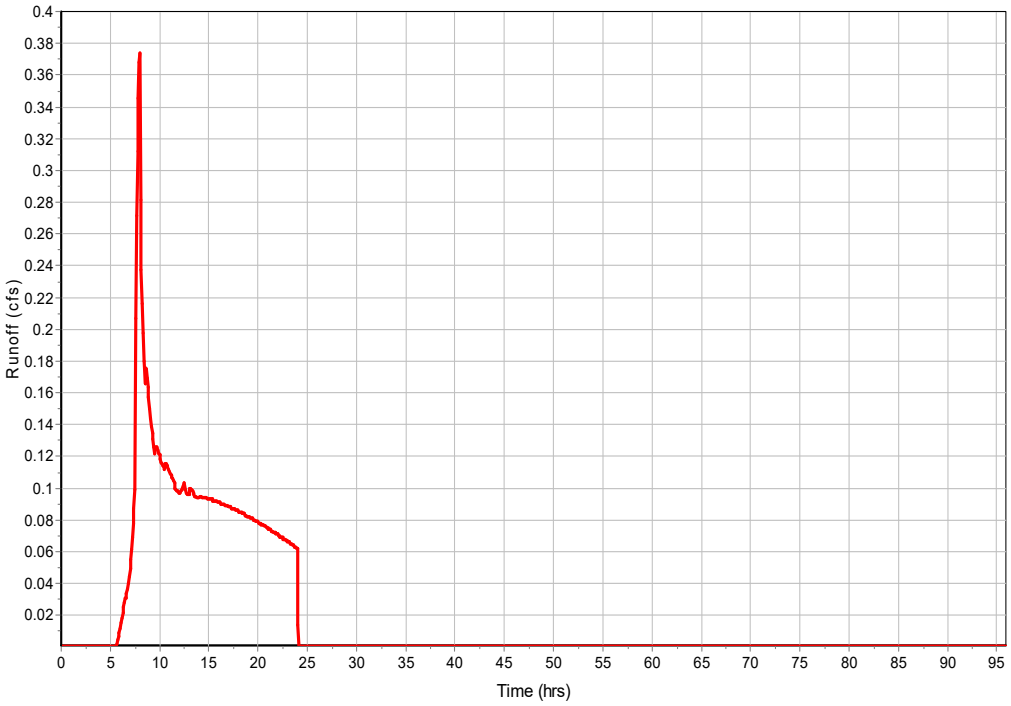
Total Rainfall (in)	3.29
Total Runoff (in)	1.28
Peak Runoff (cfs)	0.37
Weighted Curve Number	77.12
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : P1

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P2

Input Data

Area (ac)	0.34
Peak Rate Factor	484
Weighted Curve Number	80.35
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved roads with curbs & sewers	0.19	B	98
Meadow, non-grazed	0.15	B	58
Composite Area & Weighted CN	0.34		80.35

Time of Concentration

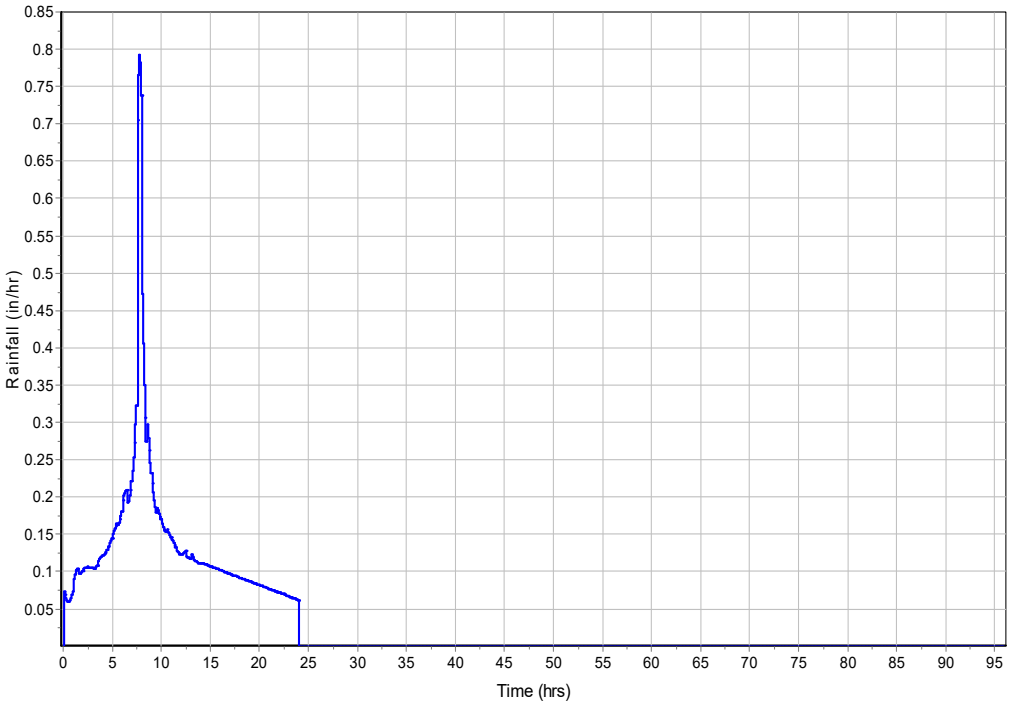
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

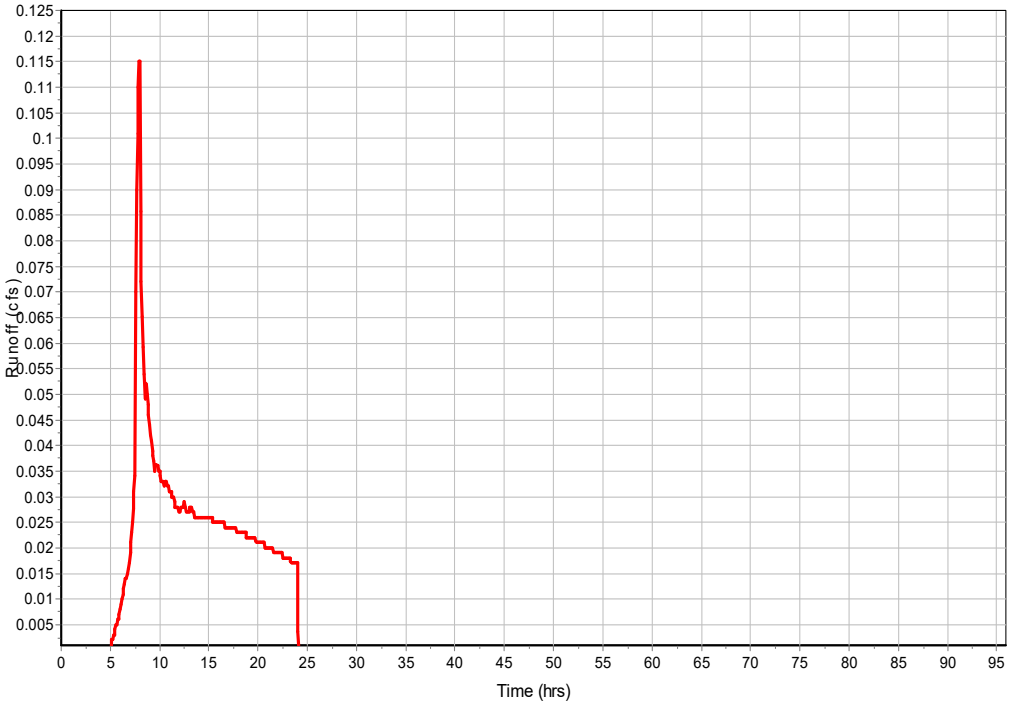
Total Rainfall (in)	3.29
Total Runoff (in)	1.5
Peak Runoff (cfs)	0.12
Weighted Curve Number	80.35
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : P2

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P3

Input Data

Area (ac)	0.52
Peak Rate Factor	484
Weighted Curve Number	81.08
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.3	B	98
Meadow, non-grazed	0.22	B	58
Composite Area & Weighted CN	0.52		81.08

Time of Concentration

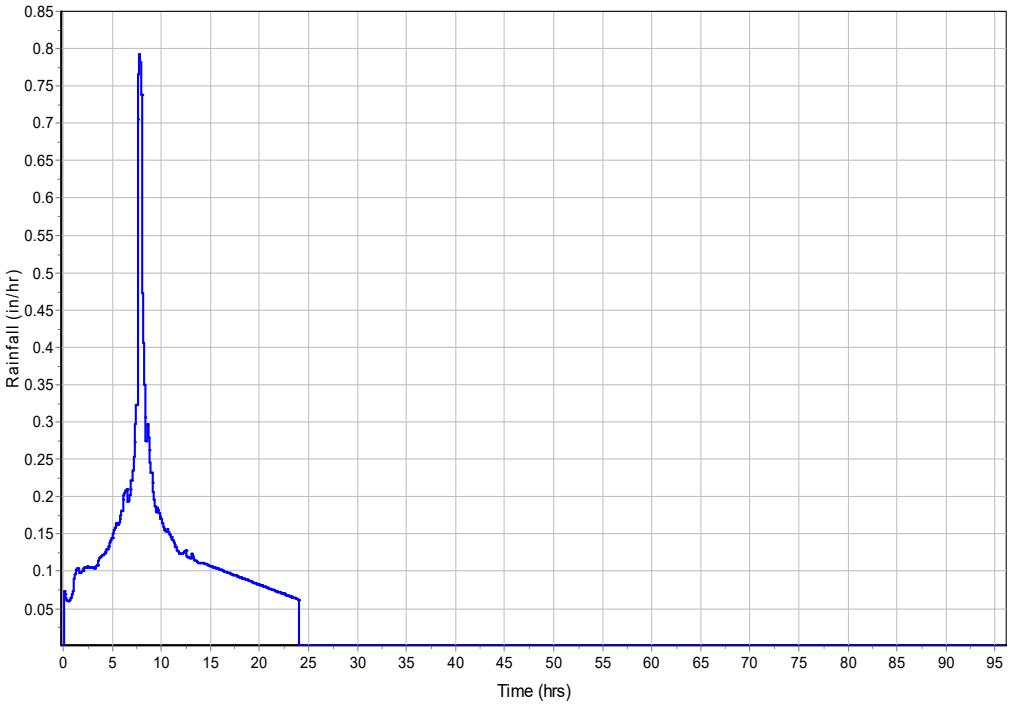
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

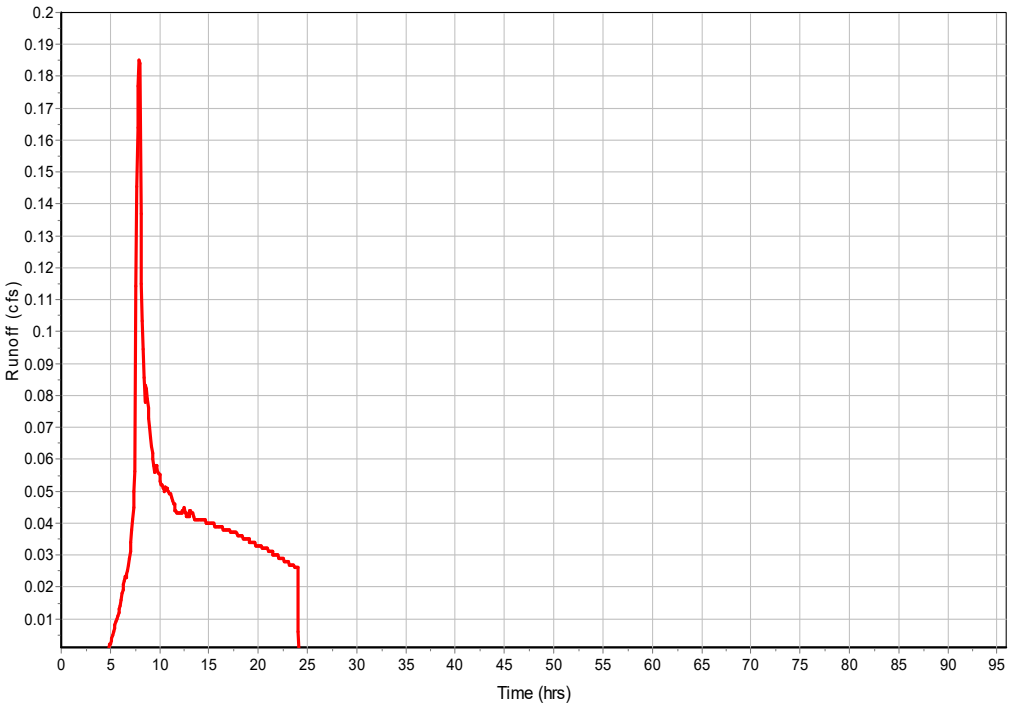
Total Rainfall (in)	3.29
Total Runoff (in)	1.55
Peak Runoff (cfs)	0.19
Weighted Curve Number	81.08
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : P3

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P4

Input Data

Area (ac)	0.02
Peak Rate Factor	484
Weighted Curve Number	84
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.01	B	98
Meadow, non-grazed	0.01	B	58
Composite Area & Weighted CN	0.02		84

Time of Concentration

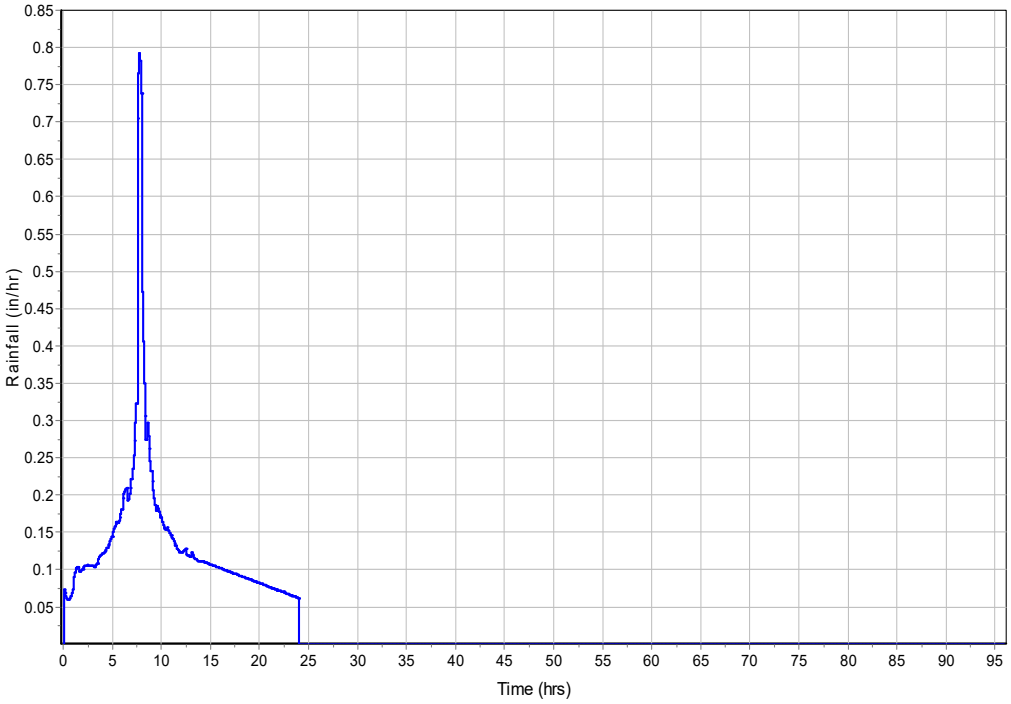
User-Defined TOC override (minutes): 5.00

Subbasin Runoff Results

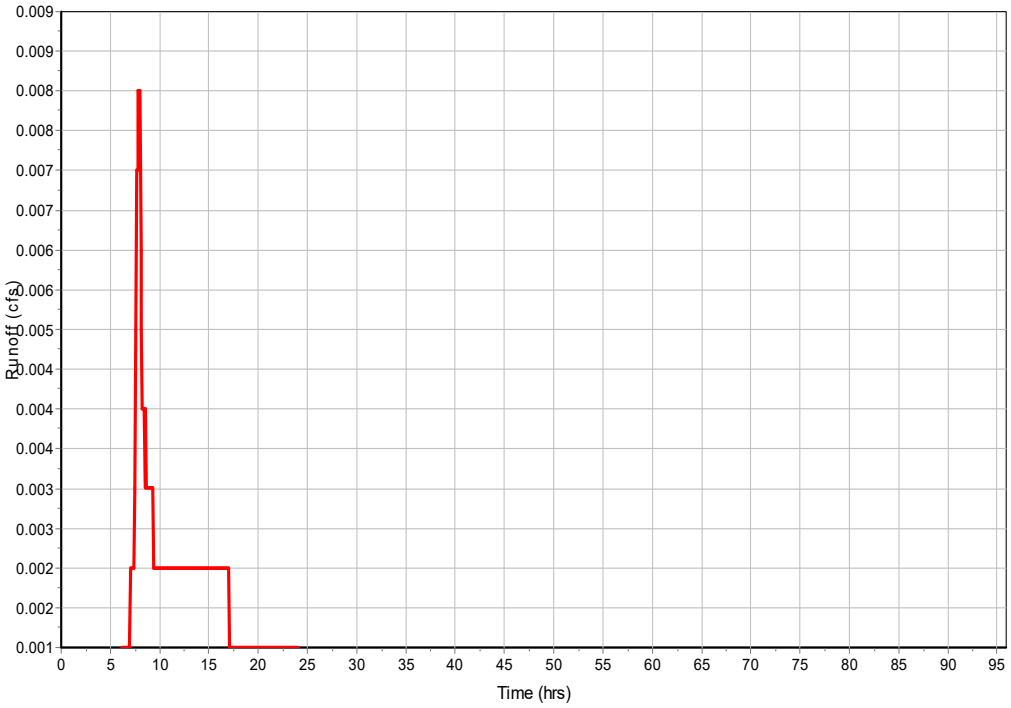
Total Rainfall (in)	3.29
Total Runoff (in)	1.71
Peak Runoff (cfs)	0.01
Weighted Curve Number	84
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : P4

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P5

Input Data

Area (ac)	0.02
Peak Rate Factor	484
Weighted Curve Number	82
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Paved parking & roofs	0.01	B	98
Meadow, non-grazed	0.01	B	58
Composite Area & Weighted CN	0.02		82

Time of Concentration

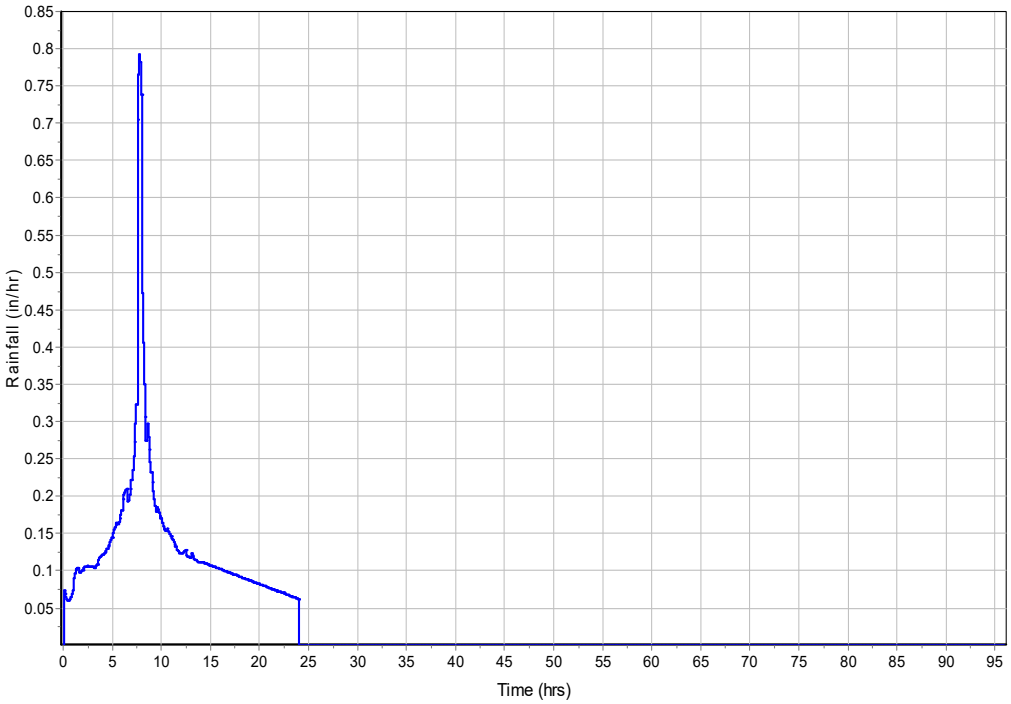
User-Defined TOC override (minutes): 5

Subbasin Runoff Results

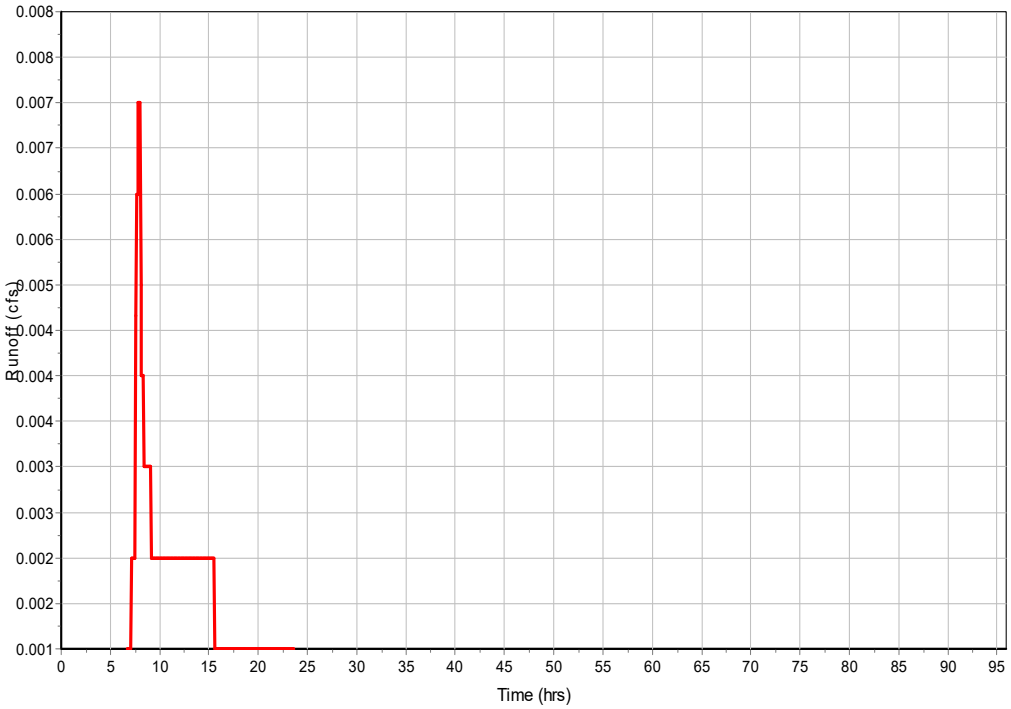
Total Rainfall (in)	3.29
Total Runoff (in)	1.54
Peak Runoff (cfs)	0.01
Weighted Curve Number	82
Time of Concentration (days hh:mm:ss)	0 00:05:00

Subbasin : P5

Rainfall Intensity Graph



Runoff Hydrograph



Subbasin : P6

Input Data

Area (ac)	0.73
Peak Rate Factor	484
Weighted Curve Number	58
Rain Gage ID	Rain Gage-01

Composite Curve Number

32 Soil/Surface Description	Area (acres)	Soil Group	Curve Number
Meadow, non-grazed	0.73	B	58
Composite Area & Weighted CN	0.73		58

Time of Concentration

Sheet Flow Computations	Subarea A	Subarea B	Subarea C
Manning's Roughness :	0.3	0	0
Flow Length (ft) :	80	0	0
Slope (%) :	3.5	0	0
2 yr, 24 hr Rainfall (in) :	3.4	0	0
Velocity (ft/sec) :	0.12	0	0
Computed Flow Time (min) :	11.07	0	0

Shallow Concentrated Flow Computations	Subarea A	Subarea B	Subarea C
Flow Length (ft) :	50	0	0
Slope (%) :	1.3	0	0
Surface Type :	Grass pasture	Grass pastur	Unpaved
Velocity (ft/sec) :	0.8	0	0
Computed Flow Time (min) :	1.04	0	0

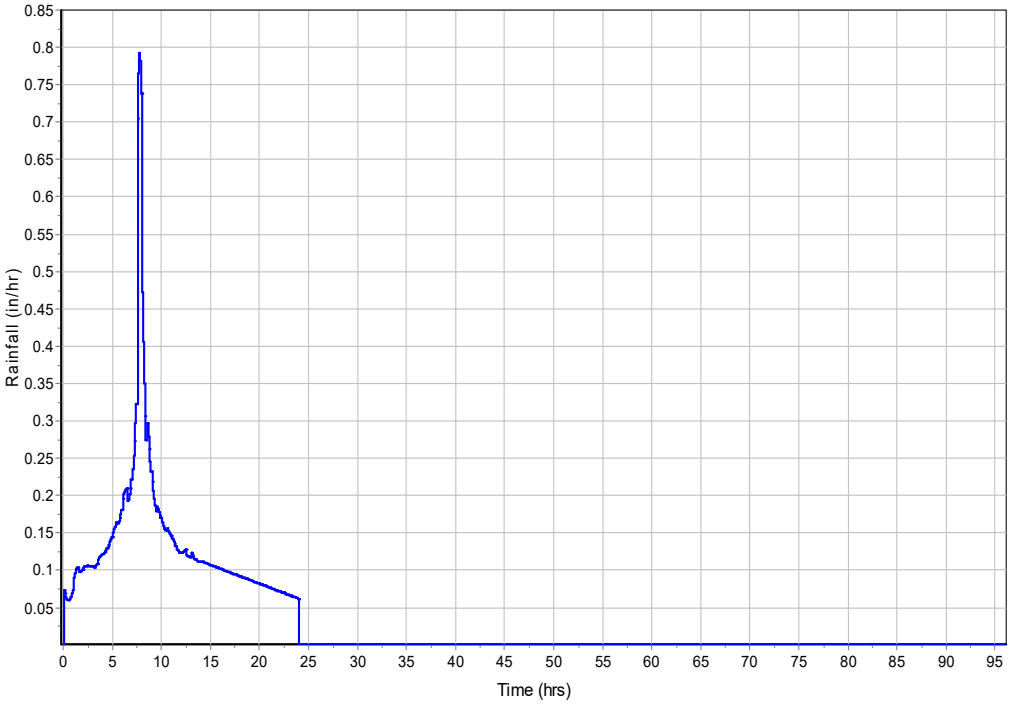
Total TOC (min) 12.11

Subbasin Runoff Results

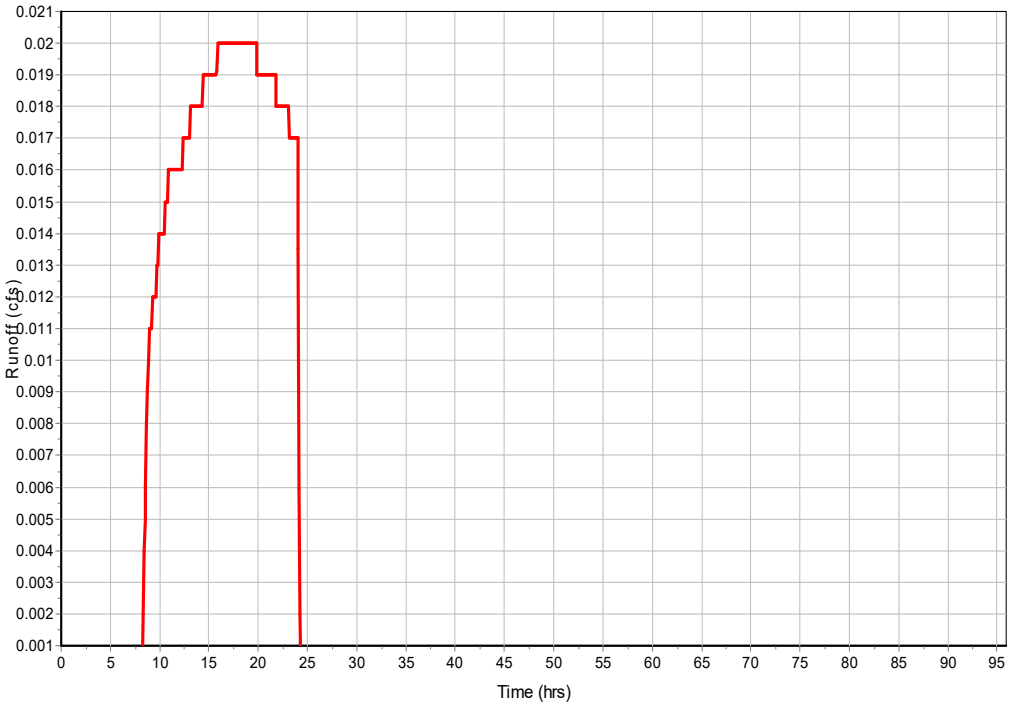
Total Rainfall (in)	3.29
Total Runoff (in)	0.37
Peak Runoff (cfs)	0.02
Weighted Curve Number	58
Time of Concentration (days hh:mm:ss)	0 00:12:07

Subbasin : P6

Rainfall Intensity Graph



Runoff Hydrograph



Storage Nodes

Storage Node : Stor-01

Input Data

Invert Elevation (ft)	108.00
Max (Rim) Elevation (ft)	114.00
Max (Rim) Offset (ft)	6.00
Initial Water Elevation (ft)	108.00
Initial Water Depth (ft)	0.00
Ponded Area (ft^2)	0.00
Evaporation Loss	0.00

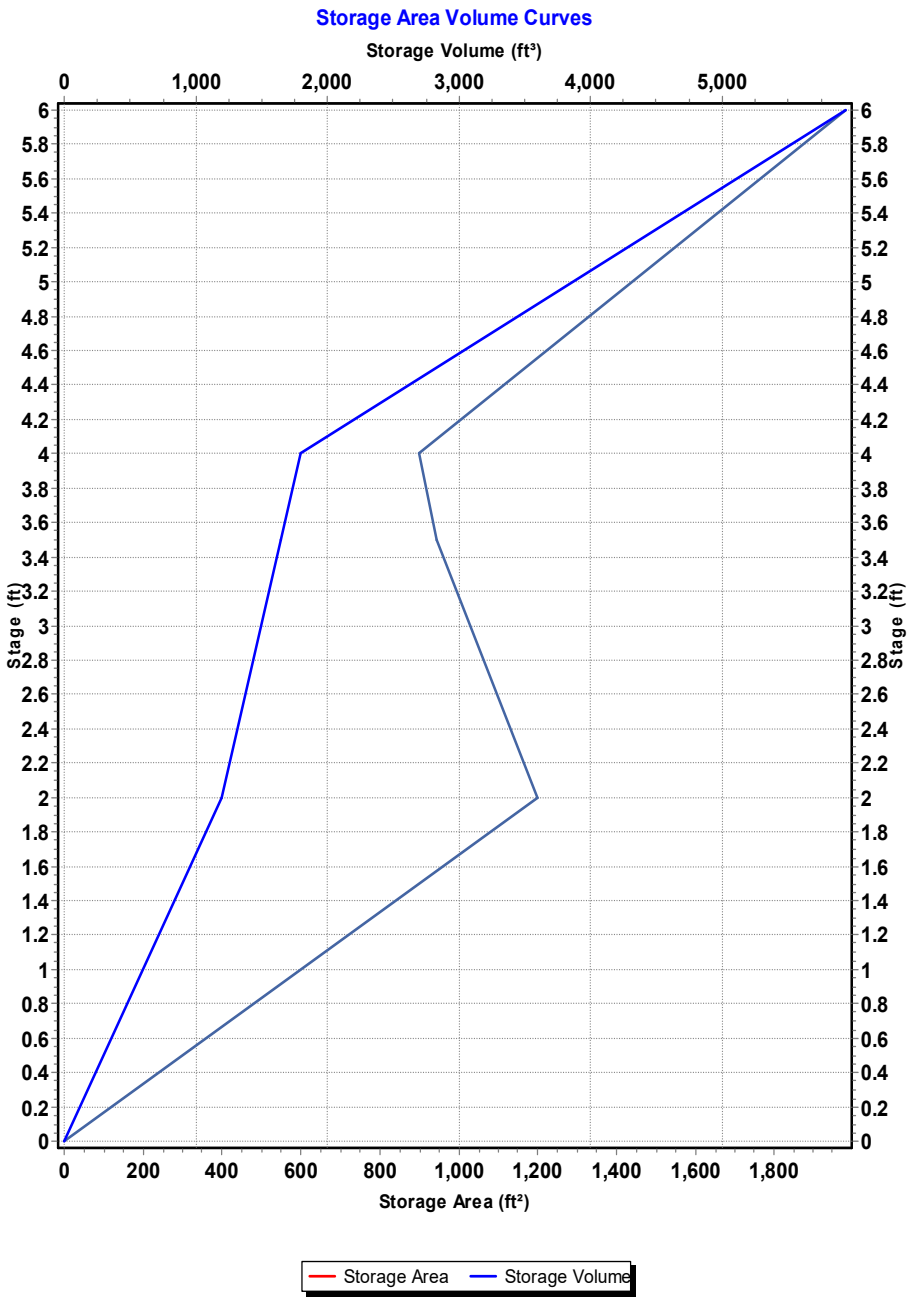
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.011

Storage Area Volume Curves

Storage Curve : Storage-01

Stage (ft)	Storage Area (ft^2)	Storage Volume (ft^3)
0	0	0
2	1200	1200
3.5	942.86	1650
4	900	1800
6	1980.67	5942


Storage Area Volume Curves
Storage Volume (ft³)
0
1,000
2,000
3,000
4,000
5,000
Stage (ft)
Storage Area (ft²)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
Storage Area
Storage Volume

Storage Node : Stor-01 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-01	Trapezoidal	No	113.00	5.00	6.00	1.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-01a	Side	CIRCULAR	No	1.38			110.00	0.61
2	Orifice-01b	Side	Rectangular	No		3.00	6.00	112.50	0.63

Output Summary Results

Peak Inflow (cfs)	0.37
Peak Lateral Inflow (cfs)	0.37
Peak Outflow (cfs)	0.06
Peak Exfiltration Flow Rate (cfm)	0.66
Max HGL Elevation Attained (ft)	111.57
Max HGL Depth Attained (ft)	3.57
Average HGL Elevation Attained (ft)	109.24
Average HGL Depth Attained (ft)	1.24
Time of Max HGL Occurrence (days hh:mm)	0 21:23
Total Exfiltration Volume (1000-ft^3)	2.359
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

Storage Node : Stor-02

Input Data

Invert Elevation (ft)	116.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	116.00
Initial Water Depth (ft)	0.00
Ponded Area (ft^2)	0.00
Evaporation Loss	0.00

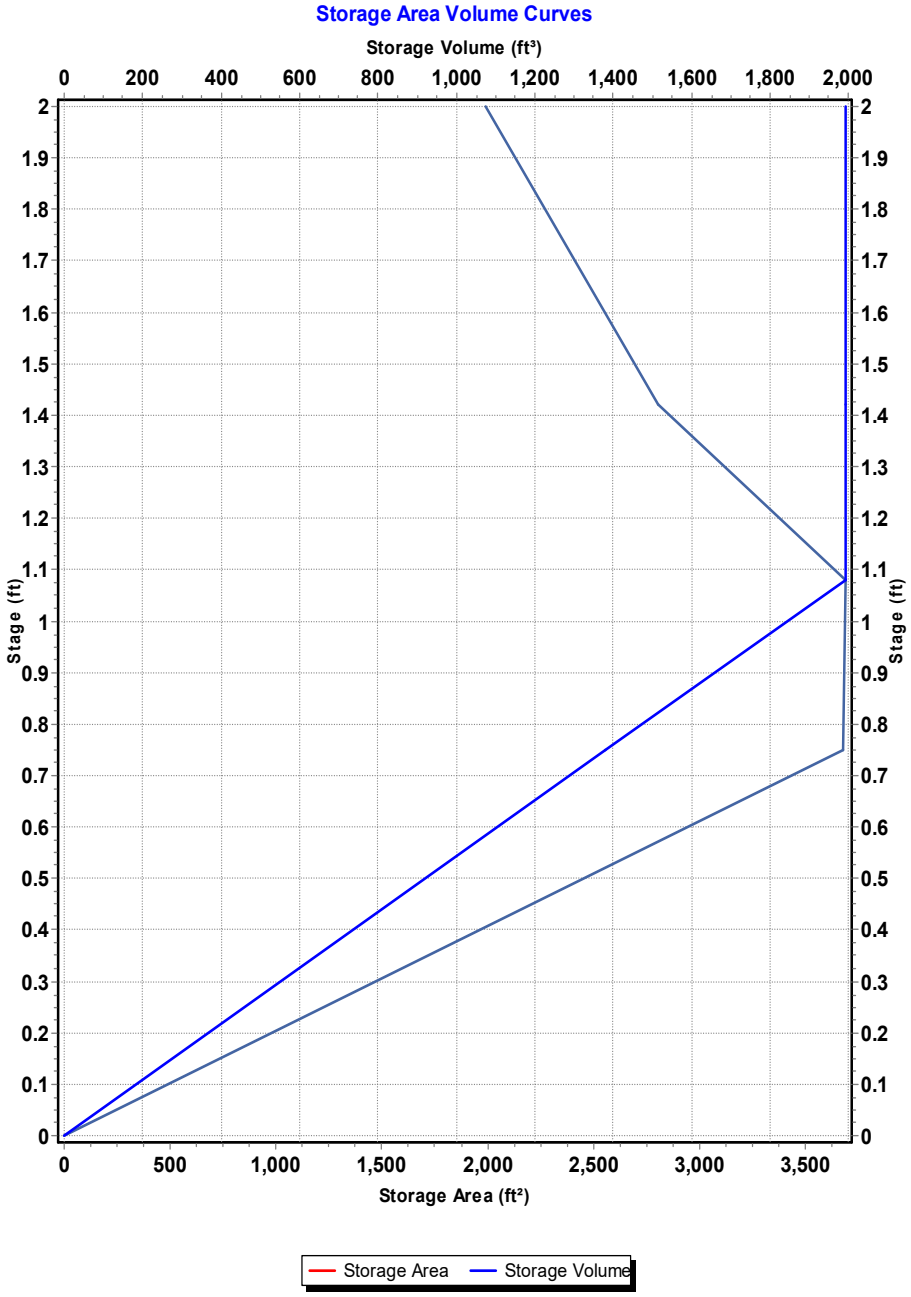
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.035

Storage Area Volume Curves

Storage Curve : Storage-02-03

Stage (ft)	Storage Area (ft^2)	Storage Volume (ft^3)
0	0	0
0.75	3680	1380
1.08	3690.74	1993
1.42	2807.04	1993
2	1993	1993


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
Storage Area (ft²)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Storage Area
Storage Volume

Storage Node : Stor-02 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-02	Trapezoidal	No	118.00	2.00	100.00	1.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-02	Side	CIRCULAR	No	4.00			116.75	0.61

Output Summary Results

Peak Inflow (cfs)	0.12
Peak Lateral Inflow (cfs)	0.12
Peak Outflow (cfs)	0
Peak Exfiltration Flow Rate (cfm)	2.1
Max HGL Elevation Attained (ft)	116.29
Max HGL Depth Attained (ft)	0.29
Average HGL Elevation Attained (ft)	116.02
Average HGL Depth Attained (ft)	0.02
Time of Max HGL Occurrence (days hh:mm)	0 10:05
Total Exfiltration Volume (1000-ft^3)	1.229
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

Storage Node : Stor-03

Input Data

Invert Elevation (ft)	116.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	116.00
Initial Water Depth (ft)	0.00
Ponded Area (ft^2)	0.00
Evaporation Loss	0.00

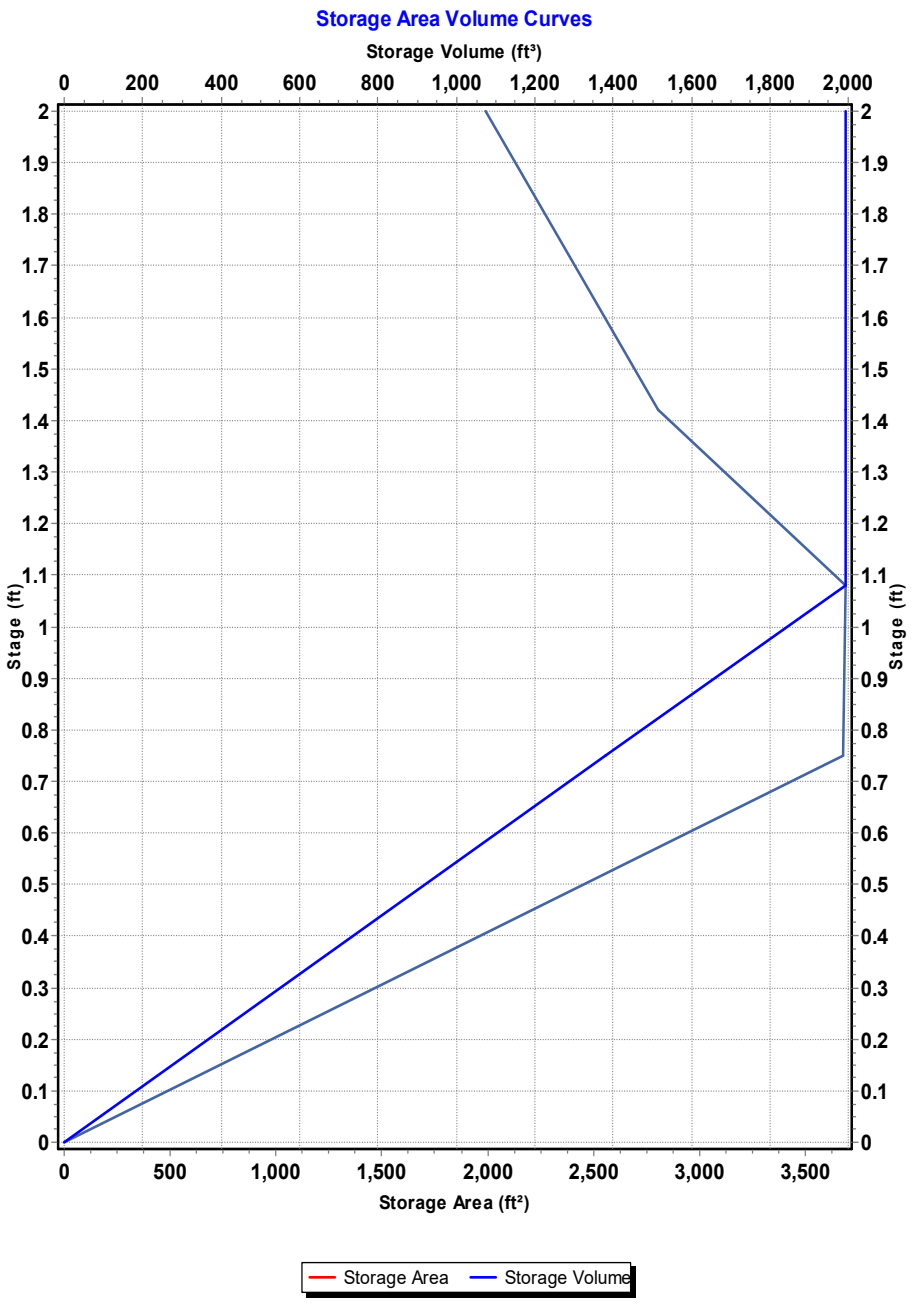
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.036

Storage Area Volume Curves

Storage Curve : Storage-02-03

Stage (ft)	Storage Area (ft^2)	Storage Volume (ft^3)
0	0	0
0.75	3680	1380
1.08	3690.74	1993
1.42	2807.04	1993
2	1993	1993


Storage Area Volume Curves
Storage Volume (ft³)
0
200
400
600
800
1,000
1,200
1,400
1,600
1,800
2,000
Stage (ft)
0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
1.1
1.2
1.3
1.4
1.5
1.6
1.7
1.8
1.9
2
Storage Area (ft²)
0
500
1,000
1,500
2,000
2,500
3,000
3,500
Storage Area
Storage Volume

Storage Node : Stor-03 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-03	Trapezoidal	No	118.00	2.00	100.00	1.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-03	Side	CIRCULAR	No	4.00			116.75	0.61

Output Summary Results

Peak Inflow (cfs)	0.18
Peak Lateral Inflow (cfs)	0.18
Peak Outflow (cfs)	0
Peak Exfiltration Flow Rate (cfm)	2.16
Max HGL Elevation Attained (ft)	116.53
Max HGL Depth Attained (ft)	0.53
Average HGL Elevation Attained (ft)	116.1
Average HGL Depth Attained (ft)	0.1
Time of Max HGL Occurrence (days hh:mm)	0 18:06
Total Exfiltration Volume (1000-ft^3)	2.786
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

Storage Node : Stor-04

Input Data

Invert Elevation (ft)	116.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	116.00
Initial Water Depth (ft)	0.00
Ponded Area (ft^2)	0.00
Evaporation Loss	0.00

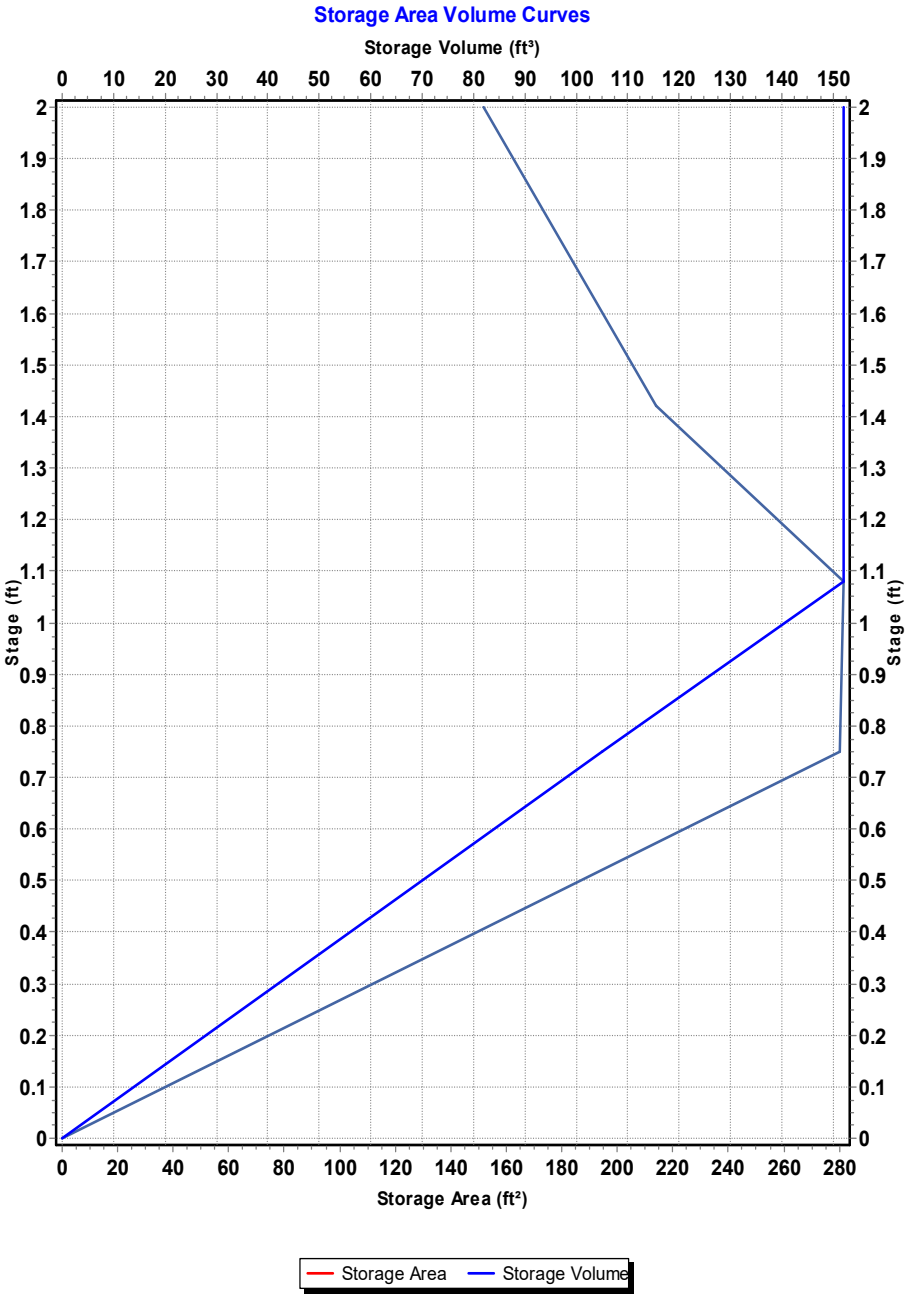
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.0027

Storage Area Volume Curves

Storage Curve : Storage-04-06

Stage (ft)	Storage Area (ft^2)	Storage Volume (ft^3)
0	0	0
0.75	280	105
1.08	281.48	152
1.42	214.08	152
2	152	152


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2
Storage Area (ft²)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280
Storage Area
Storage Volume

Storage Node : Stor-04 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-04	Trapezoidal	No	118.00	2.00	15.00	1.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-04	Side	CIRCULAR	No	4.00			116.75	0.61

Output Summary Results

Peak Inflow (cfs)	0.01
Peak Lateral Inflow (cfs)	0.01
Peak Outflow (cfs)	0
Peak Exfiltration Flow Rate (cfm)	0.16
Max HGL Elevation Attained (ft)	116.26
Max HGL Depth Attained (ft)	0.26
Average HGL Elevation Attained (ft)	116.01
Average HGL Depth Attained (ft)	0.01
Time of Max HGL Occurrence (days hh:mm)	0 09:26
Total Exfiltration Volume (1000-ft^3)	0.066
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

Storage Node : Stor-05

Input Data

Invert Elevation (ft)	116.00
Max (Rim) Elevation (ft)	119.00
Max (Rim) Offset (ft)	3.00
Initial Water Elevation (ft)	116.00
Initial Water Depth (ft)	0.00
Ponded Area (ft^2)	0.00
Evaporation Loss	0.00

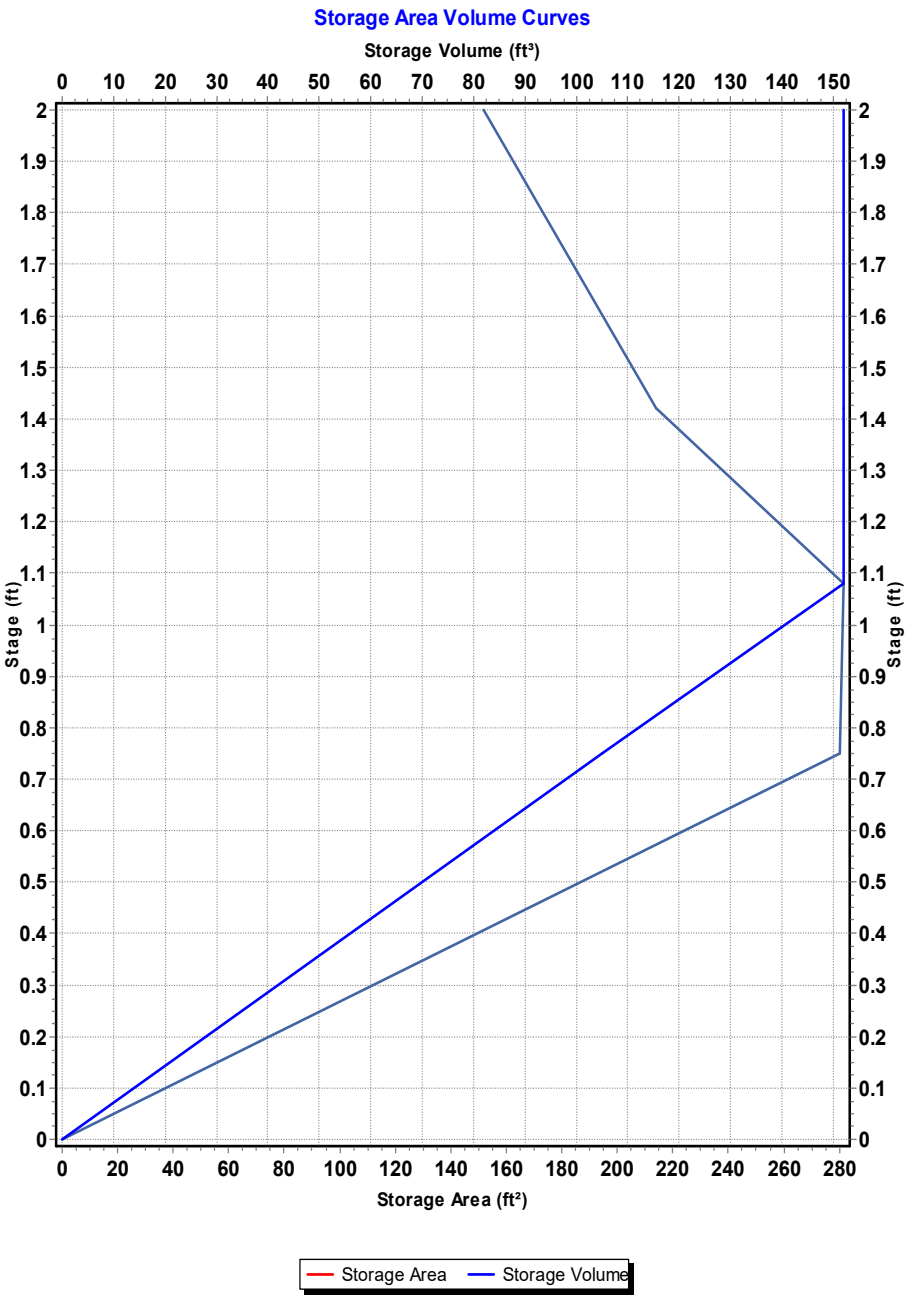
Infiltration/Exfiltration

Constant Flow Rate (cfs)	0.0027

Storage Area Volume Curves

Storage Curve : Storage-04-06

Stage (ft)	Storage Area (ft^2)	Storage Volume (ft^3)
0	0	0
0.75	280	105
1.08	281.48	152
1.42	214.08	152
2	152	152


Storage Area Volume Curves
Storage Volume (ft³)
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150
Stage (ft)
0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2
Storage Area (ft²)
0 20 40 60 80 100 120 140 160 180 200 220 240 260 280
Storage Area
Storage Volume

Storage Node : Stor-05 (continued)

Outflow Weirs

SN	Element ID	Weir Type	Flap Gate	Crest Elevation (ft)	Crest Offset (ft)	Length (ft)	Weir Total Height (ft)	Discharge Coefficient
1	Weir-05	Trapezoidal	No	118.00	2.00	15.00	1.00	3.33

Outflow Orifices

SN	Element ID	Orifice Type	Orifice Shape	Flap Gate	Circular Orifice Diameter (in)	Rectangular Orifice Height (in)	Rectangular Orifice Width (in)	Orifice Invert Elevation (ft)	Orifice Coefficient
1	Orifice-05	Side	CIRCULAR	No	4.00			116.75	0.61

Output Summary Results

Peak Inflow (cfs)	0.01
Peak Lateral Inflow (cfs)	0.01
Peak Outflow (cfs)	0
Peak Exfiltration Flow Rate (cfm)	0.16
Max HGL Elevation Attained (ft)	116.22
Max HGL Depth Attained (ft)	0.22
Average HGL Elevation Attained (ft)	116.01
Average HGL Depth Attained (ft)	0.01
Time of Max HGL Occurrence (days hh:mm)	0 09:11
Total Exfiltration Volume (1000-ft^3)	0.05
Total Flooded Volume (ac-in)	0
Total Time Flooded (min)	0
Total Retention Time (sec)	0

ATTACHMENT 5

References

3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

By the second year of the effective date of the permit, each Permittee shall adopt or reference appropriate performance criteria for such biotreatment and media filters.

(iii) **Reporting** – The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long-term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.f. Hydromodification Management

(i) **Task Description** – Within the third year of the effective date of the permit, the Permittee shall develop and implement Hydromodification Management procedures. Hydromodification management projects are Regulated Projects that create and/or replace one acre or more of impervious surface. A project that does not increase impervious surface area over the pre-project condition is not a hydromodification management project.

(ii) **Implementation Level** - The Permittee shall implement the following Hydromodification Standard:

(a) Post-project runoff shall not exceed estimated pre-project flow rate for the 2-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Coast Ranges
- Klamath Mountains
- Cascade Range
- Modoc Plateau
- Basin and Range
- Sierra Nevada
- Great Valley

(b) Post-project runoff shall not exceed estimated pre-project flow rate for the 10-year, 24-hour storm in the following geomorphic provinces (Figure 1):

- Transverse Ranges
- Peninsular Ranges
- Mojave Desert
- Colorado Desert

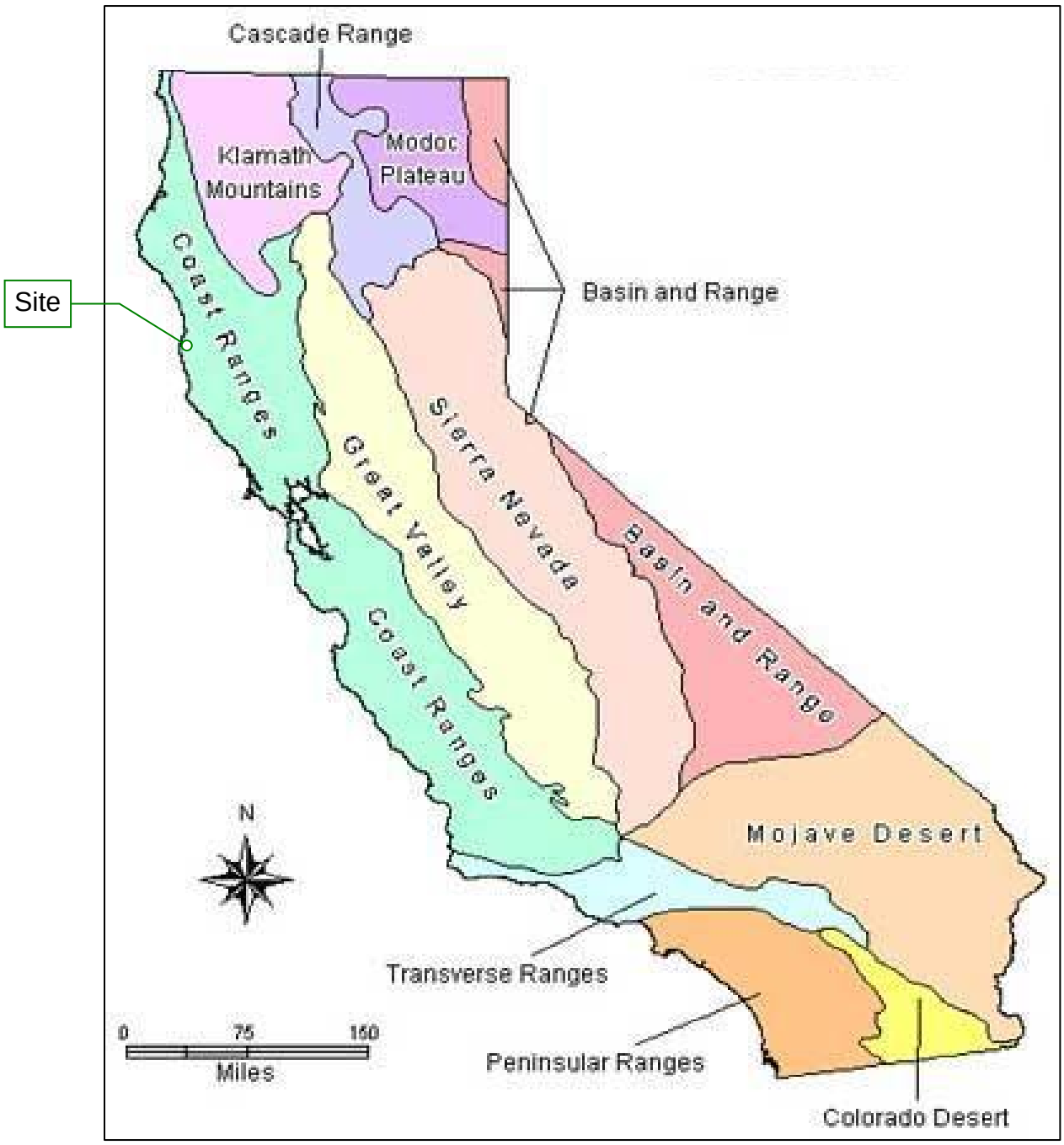


Figure 1 — California Geomorphic Provinces

Alternatively, the Permittee may use a geomorphically based hydromodification standard or set of standards and analysis procedures designed to ensure that Regulated Projects do not cause a decrease in lateral (bank) and vertical (channel bed) stability in receiving stream channels. The alternative hydromodification standard or set of standards and analysis procedures must be reviewed and approved by the Regional Board Executive Officer.

(iii) **Reporting** –The Permittee shall use State Water Board SMARTS to submit a summary of the past year activities and certify compliance with all requirements of this program element. The summary shall also address the relationship between the program element activities and the Permittee's Program Effectiveness Assessment and Improvement Plan that tracks annual and long- term effectiveness of the storm water program. If a Permittee is unable to certify compliance with a requirement in this program element see Section E.16.a.for compliance directions.

E.12.g. Enforceable Mechanisms

(i) **Task Description** - Within the third year of the effective date of the permit, the Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through f (if necessary).

(ii) **Implementation Level** - The Permittee shall develop and/or modify enforceable mechanisms that will effectively implement the requirements in Section E.12.b through E.12.f and may include municipal codes, regulations, standards, and specifications. The Permittee shall:

(a) Conduct an analysis of all applicable codes, regulations, standards, and/or specifications to identify modifications and/or additions necessary to fill gaps and remove impediments to effective implementation of project-scale development requirements.

(b) Approve new and/or modified enforceable mechanisms that effectively resolve regulatory conflicts and implement the requirements in Sections E.12.b through E.12.f (if necessary)

(c) Apply new and/or modified enforceable mechanisms to all applicable new and redevelopment projects. Develop and make available specific guidance for LID BMP design

(d) Complete a Tracking Report indicating the Permittee’s accomplishments in education and outreach supporting implementation of LID requirements for new and redevelopment projects.

E.12.h. Operation and Maintenance of Post-Construction Storm Water Management Measures

(i) **Task Description** –Within the second year of the effective date of the permit, the Permittee shall implement an O&M Verification Program for storm water treatment and baseline hydromodification management structural control measures defined in Section E.12.e(ii)(f). Storm Water Treatment Measures and Baseline Hydromodification Management Measures on all Regulated Projects.

(ii) **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:

(a) All Regulated Projects shall at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:

1) The project proponent’s signed statement accepting responsibility for the O&M of structural control measure(s) until such responsibility is legally transferred to another entity;

NOAA Atlas 14, Volume 6, Version 2
Location name: Fort Bragg, California, USA*
Latitude: 39.4283°, Longitude: -123.8017°
Elevation: 118 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.131 (0.116-0.150)	0.193 (0.171-0.220)	0.269 (0.237-0.309)	0.328 (0.287-0.380)	0.405 (0.339-0.488)	0.460 (0.376-0.569)	0.515 (0.408-0.655)	0.568 (0.436-0.748)	0.637 (0.465-0.881)	0.688 (0.482-0.991)
10-min	0.188 (0.167-0.215)	0.277 (0.245-0.316)	0.386 (0.340-0.442)	0.471 (0.411-0.545)	0.580 (0.486-0.699)	0.660 (0.539-0.816)	0.738 (0.585-0.939)	0.814 (0.625-1.07)	0.913 (0.667-1.26)	0.986 (0.691-1.42)
15-min	0.228 (0.202-0.260)	0.335 (0.296-0.382)	0.467 (0.412-0.535)	0.569 (0.497-0.659)	0.702 (0.588-0.846)	0.798 (0.652-0.987)	0.892 (0.708-1.14)	0.985 (0.755-1.30)	1.10 (0.806-1.53)	1.19 (0.835-1.72)
30-min	0.312 (0.277-0.356)	0.459 (0.406-0.524)	0.640 (0.564-0.733)	0.781 (0.681-0.904)	0.962 (0.806-1.16)	1.09 (0.894-1.35)	1.22 (0.970-1.56)	1.35 (1.04-1.78)	1.51 (1.10-2.10)	1.63 (1.14-2.36)
60-min	0.440 (0.390-0.502)	0.646 (0.571-0.738)	0.901 (0.795-1.03)	1.10 (0.959-1.27)	1.36 (1.14-1.63)	1.54 (1.26-1.90)	1.72 (1.37-2.19)	1.90 (1.46-2.50)	2.13 (1.56-2.95)	2.30 (1.61-3.32)
2-hr	0.668 (0.591-0.761)	0.893 (0.790-1.02)	1.18 (1.04-1.36)	1.42 (1.24-1.64)	1.72 (1.44-2.08)	1.96 (1.60-2.42)	2.19 (1.74-2.79)	2.43 (1.86-3.20)	2.74 (2.00-3.79)	2.98 (2.09-4.29)
3-hr	0.861 (0.763-0.982)	1.12 (0.987-1.27)	1.45 (1.27-1.66)	1.71 (1.49-1.98)	2.07 (1.74-2.50)	2.34 (1.92-2.90)	2.62 (2.08-3.34)	2.90 (2.23-3.82)	3.28 (2.39-4.54)	3.57 (2.50-5.14)
6-hr	1.27 (1.12-1.45)	1.59 (1.41-1.82)	2.01 (1.78-2.31)	2.35 (2.05-2.72)	2.81 (2.36-3.39)	3.16 (2.58-3.90)	3.51 (2.78-4.47)	3.87 (2.97-5.09)	4.35 (3.17-6.01)	4.71 (3.30-6.79)
12-hr	1.80 (1.60-2.06)	2.32 (2.05-2.65)	2.96 (2.61-3.39)	3.45 (3.02-4.00)	4.10 (3.43-4.94)	4.57 (3.73-5.64)	5.02 (3.98-6.40)	5.47 (4.20-7.21)	6.05 (4.42-8.38)	6.48 (4.54-9.34)
24-hr	2.49 (2.24-2.83)	3.29 (2.95-3.74)	4.26 (3.81-4.85)	4.99 (4.43-5.73)	5.90 (5.08-7.00)	6.56 (5.53-7.94)	7.18 (5.91-8.90)	7.78 (6.23-9.90)	8.53 (6.57-11.3)	9.07 (6.76-12.4)
2-day	3.28 (2.95-3.73)	4.21 (3.78-4.78)	5.34 (4.78-6.09)	6.22 (5.52-7.14)	7.33 (6.31-8.70)	8.13 (6.86-9.84)	8.91 (7.34-11.0)	9.66 (7.75-12.3)	10.6 (8.18-14.1)	11.3 (8.43-15.5)
3-day	3.87 (3.48-4.39)	4.87 (4.37-5.54)	6.13 (5.48-6.98)	7.10 (6.31-8.16)	8.36 (7.19-9.91)	9.28 (7.82-11.2)	10.2 (8.37-12.6)	11.0 (8.86-14.1)	12.2 (9.38-16.1)	13.0 (9.69-17.8)
4-day	4.38 (3.93-4.97)	5.47 (4.91-6.22)	6.84 (6.13-7.80)	7.92 (7.03-9.09)	9.30 (8.00-11.0)	10.3 (8.70-12.5)	11.3 (9.32-14.0)	12.3 (9.87-15.7)	13.6 (10.5-18.0)	14.5 (10.8-19.9)
7-day	5.54 (4.98-6.29)	6.90 (6.19-7.84)	8.60 (7.70-9.81)	9.94 (8.83-11.4)	11.7 (10.0-13.8)	12.9 (10.9-15.6)	14.2 (11.7-17.5)	15.4 (12.3-19.6)	16.9 (13.1-22.5)	18.1 (13.5-24.8)
10-day	6.41 (5.76-7.28)	8.00 (7.18-9.10)	10.0 (8.95-11.4)	11.5 (10.3-13.3)	13.5 (11.7-16.1)	15.0 (12.6-18.2)	16.4 (13.5-20.3)	17.8 (14.3-22.7)	19.6 (15.1-26.0)	20.9 (15.6-28.6)
20-day	8.75 (7.86-9.93)	11.0 (9.90-12.5)	13.8 (12.4-15.8)	16.0 (14.2-18.4)	18.8 (16.1-22.3)	20.8 (17.5-25.1)	22.7 (18.7-28.1)	24.5 (19.7-31.2)	26.9 (20.7-35.6)	28.6 (21.3-39.2)
30-day	10.8 (9.67-12.2)	13.7 (12.3-15.5)	17.2 (15.4-19.6)	19.9 (17.7-22.8)	23.3 (20.0-27.6)	25.7 (21.7-31.1)	28.0 (23.1-34.7)	30.3 (24.3-38.5)	33.1 (25.5-43.8)	35.1 (26.1-48.1)
45-day	13.5 (12.1-15.3)	17.2 (15.4-19.6)	21.7 (19.4-24.8)	25.1 (22.3-28.9)	29.4 (25.3-34.8)	32.4 (27.3-39.2)	35.2 (29.0-43.6)	37.9 (30.4-48.3)	41.3 (31.8-54.7)	43.6 (32.5-59.8)
60-day	16.0 (14.3-18.1)	20.4 (18.4-23.2)	25.8 (23.1-29.4)	29.8 (26.5-34.3)	34.8 (29.9-41.3)	38.3 (32.3-46.3)	41.6 (34.2-51.5)	44.7 (35.8-56.9)	48.5 (37.3-64.2)	51.1 (38.1-70.1)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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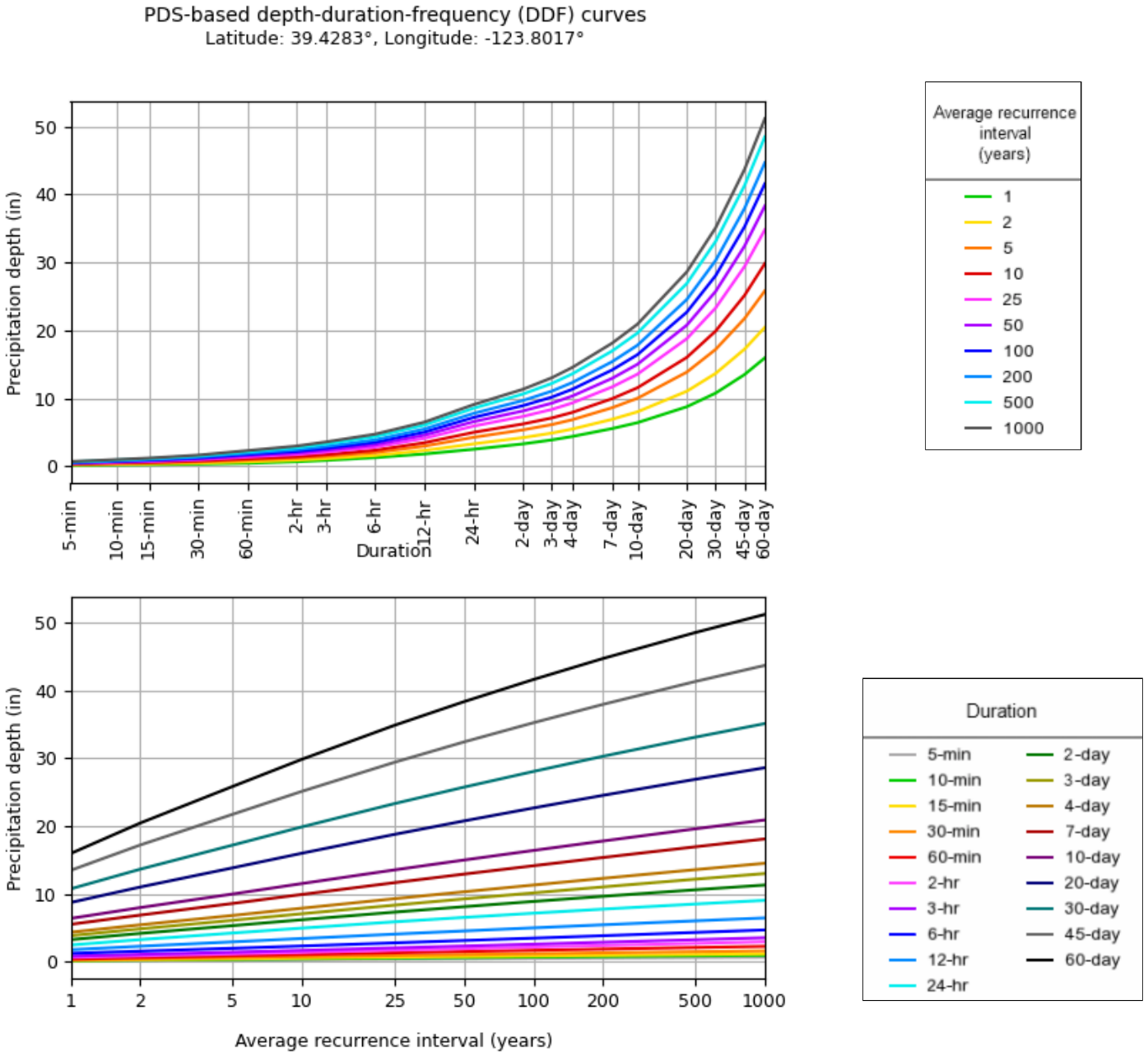
PF graphical



NOAA Atlas 14, Volume 6, Version 2

Created (GMT): Tue Dec 17 00:16:46 2024

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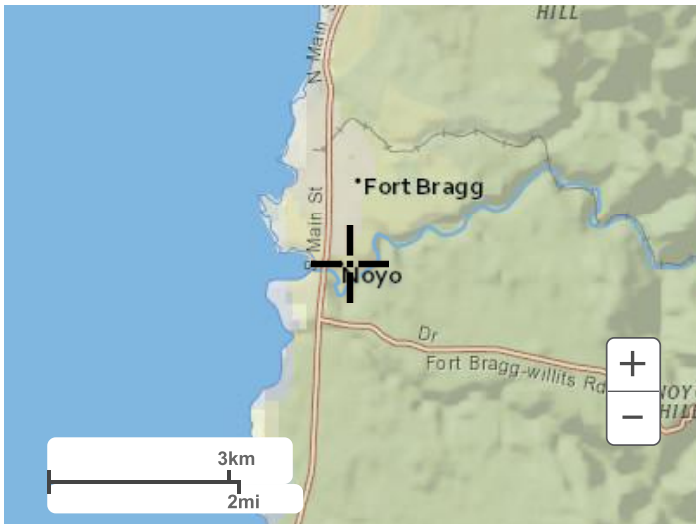
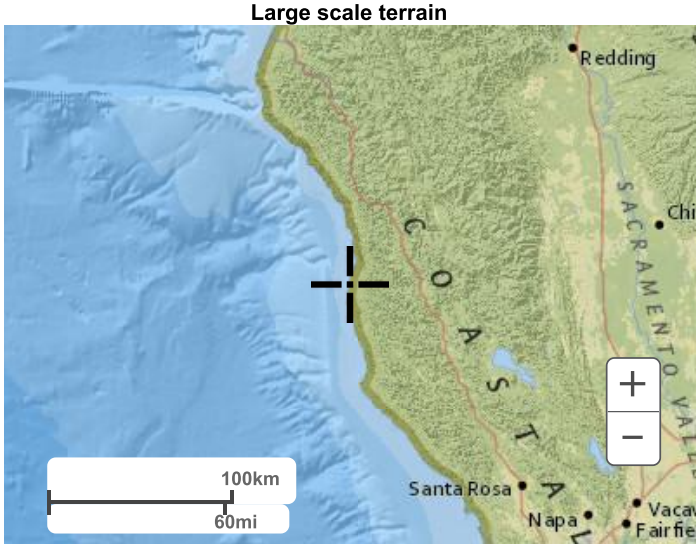
Maps & aerials

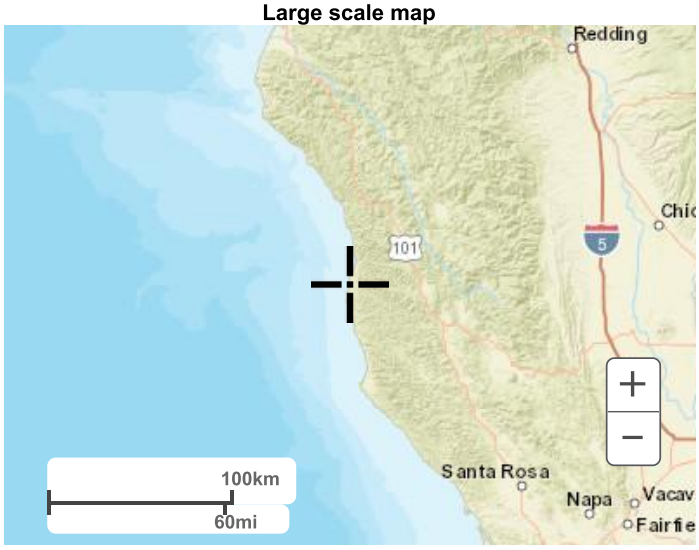
Small scale terrain



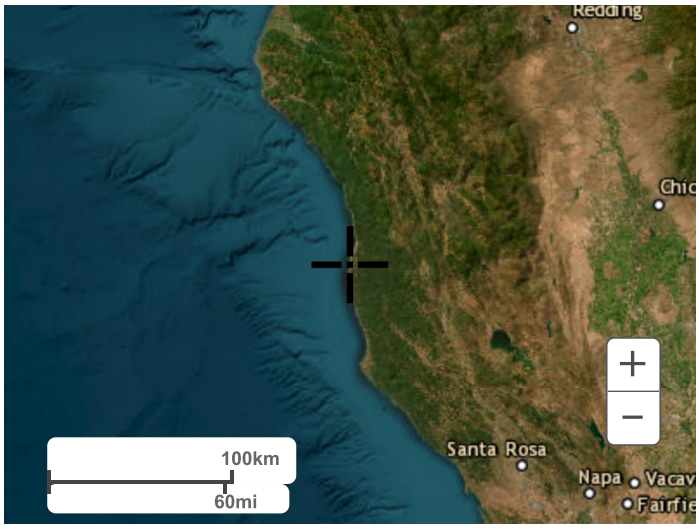
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Table 2-2a Runoff curve numbers for urban areas [1/]

Cover description: Cover type and hydrologic condition	Average percent impervious area [2/]	Curve numbers for hydrologic soil group: A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3/]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4/]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5/]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b Runoff curve numbers for cultivated agricultural lands [1/]

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment [2/]	Hydrologic condition [3/]	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T+ CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

[1] Average runoff condition, and I_a=0.2S

[2] Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

[3] Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good ≥ 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c Runoff curve numbers for other agricultural lands [1/]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2/]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3/]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4/]	48	65	73
Woods—grass combination (orchard or tree farm). [5/]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6/]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4/]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.

2 ***Poor:*** <50%) ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 ***Poor***: <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 ***Poor:*** Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Appendix B Synthetic Rainfall Distributions and Rainfall Data Sources

The highest peak discharges from small watersheds in the United States are usually caused by intense, brief rainfalls that may occur as distinct events or as part of a longer storm. These intense rainstorms do not usually extended over a large area and intensities vary greatly. One common practice in rainfall-runoff analysis is to develop a synthetic rainfall distribution to use in lieu of actual storm events. This distribution includes maximum rainfall intensities for the selected design frequency arranged in a sequence that is critical for producing peak runoff.

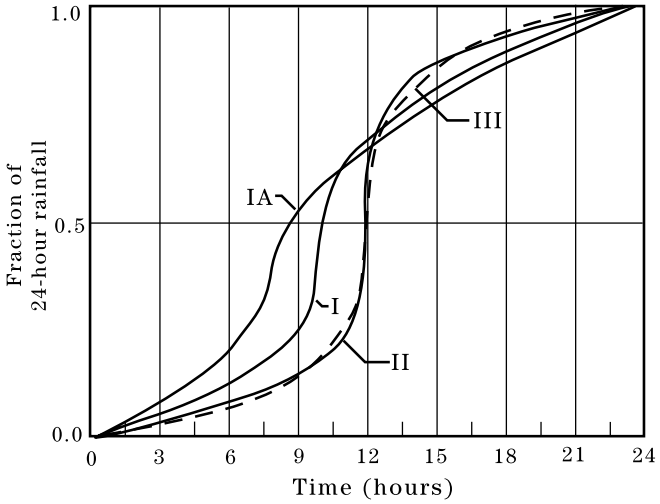
Synthetic rainfall distributions

The length of the most intense rainfall period contributing to the peak runoff rate is related to the time of concentration (T_c) for the watershed. In a hydrograph created with NRCS procedures, the duration of rainfall that directly contributes to the peak is about 170 percent of the T_c. For example, the most intense 8.5-minute rainfall period would contribute to the peak discharge for a watershed with a T_c of 5 minutes. The most intense 8.5-hour period would contribute to the peak for a watershed with a 5-hour T_c.

Different rainfall distributions can be developed for each of these watersheds to emphasize the critical rainfall duration for the peak discharges. However, to avoid the use of a different set of rainfall intensities for each drainage area size, a set of synthetic rainfall distributions having "nested" rainfall intensities was developed. The set "maximizes" the rainfall intensities by incorporating selected short duration intensities within those needed for longer durations at the same probability level.

For the size of the drainage areas for which NRCS usually provides assistance, a storm period of 24 hours was chosen the synthetic rainfall distributions. The 24-hour storm, while longer than that needed to determine peaks for these drainage areas, is appropriate for determining runoff volumes. Therefore, a single storm duration and associated synthetic rainfall distribution can be used to represent not only the peak discharges but also the runoff volumes for a range of drainage area sizes.

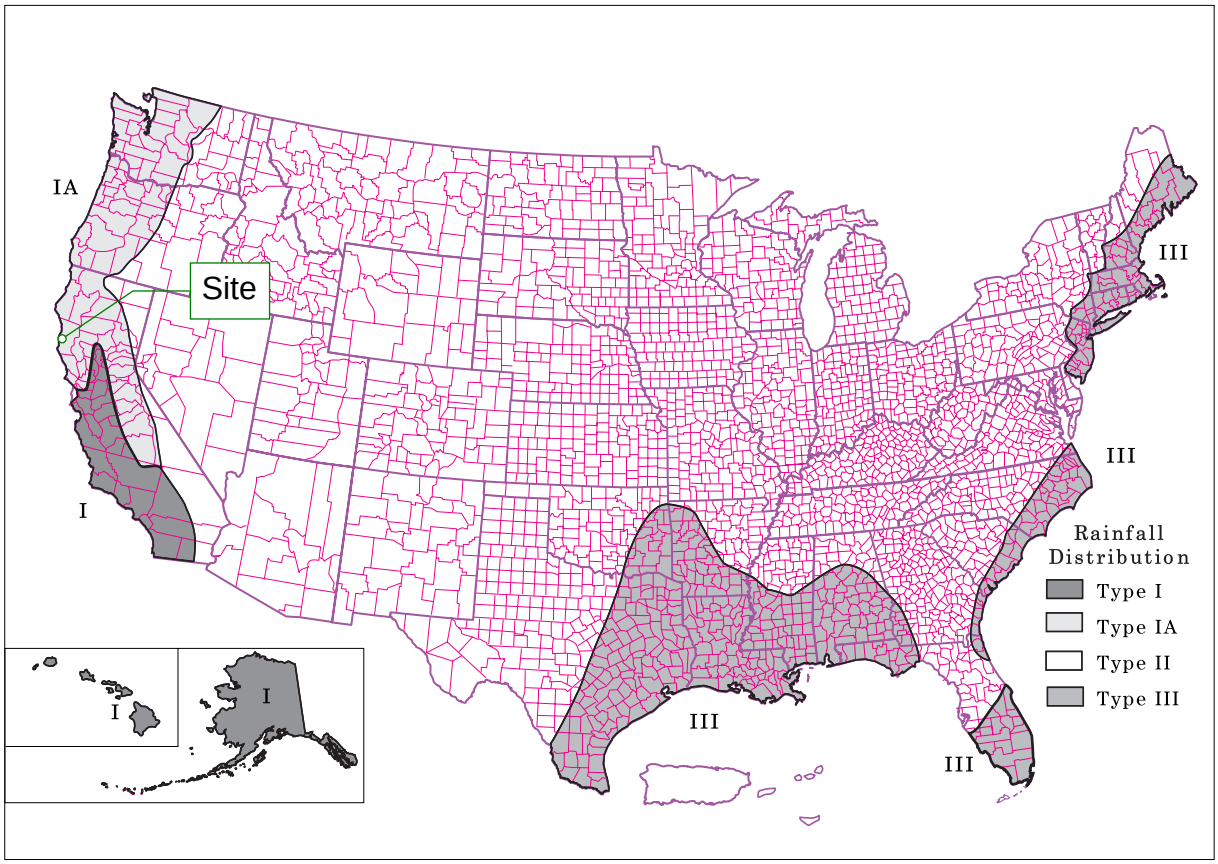
Figure B-1 SCS 24-hour rainfall distributions



The intensity of rainfall varies considerably during a storm as well as geographic regions. To represent various regions of the United States, NRCS developed four synthetic 24-hour rainfall distributions (I, IA, II, and III) from available National Weather Service (NWS) duration-frequency data (Hershfield 1061; Frederick et al., 1977) or local storm data. Type IA is the least intense and type II the most intense short duration rainfall. The four distributions are shown in figure B-1, and figure B-2 shows their approximate geographic boundaries.

Types I and IA represent the Pacific maritime climate with wet winters and dry summers. Type III represents Gulf of Mexico and Atlantic coastal areas where tropical storms bring large 24-hour rainfall amounts. Type II represents the rest of the country. For more precise distribution boundaries in a state having more than one type, contact the NRCS State Conservation Engineer.

Figure B-2 Approximate geographic boundaries for NRCS (SCS) rainfall distributions



Rainfall data sources

This section lists the most current 24-hour rainfall data published by the National Weather Service (NWS) for various parts of the country. Because NWS Technical Paper 40 (TP-40) is out of print, the 24-hour rainfall maps for areas east of the 105th meridian are included here as figures B-3 through B-8. For the area generally west of the 105th meridian, TP-40 has been superseded by NOAA Atlas 2, the Precipitation-Frequency Atlas of the Western United States, published by the National Ocean and Atmospheric Administration.

East of 105th meridian

Hershfield, D.M. 1961. Rainfall frequency atlas of the United States for durations from 30 minutes to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 40. Washington, DC. 155 p.

West of 105th meridian

Miller, J.F., R.H. Frederick, and R.J. Tracey. 1973. Precipitation-frequency atlas of the Western United States. Vol. I Montana; Vol. II, Wyoming; Vol III, Colorado; Vol. IV, New Mexico; Vol V, Idaho; Vol. VI, Utah; Vol. VII, Nevada; Vol. VIII, Arizona; Vol. IX, Washington; Vol. X, Oregon; Vol. XI, California. U.S. Dept. of Commerce, National Weather Service, NOAA Atlas 2. Silver Spring, MD.

Alaska

Miller, John F. 1963. Probable maximum precipitation and rainfall-frequency data for Alaska for areas to 400 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. of Commerce, Weather Bur. Tech. Pap. No. 47. Washington, DC. 69 p.

Hawaii

Weather Bureau. 1962. Rainfall-frequency atlas of the Hawaiian Islands for areas to 200 square miles, durations to 24 hours and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 43. Washington, DC. 60 p.

Puerto Rico and Virgin Islands

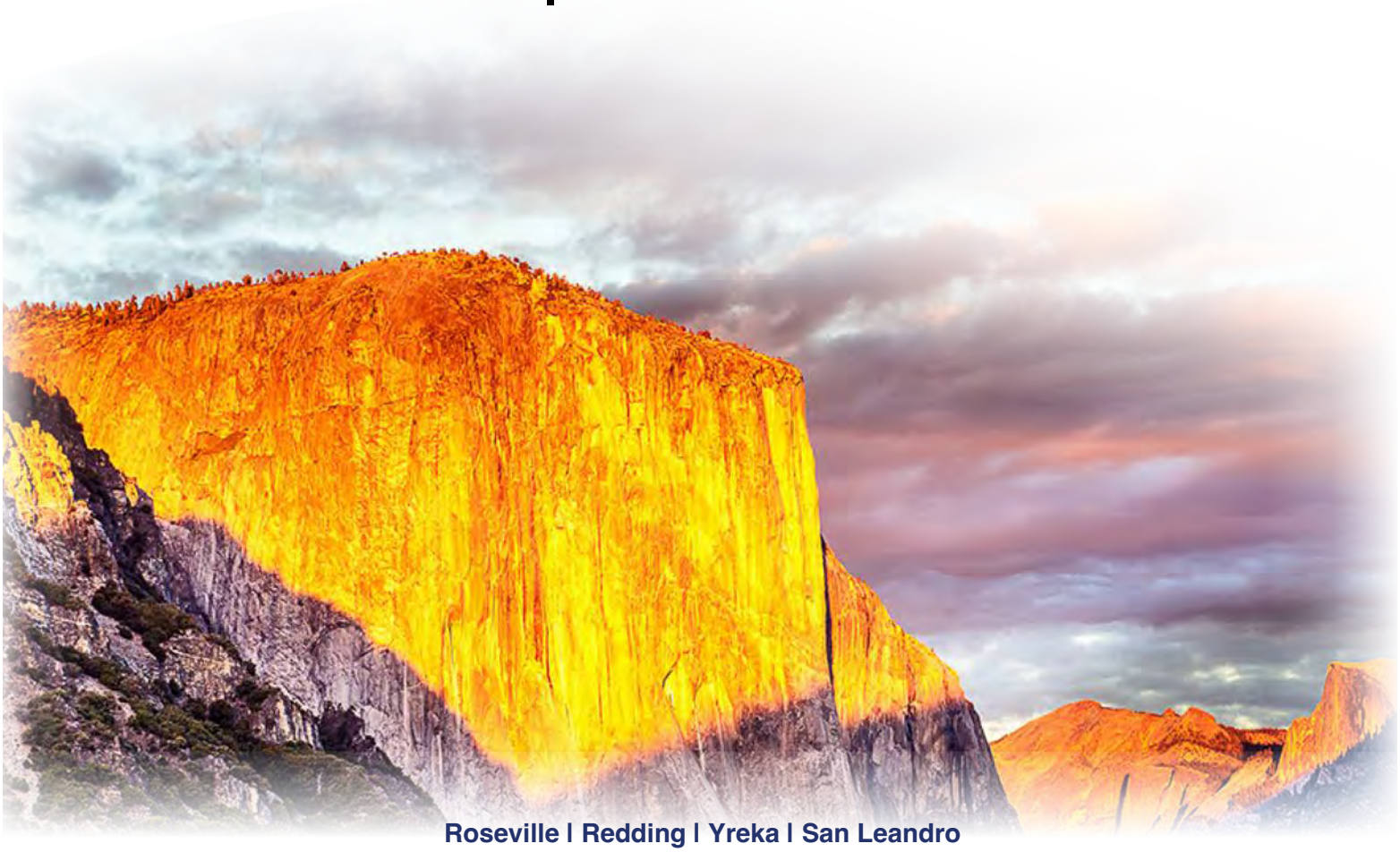
Weather Bureau. 1961. Generalized estimates of probable maximum precipitation and rainfall-frequency data for Puerto Rico and Virgin Islands for areas to 400 square miles, durations to 24 hours, and return periods from 1 to 100 years. U.S. Dept. Commerce, Weather Bur. Tech. Pap. No. 42. Washington, DC. 94 P.

ATTACHMENT 6

Geotechnical Report

Allerion
Consulting Group, Inc.

Services	Geotechnical Engineering Study
Project	Proposed 3-Story Apartment Building
Location	Fort Bragg, California
Client	Pacific West Communities, Inc.
Project No.	05-24059G
Date	September 19, 2024



A Report Prepared for:

PACIFIC WEST COMMUNITIES, INC.
ATTN: MR. DON SLATTERY
430 EAST STATE STREET, SUITE 100
EAGLE, IDAHO 83616

GEOTECHNICAL ENGINEERING STUDY
PROPOSED 3-STORY APARTMENT BUILDING
860 HAZELWOOD STREET
FORT BRAGG, CALIFORNIA

Prepared by:

Mohammed Khalid, MS, PE
Senior Engineer

Reviewed by:

Curtis "Ed" Hendrick, PE, GE, RG, CEG
Principal Geotechnical Engineer /
Engineering Geologist

Allerion Consulting Group, Inc.
1050 Melody Lane, Suite 160
Roseville, California 95678

September 19, 2024
Allerion Project No. 05-24059G

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INTRODUCTION

PURPOSE AND SCOPE OF STUDY

Allerion Consulting Group, Inc. (ACG) prepared this Geotechnical Engineering Study for the proposed improvements to be designed and constructed on the above referenced subject site (refer to the Location Plan, Figure 1, Appendix A). The purpose of the study is to evaluate the general conditions of the earth materials at the site to provide conclusions and recommendations related to the geotechnical and geological aspects of the project as discussed in ACG's proposal/agreement of August 7, 2024, and client's acceptance agreement of August 20, 2024, executed August 20, 2024.

The scope of our work included a site reconnaissance, review of client provided documents and readily available published documents (including aerial images, topographic maps, and nearby groundwater levels), obtaining drilling permit, exploring and sampling the general subsurface earth and groundwater conditions, performing percolation testing, performing soil mechanics laboratory tests, assessing potential for geological and seismic hazards (including liquefaction and expansive soil conditions), performing geotechnical analysis, and making recommendations for earthworks, foundation design criteria, lateral resistance, floor slab-on-grade support, exterior flatwork, and on-site asphaltic-concrete and concrete pavements.

The attached Appendices contain further information including graphic presentations (Site Vicinity Map and Map of Explorations - Appendix A); field exploration procedures and logs of subsurface explorations (Appendix B); laboratory testing, and procedures used (Appendix C); Guide Specifications for Earthwork (Appendix D); and SEAOC/OSHPD U.S. Seismic Design Maps (Appendix E).

PROJECT LOCATION

ACG understands the project is proposed on an approximately 2.83 acres and consists of one parcel identified as Mendocino County Assessor's Parcel Number 018-210-29-00. The subject site is located at 860 Hazelwood Street in Fort Bragg, California. The site is bounded by Hazelwood Street to the west, beyond which are residential properties; residential development to the north; Mendocino Coast

Recreation and Park District to the south, beyond which are residential properties; and residential property with mostly vacant land to the east, beyond which is Noyo River to the southeast.

PROPOSED PROJECT INFORMATION

In preparing this report we reviewed a preliminary site plan provided by the client (untitled and undated) and historic Google Earth aerial images related to the subject site. Based on the referenced preliminary site plan and information provided by the client, the proposed project consists of design/construction of one (1) 3-story apartment building. Additional improvements include paved driveways and parking spaces, a dog park, a community garden, a bocce ball court, an open space, and covered trash enclosures.

The site grading is anticipated to be in order of about 2 to 4 feet of fill based on the topography of the site, but the grading plans were not available for review at the time of this report preparation.

FINDINGS

SITE HISTORICAL BACKGROUND

The Google Earth aerial images dated back to June 1998 indicate the site was generally similar to that described below in the Site Description section.

SITE DESCRIPTION

During ACG's exploration on September 3, 2024, the subject site in the northwestern portion if the property was occupied by an abandoned house and a nearby storage container. The northwestern portion was fenced with a gravel driveway providing access to the residence. The remainder of the site was vacant and covered with grasses and weeds, with some trees near the boundaries of the site and one tree near the center of the site.

The northern portion of the site at the proposed building location was relatively flat-lying with elevations that varied from approximately +117 to +120 feet above mean sea level (MSL) per Google Earth elevation profiles. The southern portion of the site was gently sloped down towards Noyo River to the southeast with elevations that varied from approximately +105 to +117 feet above MSL per Google Earth elevation profiles.

SITE GEOLOGY

Based on our review of readily available published geologic literature/maps (California Geological Survey "Geologic map of California: Ukiah sheet", 1960; 1:250,000) the site is mapped to be underlain by Quaternary Pleistocene marine and marine terrace deposits (Map Symbol: Qm). The total thickness of the formation was not determined and is beyond the scope of this study. ACG considers the native earth materials discovered in the explorations are consistent with the mapped earth materials.

EARTH MATERIAL CONDITIONS

As shown on the Exploratory Logs (Appendix B), the subsurface earth material conditions exhibited variability. Generally, the uppermost soils consisted of loose to medium dense, moist, brown, Silty SAND (Unified Soil Classification: SM) to depths varying between approximately 5½ to 6 feet below existing ground surface (begs). Below the uppermost soils to depths varying between 25 to 26 feet begs, the earth materials consisted of interbedded layers of medium dense, moist, light brown to brown with rust staining, Silty SAND (SM)/ SAND with Silt (SP-SM)/ SAND (SP); and stiff, light gray with rust staining, Lean CLAY (CL). Below these layers was encountered dense to very dense, moist to wet, gray and light brown to red-brown with rust staining, Silty SAND (SM) to the maximum explored depth of about 30½ feet begs.

Since the earth material profile is generalized, the reader is advised to consult the Boring and CPT Logs contained in Appendix B, if the earth material conditions at a specific depth and location are desired. The logs contain a more detailed earth material description regarding color, earth material type, and Unified Soil Classification System (USCS) symbol.

Earth material conditions cannot be fully determined by surface and subsurface explorations and earth material sampling. Hence, unexpected earth material conditions might be encountered during construction. If earth material conditions are encountered during construction which vary from earth materials encountered during the investigation, then appropriate recommendations will be needed during construction. Therefore, we suggest a contingency fund for additional expenditures that might have to be made due to unforeseen conditions.

SOIL CORROSION SCREENING

A representative sample of the near surface soil was selected and transported to Sunland Analytical in Rancho Cordova, California, for testing soil corrosivity potential. The test methods for pH, minimum resistivity (CA DOT Test #643), sulfate content (CA DOT Test #417), and chloride content (CA DOT Test #422m) are shown in the following table.

TABLE 1. CORROSIVITY TEST RESULTS

Sample ID / Depth: B-4/1 @ 2' – 3.5' begs	
Constituent	Test Result
Soil pH	5.43
Minimum Resistivity (ohm-cm)	11.26
Chloride Content (ppm)	6.2
Sulfate Content (ppm)	3.6

Notes: ohm-cm = Ohm centimeters
ppm = Parts per million

The California Department of Transportation Corrosion and Structural Concrete Field Investigation Branch, May 2021 Corrosion Guidelines (Version 3.2), considers a site to be corrosive to foundation elements if one or more of the following conditions exists for the representative soil and/or water samples taken: has a chloride concentration greater than or equal to 500 ppm, sulfate concentration greater than or equal to 2000 ppm, or the pH is 5.5 or less. Based on this criterion, the on-site soils tested are considered corrosive to reinforced concrete. The presence of high acidity (pH values less than 5.5) indicates the soil (or water) can react with the lime in concrete to form soluble reaction products that can leach out of the concrete, resulting in a more porous and weaker concrete.

Table 4.2.1 – *Exposure Categories and Classes*, American Concrete Institute (ACI) 318, Section 4.2, as referenced in Section 1904.1 of the 2022 CBC, indicates the severity of sulfate exposure for the sample tested is *Not Applicable*. The low pH (acidic) soil conditions suggest that Type II modified or Type V cement along with higher cement contents and a specific water-cement ratio (around 4.5) likely will be required for this project.

Allerion is not a corrosion engineering firm. We recommend a licensed Corrosion Engineer be consulted to evaluate the above test results, assess the soil corrosion potential, and design resistant materials. We can provide references to a licensed Corrosion Engineer, upon request.

GROUNDWATER CONDITIONS

Observations of groundwater conditions were made during and just after drilling the exploratory borings. Groundwater was encountered after drilling at depths varying between approximately 11 and 13 feet below existing ground surface. It is possible that some borings may not have been left open long enough for groundwater to reach equilibrium.

Groundwater levels at the site should be expected to fluctuate throughout the year due to seasonal precipitation, local pumping, and other factors.

PERCOLATION TEST RESULTS

Two (2) percolation test borings (P-1 and P-2) were drilled using 4-inch outer-diameter continuous flight helical solid stem augers (SSA), to approximate depths as indicated in the table below. The percolation test locations and depths were provided by project's Civil Engineer. Please refer to the Appendix A – Figure 2 "Explorations Location Map" for approximate locations of the percolation test holes.

The soils encountered in the percolation test borings are consistent with the conditions found in the exploratory borings. The sidewalls of each boring were scored along the outer walls to reduce the effects of smearing. Approximately six (6)-inches of clean pea gravel was added to the bottom of each test hole. In each test hole a 2-inch inner diameter (ID) slotted PVC pipe was installed on top of the gravel. Pea gravel was placed in the annular space between the boring wall and pipe. Each hole was filled with water to let the soils presoak before performing the tests. Following the presoak time each test boring was filled with water to at least 12 inches above the bottom of the boring. The drop in water level was measured at specific time intervals until a steady rate of drop in water level was obtained when at least three consecutive readings were within 10 percent from each other. Pre-adjusted percolation rates were determined by dividing the drop in water level over the time required for the drop in water level. The infiltration rates were estimated using the percolation rate divided by a Conversion Factor to convert the percolation rate to infiltration rate. The test results are shown on Table 2, below.

TABLE 2. RESULTS OF PERCOLATION TESTS			
PERCOLATION TEST NO.	**APPROXIMATE DEPTH – from Top of AC (ft)**	**CALCULATED INFILTRATION RATE (in/hr)**	**TESTED SOIL DESCRIPTION**
P-1	5	1.03	Silty Fine SAND (SM)
P-2	5	0.94	Silty Fine SAND (SM)

The infiltration rates of water into the soils (per the test method referenced and results on Table 2, above) could be used by the project Civil Engineer as a preliminary infiltration rate at the locations indicated. A safety factor was not applied to these values. During construction of the stormwater infiltration systems, ACG recommends confirmation infiltration testing be performed with a double ring infiltrometer, if feasible, within the area of the proposed stormwater infiltration system.

CONCLUSIONS AND DISCUSSIONS

SITE SUITABILITY AND GEOTECHNICAL CONSIDERATIONS

From a geotechnical standpoint, the site is considered suitable for the proposed construction provided the conclusions and recommendations presented in this report are incorporated into the design and construction of the project. Geotechnical considerations that were evaluated by our office include undocumented fill, loose/soft native soils, and soils disturbed by removal of the existing structures and pavements. Mitigation measures for these items are discussed in the following sections of this report.

BEARING CAPABILITY

Field and laboratory tests show that the affirmed undisturbed, native earth materials encountered at the exploration locations are considered competent for support of the proposed construction. The upper loose / soft soils and any disturbed soils (includes undocumented fill) that are present at the time of construction are not considered stable and should not be utilized to directly support new structural elements. Mitigation measures for unsuitable soil conditions are discussed in the Recommendations section of this report. Mitigation measures considered include removal and replacing the disturbed

and/or loose soils with engineered fill; or, foundation elements designed to extend through the unsuitable soils.

Engineered fill, composed of approved materials placed and compacted according to the following recommendations, is considered competent for support of low to moderate loading increases.

COMPRESSIBLE AND EXPANSIVE SOILS

Compressible materials consisting of surficial disturbed material (e.g., from razing structures, demolition of other features/pavements, etc.), loose/soft soils, undocumented fills, debris, rubble, rubbish, etc., are considered unsuitable materials for support of the proposed structure and pavements. Such materials can differentially settle. We consider that any undocumented fill encountered and disturbed and / or loose/soft soil materials in the construction areas should be removed and replaced with engineered fill. Overexcavated earth materials deemed suitable for re-use as engineered fill could be stockpiled. If the unsuitable materials are not removed, then ground improvement systems should be designed to account for the potential settlements. In areas where unsuitable or loose/soft, wet soils are encountered, remedial grading should be undertaken to remove the loose / soft soils and ensure the removal of the entire disturbed soils.

Engineered fill, composed of approved granular materials placed and compacted according to those discussed in the recommendations section, below, are considered competent for support of moderate loading increases anticipated for this project.

Based on visual observation and on laboratory test results performed on representative uppermost soil samples, we consider the expansion potential of uppermost subsurface soils to be low.

GROUNDWATER AND SEASONAL MOISTURE

The groundwater levels could be seasonal – varying between the winter and summer months. It is our opinion that perched groundwater could have an impact on the proposed design or construction depending on the foundation system selected by designers and depths of underground structures. If groundwater is encountered in excavations (especially if wet-season construction is undertaken), then groundwater seepage into the excavations is expected to be generally controllable by

pumping/diversion; likewise, inflow from surface waters (dependent on quantity and duration of storm intensity/rainfall) is expected to be similarly controllable as temporarily necessary. **If the uppermost soils should become saturated, then this condition would likely impede or delay grading operations**.

Groundwater levels can fluctuate on a seasonal basis due to changes in precipitation, irrigation, pumping, tides, etc. We consider groundwater levels might change based on site topography and the time our investigation was performed. Excavations below perched groundwater (if encountered) might be impacted by seepage; therefore, we recommend grading and utility excavations be performed during dry season when groundwater levels are lowest.

SEISMIC HAZARDS

Seismic ground shaking of the earth materials underlying the site can cause ground failures, including fault rupture, liquefaction and densification, lateral spreading, landsliding, and tsunamis / seiches. The following sections discuss our conclusions / opinions regarding these conditions based on our findings and literature review.

Fault Rupture

Fault rupture hazards are important near active faults and tend to reoccur along the surface traces of previous fault movements. The site is not located within an Alquist-Priolo Special Studies Zone. We consider the potential for fault rupture, damage from fault displacement, or fault movement directly below the site to be low. However, the site is located within an area where shaking from earthquake generated ground motion waves should be considered likely.

Seismic Ground Shaking

The mapped and design spectral response accelerations (refer to Appendix E) presents seismic design criteria for the subject project site obtained from the SEAOC/OSHPD Seismic Design Maps (https://seismicmaps.org) that are based on data provided by ASCE 7-16 and are for use with the 2022 California Building Code (CBC). The values for spectral response accelerations with a Risk Category of II are summarized on the following table.

Table 3. Mapped and Design Spectral Accelerations	
Description	**Value**
Site Soil Classification[1]	D
Site Latitude, Longitude	39.4286097, -123.8020746
S_S – Spectral Acceleration for a Short Period	1.505 g
S_1 – Spectral Acceleration for a 1-Second Period	0.607 g
S_{MS} – MCE_R, 5% damped Spectral Acceleration for a Short Period	1.505 g
S_{M1} – MCE_R, Spectral Acceleration for a 1-Second Period[1]	1.032 g
S_{DS} – design, 5% damped, Spectral Acceleration for a Short Period	1.003 g
S_{D1} – design, 5% damped, Spectral Accel. For a 1-Second Period[1]	0.688 g
Seismic Design Category[2]	D
T_L	12
PGA	0.654 g
PGA_M	0.719 g
F_{PGA}	1.1

[1] The *2022 CBC* requires an earth material profile determination extending to a depth of 100 feet for site soil classification. ACG's explorations extended to depth of about 30.5 feet begs, and Site Class D was selected based on soils conditions encountered in our explorations. Exception 2 of ASCE 7-16 Section 11.4.8 for Site Class D is used to calculate S_{MS}, S_{M1}, S_{DS} and S_{D1}. [2] In general accordance with the 2022 CBC (refers to *ASCE 7-16*) Seismic Design Category is based on spectral acceleration for a 1-sec Period, short & 1-sec period response acceleration parameters (S_1, S_{DS} & S_{D1}, respectively) and corresponding Risk Category. Please refer to ASCE/SEI 7-16 Section 11.4.8 for base shear (V) calculations. Please refer to Appendix E for the U.S. Seismic Design Maps.

Liquefaction and Seismic Settlement Evaluation

Liquefaction occurs when saturated fine-grained sands and/or silts lose their physical strength temporarily during earthquake induced shaking and behave as a liquid. This is due to loss of point-to-point grain contact and transfer of normal stress to the pore water. Liquefaction potential varies with water level, soil type, material gradation, relative density, and probable intensity and duration of ground shaking. Dynamic settlement of the soils that experience liquefaction may occur after earthquake shaking has ceased.

The California Geological Survey (CGS) has designated certain areas within California as potential liquefaction hazard zones. These are areas considered at risk of liquefaction-related ground failure during a seismic event based upon mapped surficial deposits and the depth to the areal groundwater table. The project site is not currently mapped for potential liquefaction hazard by the CGS (refer to CGS website: https://www.conservation.ca.gov/cgs/earthquakes).

Based on the information for this study, it is our opinion that dynamic settlement due to an earthquake event might affect the proposed improvements. Total vertical settlements due to

earthquake shaking (i.e., seismic induced settlements) were estimated as part of ACG's investigation and analysis in general accordance with the Recommended Procedures for Implementation of DMG Special Publication 117A, "Guidelines for Analyzing and Mitigating Liquefaction in California.". The seismic settlement evaluation was performed using the software program NovoLiq 4.0.2021.311 (Novo Tech Software Ltd. ©2009 - 2021). The analysis conducted estimated total seismic induced settlements at the highest anticipated groundwater depth of 10 feet begs, which should be considered in design and construction. USGS Unified Hazard Tool was used to estimate seismic parameters used in the analysis (https://earthquake.usgs.gov/hazards/interactive/). The analysis is based on return period of 975 years (5% occurrence in 50 years) and peak ground acceleration (PGA) of 0.6435 g. Based on the summary statistics analysis per USGS Unified Hazard Tool for the highest seismic contribution, the earthquake magnitude of 7.71 at an approximate fault distance of 9.6 kilometers from the subject site were used in the analysis.

The analysis results indicate that the subsurface soils at the site are variably susceptible to liquefaction under the criteria indicated above. The loose to medium silty sand and sand with silt soils encountered at depths between 10 and 25 feet begs are considered the most susceptible to liquefaction. The estimated vertical liquefaction induced settlement is estimated at about 3 inches and relatively small lateral displacement. Provided the foundations are designed and constructed with seismic ties, the risk of structural collapse because of soil liquefaction is considered low and not a life safety concern.

The consequences of one-dimensional seismic induced settlement may be largely mitigated by the presence of a relatively thick non-liquefied layer above the potentially liquefiable soils (Ishihara 1985, Naesgaard et al. 1998, Bouckovalas and Dakoulas 2007). **It is our opinion that the presence of the 5 feet engineered fill layer (per the Earthwork recommendations section of this report) may act as a bridging layer that redistributes stresses and therefore results in more uniform ground surface settlement beneath the proposed structures, as well as decreasing the amount of potential seismic induced settlement.**

Ground Lurching

Ground lurching is a result of the rolling motion imparted to the ground surface due to seismic waves released by an earthquake that can cause cracks in weaker soils. The potential for cracking at this site is considered low due to the generally stiff soil consistencies and medium dense to very dense relative densities.

Earthquake Induced Landsliding

Based on information available on the California Geological Survey (CGS) website the subject site is not currently within a State of California Seismic Hazard Zone for seismically induced landsliding. In addition, there are no steep slopes on or adjacent to the subject site. Therefore, seismically induced and/or other landslides are not considered a significant hazard at the site.

ON-SITE EARTH MATERIALS SUITABILITY

On-site soils like those encountered in the test borings are considered suitable for re-use as engineered fill. Rubble, rubbish, oversize materials, significant organic matter, highly plastic soil, or any other substance deemed unsuitable should not be used as engineered fill.

POTENTIAL SLOPE STABILITY

No landslides, slumps, or other indications of slope instabilities were observed on the site area during our field investigation. We consider the potential for slope instability to be negligible.

EXCAVATION CONDITIONS

The on-site soils are considered to be readily excavatable with conventional construction equipment to at least the maximum depth explored of approximately 30.5 feet begs. In our opinion, shallow excavations into native soils less than four feet in depth should stand at a near-vertical inclination for the short periods of time required for foundation and shallow utility construction. However, sloughing and "running" conditions could occur if the soils are saturated, where loose fills are encountered, or where zones of clean (cohesionless) sands are encountered, especially when subjected to construction vibrations or allowed to dry significantly.

Excavations deeper than four feet that will be entered by workers should be sloped, braced, or shored in accordance with current Occupational Safety and Health Administration (OSHA) and Cal/OSHA regulations. The contractor must provide an adequately constructed and braced shoring system in accordance with federal, state, and local safety regulations for individuals working in an excavation that may expose them to the danger of moving ground.

Temporarily sloped excavations less than 20 feet deep should be constructed no steeper than a one and one-half horizontal to one vertical (1½H:1V) inclination. Temporary slopes might stand at this inclination for the short-term duration of construction, provided loose sands/sandy silts, soft clays, and/or saturated granular soils are not encountered. Flatter slopes would be required if these conditions are encountered.

Excavated materials should not be stockpiled directly adjacent to an open trench to prevent surcharge loading of the trench sidewalls. Excessive truck and equipment traffic also should be avoided near open trenches. If material is stored or heavy equipment is operated near an excavation, stronger shoring would be needed to resist the extra pressure due to the superimposed loads.

RECOMMENDATIONS

Recommendations for earthworks and the design and construction of the proposed structure(s) and associated improvements follow. All recommendations could require modifications based on conditions encountered during earthworks and general construction. In addition, changes in the locations of the proposed structures and pavements could also necessitate modifications to the recommendations provided herein.

EARTHWORK

Earthwork specifications which may be used as a guide in the preparation of contract documents for site preparation / grading are included in Appendix D. However, recommendations in the text of this report supersede those presented in Appendix D. **The conclusions and recommendations contained in this report should be incorporated into the guide specifications.**

We consider it essential that our office review grading and structural foundation plans to verify the applicability of the following recommendations, and to provide supplemental recommendations, if necessary.

The recommendations presented below are considered appropriate for proposed construction in the late spring through fall months. The on-site soils likely will be saturated by rainfall in the winter and early spring months and will not be compactable without drying by aeration or the addition of lime (or a similar product). Should the construction schedule require work to continue during the wet months, additional recommendations can be provided, as conditions dictate.

Site preparation should be accomplished in accordance with the recommendations of this report. A representative of the Geotechnical Engineer should be present during earthworks to evaluate compliance with the recommendations presented in this report and the approved project plans and specifications. The Geotechnical Engineer of Record referenced herein should be considered the Geotechnical Engineer that is retained to provide geotechnical engineering observations and testing services during construction.

Site Clearing and Stripping

The building pad is considered to extend laterally away from (outside of) all perimeter foundation/building edges at least five (5) feet in plan view, or to edges of any adjacent features restricting this width. We recommend the construction areas be cleared of all obstructions or unsuitable materials, including all loose, wet, or disturbed soil, undocumented fill, rubble, rubbish, vegetation, structural elements (includes foundations, pavements) to be razed, and any buried utility lines to be removed. Any foundations, pavements, cisterns, septic tanks, leach fields, water wells, etcetera that might be encountered and are to be abandoned should be removed. **Any undocumented fill and loose soils overlying the underlying firm earth materials should be overexcavated and, if deemed suitable, be re-processed as engineered fill or off-hauled.** The excavated soils could be evaluated for reuse as engineered fill. The resulting subgrades of excavation(s) should be prepared and filled to planned project subgrade level with engineered fill as discussed in the following sections.

Excavations resulting from the removal of unsuitable materials and/or loose soils should be cleared to expose firm, stable material. The surface of the resulting excavations should be scarified to a depth of 12 inches, moisture conditioned, and then compacted to the recommendations given below under subgrade preparation.

Existing utilities that extend into the construction area and are scheduled to be abandoned should be properly capped or plugged with grout at the perimeter of the construction zone or moved as directed in the plans. It may be feasible to abandon on-site utilities in-place by filling them with grout, provided they will not interfere with future utilities or affect building foundations. The utility lines should be addressed on a case-by-case basis.

In conjunction with clearing, the improvement areas should be stripped to sufficient depth to remove all organic laden topsoil. The actual stripping depth should be determined by our representative at the time of construction. The cleared and stripped materials should be removed from the site or stockpiled for possible use as landscape materials. In areas where trees and tree roots 2-inches or greater have been cleared, depressions resulting from site clearing operations, as well as any loose, soft, disturbed, saturated, or organically contaminated soils, as identified by the Geotechnical Engineer's representative, should be cleaned out to firm, undisturbed soils and backfilled with engineered fill placed and compacted in accordance with the recommendations of this report.

It is important that the Geotechnical Engineer's representative be present during clearing operations to verify adequate removal of the surface and subsurface items, as well as the proper backfilling of resulting excavations.

Over-excavation Recommendations

Due to differential movement considerations, we recommend building foundations, slabs-on-grade, concrete flatwork, and structural pavements bear on engineered fill. We recommend uppermost loose native earth materials be overexcavated to estimated depth of at least five (5) feet below existing ground surface (begs), or at least 3 feet below the bottom of the structure's foundation, whichever is deeper. Geogrids (e.g. Tensar InterAx NX750 or NX850)

should be placed at the exposed bottom of over-excavations, and the geogrids should be installed per the manufacture criteria. The resulting overexcavation should be backfilled with engineered fill comprised of low to non-expansive soil. The overexcavation limits should extend laterally to at least 5 feet beyond the proposed building footprint, or to where practical, as affirmed by ACG's representative.

We recommend concrete slabs-on-ground, flatwork and structural pavements bear on at least 18-inches of engineered fill comprised of low to non-expansive soil.

Soils to be used for engineered fill should be per the criteria in the following recommendations *"Material for Fill"* section. All materials should be placed and compacted per the *"Fill Placement and Compaction"* section.

Subgrade Preparation

Once the construction areas have been cleared, any unsuitable soils over-excavated, and any other excavations made, then subgrades that will receive engineered fill, that are to be left at existing grade, or that represent final subgrades in soil achieved by excavation should be scarified to at least 12 inches. Suitability of soils exposed in the bottom of all subgrades should be verified by an ACG special inspector during site grading. The scarified soils should be uniformly moisture conditioned as determined by ACG's field representative based upon the compaction characteristics of the earth material (typically 1 to 3 percent over optimum for granular soils and 2 to 4 percent over optimum for fine grained, silty/clayey soils) and compacted to at least 90 percent relative compaction per ASTM D 1557.

The geotechnical engineer's special inspector should observe the recompacted subgrades be proof-rolled with very heavy construction equipment (e.g., loaded water truck) in order to verify subgrade earth material stability. Inability to achieve the stated moisture content, compaction, or instability of the subgrade materials unsuitable conditions and would be used as criteria for the removal of loose, wet, or soft soils, or for the need of special stabilizing measures.

If unanticipated unsuitable materials are encountered at subgrade such that they are unstable and/or proper compaction cannot be obtained, then mitigation measures, such as over

excavations or use of a geotextile material, would be recommended. In addition, construction equipment on saturated soils could destabilize the earth materials, sometimes to several feet of depth, which might necessitate further over excavation and/or special stabilization.

An ACG special inspector should observe and approve the bottoms of all excavations and overexcavations to confirm adequate conditions have been reached and should observe and approve the scarification, moisture conditioning and recompaction of the exposed excavated surfaces.

Material for Fill

All fill materials should be inorganic, granular soils free of vegetation, debris, and fragments larger than three inches in size. Pea gravel or other similar non-cementitious, poorly graded materials should not be used as fill or backfill without the prior approval of the geotechnical engineer. Imported earth materials and or earth materials from onsite borrow areas may be used as engineered fill material for general site grading, foundation backfill, foundation areas, trench backfill, slab areas, and pavement areas, provided the materials meet the criteria on the following table. All fill materials from any source (on-site or off-site) to be used for engineered fill should be meet the criteria on the following table, be pre-approved by this firm, and should be observed by our representative and samples obtained for laboratory testing (if needed) at least four days prior to any materials being used for engineered fill.

Table 4. Material for Fill Criteria	
3” (ASTM D 6913)	100 Percent Passing
Standard No. 4 Sieve (ASTM C136)	25 to 100 (% finer by weight)
Standard No. 200 Sieve (ASTM D 1140)	10 to 35 (% finer by weight)
Liquid Limit (ASTM D 4318)	Less than 30
Plasticity Index (ASTM D 4318)	Less than 15
Expansion Index (ASTM D 4829)	Less than 40

Fill Placement and Compaction

Engineered fill should be placed and compacted in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift. Materials for engineered fill should be spread and compacted in lifts not exceeding 8 inches in uncompacted thickness. Engineered fill placed at the site and subgrades requiring recompaction should be uniformly compacted to at least 90 percent relative compaction in building areas, and to at least 95 percent relative compaction in the upper 18-inches of pavement and flatwork areas, as determined by ASTM Test Designation D 1557, or to the method as might be determined by an ACG special inspector. The moisture content of engineered fill materials should be determined by ACG's field representative based upon the compaction characteristics of the earth material (typically 1 to 3 percent over optimum for granular soils and 2 to 4 percent over optimum for fine grained, silty/clayey soils). ACG should continuously observe and test the grading and earthwork operations. Such observations and tests are essential to identify field conditions that differ from those predicted by this investigation, to adjust these recommendations to actual field conditions encountered, and to verify that the grading is in overall accordance with the recommendations presented in this report and the 2022 CBC.

If construction proceeds during or shortly after the wet winter months, it may require time to dry the on-site soils since their moisture content will probably be appreciably above the optimum. In addition, if subgrade soils are wet at the time of construction, they could be rutted, loosened, or otherwise disturbed to several feet of depth by the construction equipment and may need additional over-excavation and/or stabilization.

Construction occurring in later summer or early fall (after on-site earth materials becoming dry) may require substantial amounts of water to be added during earthwork operations to enable the appropriate moisture content and compaction to be achieved.

Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content prior to construction of foundations, exterior flatwork/slabs, and pavements. Construction traffic over the completed subgrade should be avoided in order to prevent disturbance of subgrade soils. The site should also be graded to prevent ponding of surface water

on the prepared subgrades or in excavations. If the subgrade consisting of engineered fill should become desiccated, saturated, or disturbed, the affected material should be removed, or these materials should be scarified, moisture conditioned, and recompacted prior to construction.

The geotechnical engineer should be retained during the earthwork construction phase of the project to continuously observe earthwork and to perform necessary tests and observations during subgrade preparation, backfilling of excavations to the completed subgrade, placement and compaction of engineered fills, proof-rolling, backfilling of utility trenches, etc.

Utility Trench Backfill

Generally, utility trenches should be backfilled with mechanically compacted fill placed in lifts not exceeding 6 inches in uncompacted thickness. Water content of the fill material should be adjusted (typically 1 to 4 percent over optimum) during the trench backfilling operations to obtain compaction. If on-site soil or import fill material is used, then the material should be compacted to at least 90 percent relative compaction. Imported sand or gravel could also be used for bedding and shading backfill in trenches provided the granular material is compacted to at least 95 percent relative compaction. Public and private utility companies' standard plans and specifications should be adhered to when backfilling their utility trenches.

Utility trenches should be plugged with lean concrete wherever the utility line passes beneath the perimeters of the structures. The plug should be at least one foot on either side of the perimeter of the building perimeter foundation and extend from the bottom of the building foundation to the bottom of the trench.

Finish Grading and Site Drainage

On-site soils are considered to be slightly susceptible to erosion where drainage concentrations occur. Concentrated flowing water should be either dissipated or channeled to appropriate discharge facilities. Appropriate erosion control measures should be provided, where applicable, by the general civil engineer on his grading and/or winterization plan.

Positive surface gradients should be provided adjacent to the building and pavement areas (includes flatwork) to direct surface water away from the buildings and pavements for at least ten feet and toward suitable discharge facilities. Ponding of surface water should not be allowed adjacent to the building or pavements or on top of pavement. Positive drainage should be provided during construction and maintained throughout the life of the project. Infiltration of water into utility trenches or foundation excavations should be prevented during construction. Backfill against foundations, exterior walls, and in utility and sprinkler line trenches should be well compacted as previously recommended and free of all construction debris to reduce the possibility of moisture infiltration. We recommend a horizontal setback distance of at least 10 feet from the perimeter of any building and the high-water elevation of the nearest storm-water retention.

Downspouts, roof drains or scuppers should discharge into splash blocks or extensions when the ground surface beneath such features is not protected by exterior slabs or paving. Sprinkler systems should not be installed within 5 feet of foundation walls. Landscaped irrigation adjacent to the foundation system should be minimized or eliminated.

All grades must provide effective drainage away from the building during and after construction. Water permitted to pond next to a building can result in greater soil movements than those discussed in this report. These greater movements can result in unacceptable differential floor slab movements, cracked slabs and walls, vapor transmission issues in interior slabs, and roof leaks. Estimated movements described in this report are based on effective drainage for the life of the structure and cannot be relied upon if effective drainage is not maintained.

Per 2022 CBC Section 1804.4, the soil ground surface should be sloped at least 5 percent (2 percent for pavement) down and away from the building for at least of 10 feet beyond the perimeter of the building or pavement. After building construction and landscaping, we recommend the Civil Engineer and/or surveyor verify final grades to document that effective drainage has been achieved. Grades around the structure should also be periodically inspected as part of the structure's maintenance program and adjusted, as may be necessary.

Cut and Fill Slopes

Cut/fill slopes are not anticipated. If slopes should be needed, then permanent excavation and embankment slopes up to 10 feet of height in soil should be graded at an inclination of 2 horizontal to 1 vertical (2H: 1V) or flatter. The crowns of all slopes should be constructed so that surface run-off water is not allowed to flow over the faces of the slopes. All cut slopes should be observed during grading by the Geotechnical Engineer and/or Engineering Geologist to determine if any adverse defects are present. If defects are observed, then additional study and/or recommendations would be made at that time.

For temporary excavations, the individual contractor(s) is/are responsible for designing and constructing stable, temporary excavations as required to maintain stability of both the excavation sides and bottom. Excavations should be sloped or shored in the interest of safety following local and federal regulations, including current OSHA excavation and trench safety standards.

Earthwork Construction Considerations

At the time of our study, moisture contents of the surface and near-surface native soils were moderate. Based on these moisture contents, some moisture conditioning might be needed for the project to make the soil compactible and suitable for use as engineered fill. The soils may need to be dried by aeration during wet weather conditions, or a chemical treatment, such as cement, lime, or kiln dust, may be needed to stabilize the soil. The soils may need more moisture and water during the dry season to make the soil compactible and suitable. Subgrade conditions may need a rock protective mat covering exposed subgrades in order to limit disturbance of site soils as well as provide a stable base for construction equipment.

Although the exposed subgrades are anticipated to be relatively stable upon initial exposure, on site soils may pump and unstable subgrade conditions could develop during general construction operations, particularly if the soils are wet and/or subjected to repetitive construction traffic. The use of light construction equipment would aid in reducing subgrade disturbance. The use of remotely operated equipment, such as a backhoe, would be beneficial to perform cuts and

reduce subgrade disturbance. If unstable subgrade conditions develop, then stabilization measures will need to be employed. Upon completion of filling and grading, care should be taken to maintain the subgrade moisture content just prior to construction of the floor slabs and pavements. Construction traffic over the completed subgrades should be avoided to the extent practical. The site should also be graded to prevent ponding of surface water on the prepared subgrades or in excavations. If the subgrade should become desiccated, saturated, or disturbed, the affected material should be removed, or these materials should be scarified, moisture conditioned, and recompacted prior to floor slab and pavement construction. We anticipate that site grading for concrete foundations, slab construction, pavements and shallow utility trenches could be performed with conventional earthmoving equipment.

We emphasize the contractor is responsible for designing and constructing stable, temporary excavations (including utility trenches) as required to maintain stability of both the excavation sides and bottom and should be in accordance with OSHA excavation and trench safety standards.

We recommend that the earthwork portion of this project be completed during extended periods of dry weather if possible. If earthwork is completed during the wet season (typically November through May) it may be necessary to take extra precautionary measures to protect subgrade soils. Wet season earthwork may require additional mitigation measures beyond that which would be expected during the drier summer and fall months. This could include diversion of surface runoff around exposed soils and draining of ponded water on the site. Once subgrades are established, it may be necessary to protect the exposed subgrade soils from construction traffic.

Geotechnical Engineering Earthwork Construction Observation

As previously discussed, variations in subsurface conditions are possible and may be encountered during construction. In order to permit correlation between the preliminary subsurface data obtained during this investigation and the actual subsurface conditions encountered during construction, as well as affirm substantial conformance with the plans and specifications, a representative of this firm should be present during all phases of the site earthwork to make tests

and observations of the site preparation, selection of satisfactory fill materials, proof rolling, placement and compaction of controlled compacted fills, backfilling of excavations to the completed subgrade, etc. Additionally, if lime or cement treatment is needed to stabilize or dry the soil, then our representative should perform observations during mixing, remixing, and compaction.

Any site earthwork performed without the presence of our representative will be entirely at the grading contractor's and/or owner's risk and no responsibility for such operations will be accepted by our firm. Sufficient notification **(at least two working days)** is necessary so that our special inspections and testing will coincide with the construction schedule.

We emphasize the importance of ACG's presence during the observation and testing of the grading operations. ACG's observation of the subsurface soil conditions, especially under the loads imposed by construction equipment, is considered an extension of our investigation, particularly within those areas away from the subsurface explorations.

Guide Specifications

Earthwork guide specifications which may be used as a guide in the preparation of contract documents for site grading are included in Appendix D. **The conclusions and recommendations contained in this report should be incorporated into the guide specifications.**

CRITERIA FOR FOUNDATION DESIGN

Based on the field and laboratory information for this study, we recommend that the proposed 3-story building be supported upon isolated and/or continuous spread footings that penetrate below the lowest adjacent building pad soil grade into the approved engineered fill bearing earth materials at least 18-inches. Foundation dimensions and reinforcement should be based on allowable dead plus live soil bearing values of 2,000 pounds per square foot (psf) for continuous footings of at least 18 inches in width and isolated footings at least 30 inches wide (both directions). **The footings should be supported on at least 3 feet of engineered fill per Over-excavation Recommendations section of this report.** An increase in the bearing capacity of 200 psf per every 12 inches of additional footing depth to a maximum 2,600

psf is allowed. The allowable foundation bearing pressures apply to dead loads plus design live load conditions. The design bearing pressure may be increased by one-third when considering total loads that include short duration wind or seismic conditions. The weight of the foundation concrete below grade may be neglected in dead load computations.

Total settlement is estimated at about 1-inch for static and seismic compression and the static settlement is expected to occur as the structure is built. Foundations should be proportioned to reduce differential foundation movement estimated at ½-inch over 40 linear feet. We recommend that all footings be reinforced as designed by the structural engineer to accommodate potential differential movements. Proportioning based on equal total settlement is recommended; however, proportioning to relative constant dead-load pressure would reduce differential settlement between adjacent foundations.

Lateral Resistance

Foundations placed in approved soil bearing materials could be designed using a coefficient of friction of 0.30 for granular soils. A design passive resistance value of 300 pounds per square foot per foot (psf/ft) of depth (with a maximum value of 3,000 pounds per square foot) is recommended for engineered fill per the Earthwork section, above. If both friction and passive pressures are combined, then the smaller value should be halved. The lateral sliding resistance for clay soils should not exceed one-half the dead load.

The sides of the excavations for the foundations should be nearly vertical and the concrete should be placed neat against these vertical faces for the passive earth pressure values to be valid. If the loaded side is sloped or benched in the soil, and then backfilled with engineered fill, then the nominal passive pressure should be reduced to the soil frictional or adhesive resistance.

General Foundation Considerations

ACG's geotechnical engineer or ACG's representative should observe earth material conditions exposed in foundation excavations to confirm the adequacy for structural foundation bearing, confirm the appropriateness of these recommendations, and to allow for an opportunity to provide additional recommendations if deemed necessary. If the earth material conditions

encountered differ significantly from those presented in this report, then supplemental recommendations will be required.

An important factor in soils supporting structural improvements is a change in moisture content. The recommendations herein are predicated on the soil moisture beneath and within five feet of the building perimeters, slabs and pavements being maintained in a uniform condition during and after construction. Please be advised that over watering or under watering, types of plants (trees should be at least the distance away from the improvement equal to their maximum height), altering design site drainage, etc., might be detrimental to the foundation, slabs, and/or pavements. We suggest that automatic timing devices be utilized on irrigation systems; however, provision should be made to interrupt the normal watering cycle during and following periods of rainfall. Additional foundation movements could occur if water, from any source, saturates the foundation soils; therefore, proper drainage should be provided during in the final design, during construction, and maintained for the life of the development.

Static and seismic settlement could affect various aspects of the planned development, including utilities, building entrances, sidewalks, footings, and grade beams. Design of these elements should incorporate features to mitigate the effects of the predicted settlements. Because of the anticipated settlements during an earthquake, it may be necessary to replace esthetic features, sheetrock, glazing, exterior flatwork, etc., after a major earthquake.

The foundation excavations should be clean (i.e., free of all loose slough) and maintained in a moist condition between 2 to 4 percent over optimum moisture just prior to placing steel and concrete. The concrete for the foundation should not be placed against a dry excavation surface.

The base of all foundation excavations should be free of water, loose soil, and gravel prior to placing concrete. Concrete should be placed soon after excavating and placement of engineered fill (and lime treatment, if needed) to reduce bearing soil disturbance. Should the soils at bearing level become excessively dry, disturbed, or saturated, the affected soil should be removed prior to placing concrete. In addition, as previously described, unsuitable soils should be completely removed from any proposed construction areas prior to construction. Concrete should not be

chuted against the excavation sidewalls. Concrete should be pumped or placed by means of a tremie or elephant's trunk to avoid aggregate segregation and earth contamination. Rebar reinforcement should be properly supported with proper clearances maintained during concrete placement. The concrete should be properly vibrated to mitigate formation of voids and to promote bonding of the concrete to steel reinforcing. These recommendations are predicated upon ACG's representative observing the bearing materials as well as the manner of concrete placement.

Foundation Setback

The bottoms of utility trenches placed along the perimeter of the foundation should be above an imaginary plane that projects at a 2H:1V angle projected down from 9-inches above the bottom edge of the lowest outermost edge of the foundation per 2022 CBC Section 1809.14. Where trenches pass through the plane, the trench should be installed perpendicular to the face of the foundation for at least the distance of the depth of the foundation. Alternatively, the foundation could be deepened to attain the recommended setback. Foundation details under the influence of this recommendation should be forwarded along with the structural load information to the geotechnical engineer for review.

INTERIOR FLOOR SLAB-ON-GROUND SUPPORT

On most project sites, the site mass grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrade soils may be disturbed due to utility excavations, construction traffic, desiccation, rainfall, etc. As a result, the floor slab subgrade soils may not be suitable for placement of base rock and concrete and corrective action may be required.

We recommend the engineered fill underlying the floor slab be rough graded and then thoroughly proof rolled with a loaded tandem axle dump truck or water truck prior to final grading and placement of base rock. Particular attention should be paid to high traffic areas that were rutted and disturbed earlier and to areas where backfilled trenches are located. Areas where unsuitable conditions are located should be repaired by removing and replacing the affected material as engineered fill.

A building pad comprised of engineered fill (constructed in accordance with the criteria contained within the above "Earthwork" section) is considered suitable for support of the slabs-on-ground of the building. In all cases the floor slab should not be placed on a dry subgrade. The subgrade soils should be maintained at 1 to 4 percent above the compaction moisture content in the upper 12 inches as verified by ACG prior floor slab concrete placement. In all cases the floor slab should not be placed on a dry subgrade.

The lightly loaded building floor slab-on-grade design, thickness and reinforcement should be designed by the structural designer for the anticipated loadings based on a modulus of subgrade soil reaction (k) estimated at 90 pounds per square inch per inch (psi/in) for engineered fill. The concrete slabs should be at least 4-inches thick for light duty use. The slabs should be supported on at least 4-inches thick ¾-inch crushed rock underlain by approved engineered fill subgrade soils prepared per the recommendations of this report.

The exterior ground surface should be at least 6 inches below the top of the floor slab. We emphasize that all surfaces should slope to drain away from all sides of the building. Slabs subjected to heavier loads may require thicker slab sections and/or increased reinforcement per the structural engineer's design.

Slabs-on-grade subject to low frequency, light to medium vehicle traffic should be at least five inches thick, or as per the project structural engineer, and have at least a six-inch-thick layer of Class 2 aggregate base (compacted to at least 95 percent relative compaction) placed beneath the slabs. If elastic design is utilized for designing slabs-on-grade founded on at least a six-inch thick layer of Class 2 aggregate base compacted to at least 95 percent relative compaction, then the design k value may be increased to 125 pci. The modulus was provided based on the slab being supported on 6 inches or more of compacted aggregate base and estimates obtained from NAVFAC 7.1 design charts. This value is for a small, loaded area (1 sq. foot or less) such as for small truck wheel loads or point loads. Slabs subjected to heavier loads (e.g., forklifts) would require thicker slab sections and/or increased reinforcement. The slabs could be separated from the foundations supporting the structure to allow for differential movements between the two elements unless the structural designer designs the slab - footing to be monolithic. We suggest the structural designer consider slab reinforcement consist of at least #4 reinforcing bars placed on maximum 18-inch centers at mid-slab height.

Moisture Penetration Resistance

We are not experts regarding measures for mitigating (or preventing) moisture intrusion into building's slab-on-grade. If such should be desired, then an expert regarding moisture intrusion should be consulted.

We suggest the following measures for mitigating (not preventing) moisture intrusion into moisture sensitive interior floor slab(s). For slab-on-grade floor slab, we recommend the slab be underlain by a 4-inch-thick layer of crushed washed rock which is intended to serve as a capillary mitigating moisture break and to provide uniform slab support. Gradation of this material should be such that 100 percent will pass a 1-inch sieve and 0 to 5 percent passes the No. 4 sieve.

When conditions warrant the use of a vapor retarder, the slab designer should refer to ACI 302 and/or ACI 360 for procedures and cautions regarding the use and placement of a vapor retarder. At a minimum, we recommend in areas where it is desired to reduce floor dampness where moisture-sensitive coverings are anticipated, construction should have a suitable waterproof vapor retarder (at least 15 mils thick polyethylene vapor retarder sheeting, Raven Industries "VaporBlock 15, Stego Industries 15 mil "StegoWrap" or W.R. Meadows Sealtight 15 mil "Perminator") incorporated into the slab design. The water vapor retarder should be decay resistant material complying with ASTM E96 not exceeding 0.04 perms, ASTM E154 and ASTM E1745 Class A. The vapor barrier should be placed between the concrete slab and the compacted granular aggregate subbase material. The water vapor retarder (vapor barrier) should be installed in accordance with ASTM Specification E 1643-94 or the manufacturer's recommendations, whichever is more stringent. If maximum two-inches of clean sand should be placed above the vapor retarder (not recommended), then we recommend a moisture barrier be placed against the outer face of the perimeter foundation. Please note that the sand can be a conduit for water beneath the slab. In addition, the sand can form boils/pockets in the slab concrete. If proposed floor areas or coverings are considered especially sensitive to moisture emissions, additional recommendations from a specialty consultant should be obtained. If desired, further resistance to moisture vapor intrusion could be achieved with proper curing of the concrete, adding a sealant to the mix (e.g., Moxie), having a mix design with low slump (e.g., 2 to 4 inches), low

water/cement ratio (we suggest not greater than 0.48), and high strength (we suggest at least 3000 psi).

The structural engineer/architect and contractor should refer to ACI 302 and ACI 360 for procedures and cautions regarding the use and placement of a vapor barrier. In areas of exposed concrete, control joints should be saw-cut into the slab after concrete placement in accordance with ACI Design Manual, Section 302.1R-37 8.3.12 (tooled control joints are not recommended). To control the width of cracking, continuous slab reinforcement should be considered in exposed concrete slabs.

Positive separations and/or isolation joints should be provided between slabs and all foundations, columns, or utility lines to allow independent movement. Interior trench backfill placed beneath slabs should be compacted in accordance with recommendations outlined in the Earthwork section of this report and Appendix D. Other design and construction considerations, as outlined in the ACI Design Manual, Section 302.1R are recommended.

RETAINING WALL DESIGN CRITERIA

Retaining wall(s) (if proposed) should be designed to resist lateral pressures of soils having equivalent fluid weights given in the table below. Per 2022 California Building Code (CBC) Section 1803.5.12, for retaining walls supporting more than 6 feet backfill, lateral earth pressures due to earthquake loading should be considered for structures to be designed in Seismic Design Categories E or F.

Lateral pressures from surcharge loads in psf should be equal to lateral pressure coefficient (provided in the table below) multiply by vertical surcharge pressure in psf from surcharge loads located within ten lateral feet of the retaining wall.

TABLE 5: Retaining Walls Soil Parameters					
WALL TYPE	EQUIVALENT FLUID UNIT WEIGHTS (pounds per cubic foot)		Lateral Pressure Coefficient	Earthquake Loading - Dynamic Thrust Increment (plf)*	Total Soil Unit Weight
	LEVEL BACKFILL	2H:1V BACKFILL			
CANTILEVER WALL (YIELDING)	40	62	0.33	$9H^2$	120 pcf
RESTRAINED WALL	60	86	0.50	$24H^2$	

* Where H = height of retaining wall. Lateral pressures on cantilever retaining walls (yielding walls) are calculated based on work by Seed and Whitman (1970). Lateral pressures on non-yielding (or "restrained") retaining walls are calculated based on work by Wood (1973). The increment of dynamic thrust in both cases should be based on a trapezoidal distribution (essentially an inverted triangle), with a line of action located at 0.6H above the bottom of the wall.

Measures should be designed to prevent moisture buildup behind all retaining walls. We recommend drainage measures could include free draining backfill materials and sloped, perforated drains. These drains should discharge at least 10 feet away from the structure(s) to an appropriate discharge location. The wall permeable back drain could consist of either CalTrans Class 2 permeable materials or with ¾-inch up to 2-inch size drainage rock wrapped in geotextile filter fabric. The back drain should be placed behind the entire wall height to within 18 inches of ground surface at the top of the wall. The width of free draining permeable materials behind the wall should be at least two feet. Alternatively, a prefabricated drainage system (e.g., Mira-drain) could be considered behind the wall to collect the water. Water passing through the back drain system should be directed into perforated/slotted pipes that direct the collected water to an appropriate outlet for disposal away from the wall. The pipes should be placed behind and at the bottom of the wall.

Waterproofing of the wall, if needed, should be specified by the project architect/engineer. Adequate drainage should be provided behind the below-grade retaining walls to collect water from irrigation, landscaping, surface runoff, or other sources, to achieve a free-draining backfill condition.

PAVEMENT SECTION ALTERNATIVES

The R-value test result by exudation at 300 psi is 63 for Silty SAND (SM) subgrade soil obtained from R-1 shown in Figure 2 – Explorations Map. Based on the maximum R-value of 50 per the CalTrans "Highway Design Manual" and the Traffic indices (T.I.'s) indicated below, pavement section alternatives for the on-site pavement were evaluated in general conformance with Chapters 600 to 670 per the

CalTrans "Highway Design Manual" (July 1, 2020). A factor of safety per CalTrans HDM was **not** applied for on-site pavements. The Traffic Index selected for the final pavement design should be based upon the CalTrans "Highway Design Manual" - latest revision and/or edition including consideration of the vehicular traffic anticipated, number of repetitions, etc., as determined by the project civil engineer or per regulatory agency requirements. Additional traffic index pavement design alternatives may be provided, upon request.

Table 6. RECOMMENDED PAVEMENT SECTION ALTERNATIVES

Design Traffic Index	Non-treated Subgrade (12"+ Engineered Fill)		Non-treated Subgrade (12"+ Engineered Fill)	
	Asphalt Concrete (AC) (Type B)	Aggregate Base (AB) (Class 2[1])	Portland Cement Concrete[2]	Aggregate Base (AB) (Class 2[1])
5.0	2.5"	6"	4"	5"
6.0	2.5"	6"	5"	6"
7.0	3"	6"	6"	7"

([1]Caltrans Class 2 aggregate base (AB). [2]Portland Cement Concrete (PCC) should have a modulus of rupture of at least 600 psi and the concrete reinforced per the pavement designer).

The above sections should be used for preliminary design and planning purposes only. We recommend representative subgrade sample(s) be obtained and "R" Value test(s) be performed on actual earth materials exposed once pavement areas have been pioneered. These additional test results may then be used to evaluate pavement sections for construction. It is possible that significant variations in pavement sections (vs. those listed above) could result if the resulting test(s) is/are different than that used for this study.

The preliminary sections above should be reviewed and approved by the owner, the civil engineer, and the governing authorities prior to construction. In addition, other recommendations for the stated traffic indices are available, if needed. The total thickness of most sections would closely approximate those given. Thinner sections than those recommended could result in increased maintenance and/or shorter pavement life. If desired, please contact this office for further analysis.

Asphaltic-concrete paved areas should be designed, constructed, and maintained in accordance with, for example, the recommendations of the Asphalt Institute, CalTrans Highway Design Manual, or other widely recognized authority. Concrete paved areas should be designed and constructed in accordance with the recommendations of the American Concrete Institute, CalTrans Highway Design Manual, or other widely recognized authority, particularly regarding thickened edges, joints, and drainage.

Materials and compaction requirements within the structural sections should conform to the applicable provisions of the CalTrans Standard Specifications (latest edition) including at least 95 percent relative compaction of at least the uppermost twelve inches of subgrade earth materials. Asphalt concrete pavement should conform to the specifications of Type A or B per section 39, and aggregate base should conform to the specifications of Class II per Section 26 of the referenced specifications.

Concrete pavements could be reinforced with nominal rebar, such as at least #4 bars spaced no greater than 24 inches, on center, both ways, placed at above mid-slab height, but with proper concrete cover, as designed by the pavement engineer or structural engineer. If concrete pavements are to be unreinforced, then we suggest the designer use expansion/contraction and/or construction joints spaced no greater than 24 times the pavement thickness, both ways, in nearly square patterns, and detailed in general accordance with ACI Guidelines. Doweling of concrete pavements at critical pathways is also recommended.

We recommend that reinforced concrete pads be provided for truck pad areas in front of and beneath trash receptacles as determined by the structural designer. The trash collection trucks should be parked on the rigid concrete pavement when the trash receptacles are lifted. The concrete pads should be at least 5 inches thick and properly reinforced. Thickened edges should be used along outside edges of concrete pavements. Edge thickness should be at least 2 inches thicker than concrete pavement thickness and taper to the actual concrete pavement thickness 36 inches inward from the edge. Integral curbs may be used in lieu of thickened edges.

The above pavement section alternatives were estimated on the basis that a comparable soil type with R-value indicated above would constitute the final subgrade of the pavement. ACG should be retained to observe and test final subgrade soil(s) exposed to affirm that the soil is comparable to that indicated

above. Where differing earth materials are encountered, they should be tested to affirm that they will also provide the same or better support for pavement sections like those recommended above for preliminary design.

We emphasize that the performance of the pavement is dependent upon uniform and adequate compaction of the soil subgrade, as well as all engineered fill and utility trench backfill within the limits of the pavements. Pavement subgrade preparation (i.e., scarification, moisture conditioning and compaction) be performed after underground utility construction is complete, and just prior to aggregate base placement.

The upper 12 inches of pavement subgrade soils should be compacted to at least 95 percent relative compaction at no less than the optimum moisture content for granular soils, maintained in a moist condition, and protected from disturbance. Aggregate base should also be compacted to at least 95 percent of the ASTM D1557 maximum dry density at the optimum moisture content or above.

Final pavement subgrades should be stable and unyielding under construction traffic prior to aggregate base placement and be protected from disturbance or desiccation until covered by aggregate base. To help identify unstable pavement subgrades within the pavement limits, a proof-roll should be performed with a fully loaded, 4000-gallon water truck (or equivalent) on the exposed subgrades prior to placement of aggregate base. The proof-roll should be observed by the Geotechnical Engineer's representative.

In the summer heat, high axle loads coupled with shear stresses induced by sharply turning tire movements can lead to failure in asphalt concrete pavements. Therefore, Portland cement concrete (PCC) pavements should be used in areas subjected to concentrated heavy wheel loading, such as entry driveways, and/or in storage/unloading areas. Alternate PCC pavement sections have been provided in the table above.

We recommend concrete slabs be constructed with thickened edges in accordance with American Concrete Institute (ACI) design standards, latest edition. Reinforcing for crack control, if desired, should be provided in accordance with ACI guidelines. Reinforcement must be located at mid-slab depth to be effective. Joint spacing and details should conform to the current PCA or ACI guidelines. PCC should achieve a minimum compressive strength of 3,500 pounds per square inch at 28 days.

All pavement materials and construction methods of structural pavement sections should conform to the applicable provisions of the Caltrans Standard Specifications, latest edition.

Pavement Drainage

Base course or pavement materials should not be placed when the subgrade surface is wet. Surface drainage should be provided away from the edge of paved areas to minimize lateral moisture transmission into the subgrade.

Adequate drainage systems should be provided to prevent both surface and subsurface saturation of the subgrade soils. As a design option, a subdrain system beneath and along the edges of the pavements might be considered. The purpose of the system would be to mitigate saturation and loss of strength/stability of the subgrade soils. Subdrains should be especially considered beneath valley drains, if utilized for the project. As an alternate to edge drains (especially around landscape planters), barrier curbing that extends to at least four inches into the soil subgrade below the bottom of the aggregate base layer could be considered to limit infiltration of water beneath the adjacent pavement. Drainage inlets should be perforated (weep holes installed) at the level of the aggregate base layer. A layer of geotextile fabric should be placed on the outside of the drain inlet over the weep holes to reduce the potential for migration or piping of fines through the holes.

Base course or pavement materials should not be placed when the subgrade surface is wet. Surface drainage should be provided away from the edge of paved areas to minimize lateral moisture transmission into the subgrade.

Pavement Construction Considerations

On most project sites, the site grading is generally accomplished early in the construction phase. However, as construction proceeds, the subgrades may become disturbed due to utility excavations, construction traffic, rainfall, etc. As a result, the pavement subgrade may not be suitable for placement of aggregate base and pavement. We recommend the area underlying the pavement be rough graded and proof-rolled prior to placement of aggregate base material. Particular attention should be paid to high traffic areas and utility trenches that were backfilled.

Areas where disturbance has occurred and materials are unsuitable, they should be removed and replaced with compacted structural fill.

The aggregate base should be uniformly moisture-conditioned and compacted to at least 95 percent relative compaction (modified proctor) in accordance with this report. Base course or pavement materials should not be placed when the surface is wet. Surface drainage should be provided away from the edge of paved areas to minimize lateral moisture transmission into the subgrade.

Minimizing subgrade saturation is an important factor in maintaining subgrade strength. Water allowed to pond on or adjacent to pavements could saturate the subgrade and cause premature pavement deterioration. The pavement should be sloped to provide rapid surface drainage, and positive surface drainage should be maintained away from the edge of the paved areas. Design alternatives which could reduce the risk of subgrade saturation and improve long-term pavement performance include crowning the pavement subgrades to drain toward the edges, rather than to the center of the pavement areas; and installing surface drains next to any areas where surface water could pond. Properly designed and constructed subsurface drainage will reduce the time subgrade soils are saturated and can also improve subgrade strength and performance. In areas where there will be irrigation adjacent to pavements, we recommend the owner consider installing perimeter drains for the pavements.

Preventative maintenance should be planned and provided for through an on-going pavement management program to enhance future pavement performance. Preventative maintenance activities are intended to slow the rate of pavement deterioration, and to preserve the pavement investment.

EXTERIOR FLATWORK

Final subgrade areas for exterior concrete flatwork (i.e., sidewalks, patios, etc.) should be prepared in accordance with the recommendations of Earthwork sections included in this report. Proper moisture conditioning of the subgrade soils is considered essential to the performance of the exterior flatwork. At least 5-inch layer of aggregate base (AB) compacted to at least 95 percent relative compaction should

be used as a leveling course beneath the exterior flatwork. The AB should be supported on at least 12 inches of engineered fill subgrade compacted to at least 95 percent relative compaction per the Earthwork section of this report.

All exterior flatwork concrete should be at least four inches thick. Consideration should be given to thickening the edge of the slab to at least twice the slab thickness where wheel traffic is expected over the slabs. Expansion joints should be provided to allow for minor vertical movement of the flatwork. Exterior flatwork should be constructed independent of perimeter building foundations by the placement of a layer of felt material between the flatwork and the foundation. The slab designer should determine the final thickness, strength and joint spacing of exterior slab-on-grade concrete. The slab designer should also determine if slab reinforcement for crack control is required and determine final slab reinforcing requirements.

Practices recommended by the Portland Cement Association (PCA) for proper placement, curing, joint depth and spacing, construction, and placement of concrete should be followed during exterior concrete flatwork construction.

Areas adjacent to new exterior flatwork should be landscaped to maintain more uniform soil moisture conditions adjacent to and under flatwork. We recommend final landscaping plans not allow fallow ground adjacent to exterior concrete flatwork.

SITE DRAINAGE

Final site grading should be designed to provide positive drainage of surface water away from structures and prevent ponding of water adjacent to foundations, slabs and pavements. The grade adjacent to structures should be sloped away from foundations at least two percent slope for a distance of at least five feet, where possible. Roof gutter downspouts and surface drains should drain onto pavements or sidewalks, or be connected to rigid non-perforated piping directed to an appropriate drainage point away from the structure(s). Ponding of surface water should not be allowed adjacent to the building(s) or pavements. Landscape berms, if planned, should not be constructed in such a manner as to promote drainage toward structures.

SUBDRAINAGE

Subdrains might be needed to control subsurface water that might become perched in top and/or fill soils. Each case should be evaluated by the Geotechnical Engineer so that he/she could make appropriate mitigation recommendations.

LIMITATIONS

This report contains statements regarding opinions, conclusions, and recommendations, all of which involve certain risks and uncertainties. These statements are often, but are not always, made through the use of words or phrases such as “anticipates”, “intends”, “estimates”, “plans”, “expects”, “we believe”, “we consider”, “it is our opinion”, “mitigation or mitigate”, “suggest”, “may be”, “expected”, “predicated”, “advised”, and similar words or phrases, or future or conditional verbs such as “will”, “would”, “should”, “potential”, “can continue”, “could”, “may”, or similar expressions. Actual results may differ significantly from the expectations contained in the statements. Among the factors that may result in differences are the inherent uncertainties associated with earth material conditions, groundwater, project development activities, regulatory requirements, and changes in the planned development.

The analysis and recommendations submitted in this report are based in part upon the data from the exploratory borings at the indicated locations and in part on information provided by the client. The nature and extent of subsurface variations between the test borings across the site (or due to the modifying effects of weather and/or man) may not become evident until further exploration or during construction. If variations then appear evident, then the conclusions, opinions, and recommendations in this report shall be considered invalid, unless the variations are reviewed and the conclusions, opinions, and recommendations are modified or approved in writing.

This report was prepared to assist the client in the evaluation of the site and to assist the architect and/or engineer in the design of the improvements. ACG recommends that we be retained to review the project plans and specifications to assess that the recommendations of this report have been properly interpreted and implemented in the plans and specifications.

If there are any significant changes in the project as described herein, then the conclusions and recommendations contained in this report shall not be considered valid unless the changes are reviewed, and conclusions and recommendations modified or verified in writing.

This report is issued for the client’s use only. In addition, it is his responsibility to ensure that the information and recommendations contained herein are called to the attention of the designer for the project; and, that necessary steps are taken to implement the recommendations during construction.

The findings in this report were developed on the date(s) indicated. Changes in the conditions of the property can occur with the passage of time, whether they are due to natural processes or the works of man, on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or from the broadening of knowledge. Accordingly, the findings in this report might be invalidated, wholly or partially, by changes outside of our control. Therefore, this report and the findings on which it is based are subject to our review at the onset of and during construction, or within two years, whichever first occurs.

We recommend having a pre-construction meeting, including the owner, design professionals, contractor(s), and ACG, to discuss the planned work and scheduling. In addition, we should be retained to observe the geotechnical construction, particularly site earthworks and foundation excavations, as well as to perform observations and testing. If, during construction, subsurface conditions are discovered to be different from those described herein, or appear to be present beneath excavations, then we should be advised at once so that those conditions may be observed and our recommendations reconsidered.

The scope of services of this project does not include either specifically or by implication any environmental or biological (e.g., mold, fungi, bacteria, etc.) assessment of the site and adjacent properties or identification or prevention of pollutants, hazardous materials, or any other adverse conditions. If the owner is concerned about the potential of such contamination or pollution, other studies should be undertaken. In addition, our work scope does not include an evaluation or investigation of the presence or absence of wetlands or flood zone considerations.

No warranties, either expressed or implied, are intended or made. Site safety, excavation support, and dewatering requirements are the responsibility of others. If any changes in the nature, design, or location of the project as outlined in this report are planned, the conclusion and recommendations contained in this report shall not be considered valid unless ACG reviews the changes, and either verifies or modifies the conclusions of this report in writing.

This report is applicable only for the project and site studied and should not be used for design and/or construction on any other site.

Our work scope does not include obtaining permits for any aspect of the subject project. The owner of the project or his representative is responsible for obtaining permits necessary for the project.

We appreciate this opportunity to be of service on this project. If you have any questions regarding this report, then please do not hesitate to contact us.

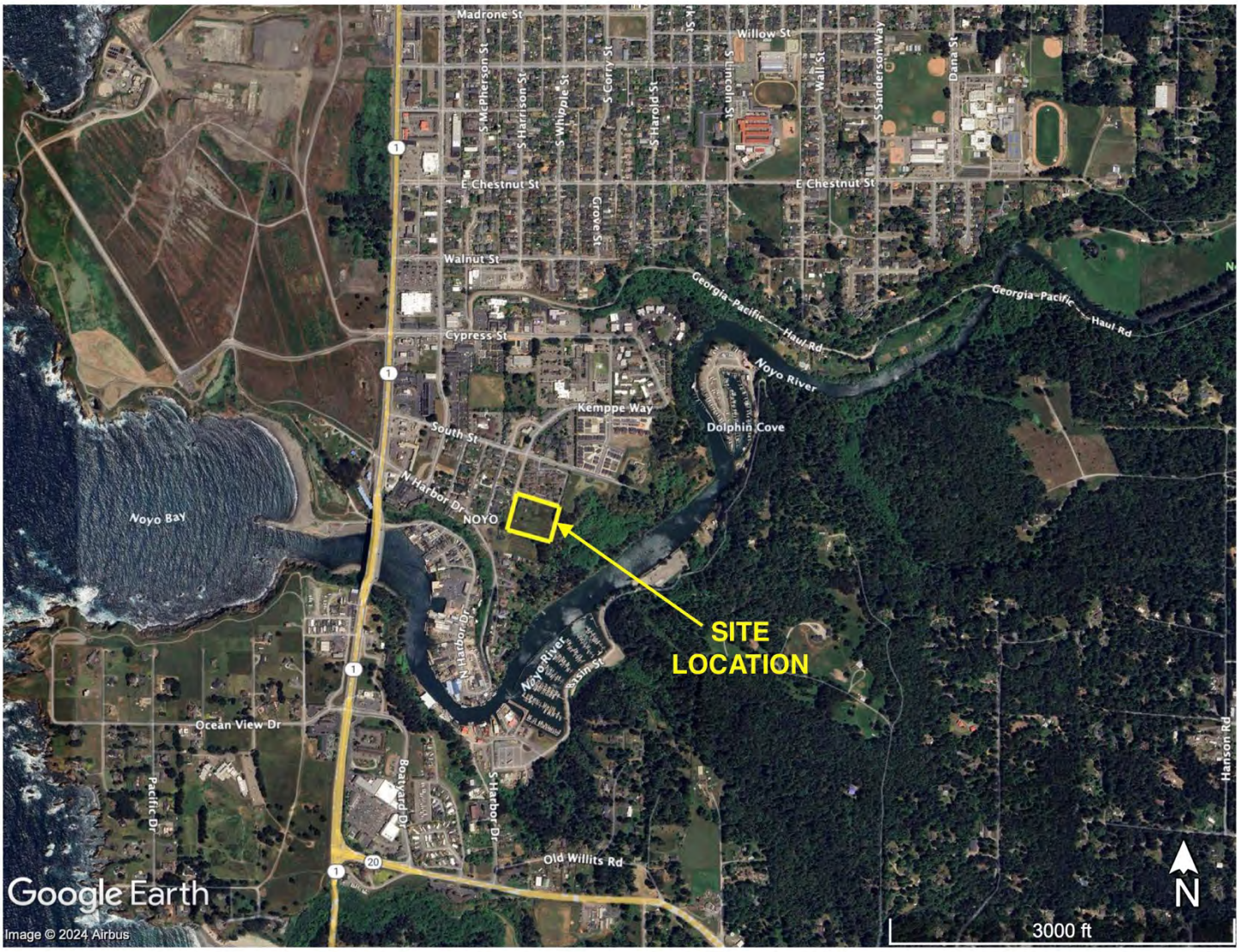
REFERENCES

1. American Concrete Institute (ACI), April 2010, “Guide to Design of Slabs-on-Ground”, ACI 360-10.
2. American Concrete Institute (ACI), June 2015, “Guide to Concrete Floor and Slab Construction”, ACI 302.1R-15.
3. American Society for Civil Engineers, 2016 “Minimum Design Loads for Buildings and Other Structures”, ASCE/SEI 7-16.
4. ASTM, “Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort”, Volume 04.08
5. California Building Code, 2022, “California Code of Regulations, Title 24, Part 2, Volume 2 of 2”, California Building Standards Commission, published by ICBO.
6. California Department of Transportation (Caltrans), 2023, Standard Specifications.
7. California Department of Transportation (Caltrans), July 2020, “Highway Design Manual”.
8. California Geological Survey, 1960, “Geologic map of California : Ukiah sheet”, Scale 1:250,000
9. CGS website (https://www.conservation.ca.gov/cgs/earthquakes) for Regulatory Maps, Reports and GIS data that includes Earthquake Fault Zones, Landslide and Liquefaction Zones.
10. Hart, Earl W., Revised 1994, "Fault-Rupture Hazard Zones in California, Alquist Priolo, Special Studies Zones Act of 1972,” California Division of Mines and Geology, Special Publication 42.
11. Jennings, Charles W. and Bryant, William A., 2010, “Fault Activity Map of California” (scale 1: 750,000) published by CGS, Geologic Data Map No. 6.
12. SEAOC/OSHPD U.S. Seismic Hazard Maps (reference ASCE/SEI 7-16).
13. Pacific West Communities, Inc., undated, Preliminary Site Plan.
14. Google Earth Aerial Photography of the Subject Site.

APPENDIX A

VICINITY MAP

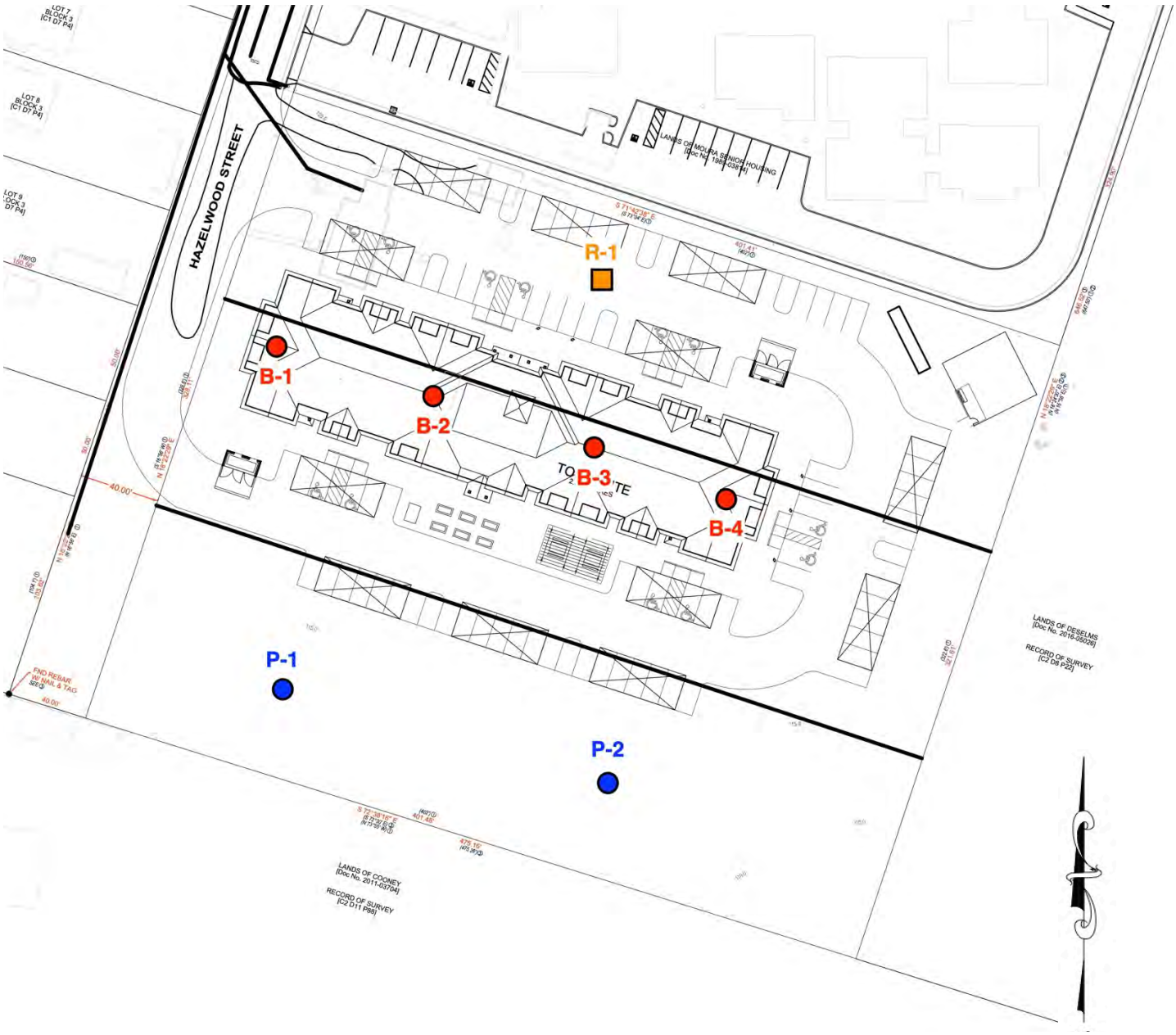
EXPLORATIONS MAP



NOTES:

1- Location of site (designated by yellow border) is approximate.
2- Source for base map: Imagery from Google Earth 2024©.

ALLERION CONSULTING GROUP, INC. 1050 Melody Lane, Suite 160 Roseville, CA 95678 Phone: 916-742-5096	**VICINITY MAP** **Proposed 3-Story Apartment Building** **860 Hazelwood Street** **Fort Bragg, California**	**ACG JOB NO.** 05-24059G **DATE** September 2024 **FIGURE** 1



LEGEND:

- B-x Approximate Location - Number of Boring
- P-x Approximate Location - Number of Percolcation Test
- R-1 Approximate Location of R-value Sample

NOTE:

Source for base map: Preliminary Site Plan provided by the client.

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1050 Melody Lane, Suite 160
Roseville, CA 95678
Phone: 916-742-5096

EXPLORATIONS MAP

Proposed 3-Story Apartment Building
860 Hazelwood Street
Fort Bragg, California

ACG JOB NO.
05-24059G
DATE
September 2024
FIGURE
2

APPENDIX B

FIELD EXPLORATION METHODS

LOGS OF SUBSURFACE EXPLORATIONS

FIELD EXPLORATION METHODS

Field exploration included a general geotechnical engineering reconnaissance within the study area, as well as the excavation of subsurface explorations at approximate locations shown on the Explorations Map, Figure 2, Appendix A. Locations of explorations were determined in the field by estimating from the existing site features shown on an aerial photo. The exploration locations should only be considered accurate to the degree implied by the means and methods used to define them. The explorations were accomplished, and the soil logging and sampling performed by, a Staff Geologist and/or Engineer under the direct supervision of a California licensed Geotechnical Engineer. The explorations were conducted to determine the geometry and geotechnical characteristics of subsurface geologic deposits at the site.

The exploratory borings were advanced with 7-inch outer-diameter continuous flight helical hollow stem augers (HSA) powered by a truck mounted drill rig. Relatively undisturbed soil samples were recovered from the borings at selected intervals by either a 1.4-inch SPT (standard penetration) or 2-inch inner-diameter samplers (Modified California) advanced with an automatic hammer driving a 140 lb. hammer freely falling 30 inches (standard 350-foot/lb. striking force). The number of blows of the hammer required to drive the samplers each 6-inch to 18-inch interval of each drive is denoted as the penetration resistance or "blow count" and provides a field estimate of soil consistency/relative density. Blow counts shown on the logs have not been corrected/converted. Selected undisturbed samples were retained in moisture-proof containers for laboratory testing and reference. Bulk soil samples were recovered directly from excavation cuttings and placed in sealed plastic sample bag(s).

Soils were logged in the field by the Staff Geologist or Engineer and were field classified based on inspection of samples and auger cuttings per the Unified Soil Classification System (ASTM D2487) by color, gradation, texture, type, etc. Groundwater observations were made in the explorations during and after drilling. Exploration log prepared for the exploration provides soil descriptions and field estimated depths. The exploration logs are included in this Appendix B which also contains the Explorations Log Legend. This log includes visual classifications of the materials encountered during drilling as well as the field engineer's interpretation of the subsurface conditions. Final exploration logs included with this report represents the geotechnical engineer's interpretation of the field logs.

Samples of the subsurface soil earth materials were obtained from the exploratory borings for use in laboratory testing to further determine the soil's engineering properties and geotechnical design parameters to be used for future site improvements. The samples were tagged for identification, sealed to reduce moisture loss, and taken to our laboratory for further examination, testing, and classification. Bulk soil samples were recovered directly from excavation cuttings and placed in a plastic sample bag. Soil samples were then transported to ACG's soil mechanics laboratory for further testing. Field descriptions within the exploration logs have been modified, where appropriate, to reflect laboratory test results.

Upon completion of drilling the test borings the resulting holes were backfilled with cement grout from final test boring depth up to original ground surface.

Allerion Consulting Group

1050 Melody Lane, Suite 160. Roseville, CA 95678

Phone: 916.742.5096

Geotechnical Log - Borehole

B-1

Latitude	**: 39.428455**	**Drill Rig**	**: CME 55**	**Job Number**	**: 05-24059G**
Longitude	**: -123.802230**	**Driller Supplier**	**: V&W Drilling, Inc.**	**Client**	**: Pacific West Communities**
Ground Elevation	**: 119 (ft)**	**Logged By**	**: JC**	**Project**	**: Proposed 3-Story Apartment Building**
Total Depth	**: 26 ft BGL**	**Reviewed By**	**: MK**	**Location**	**: Fort Bragg, Caliornia**
		Date	**: 09/04/2024**	**Loc Comment**	**: Refer to Explorations Map**

Elevation (ft)	Depth (ft)	Drilling Method	Samples: SPT Sample	Samples: Mod Cal Sample	Blows per 6 in: COMMENT	Blows per 6 in: TYPE	Blows per 6 in: BLOWS per 6 in (140 lb hammer 30 Inch drop)	Blows per 6 in: N	Blows per 6 in: REC	Classification Code	Graphic Log	Material Description	Groundwater	Testing: Water Content, %	Testing: Dry Unit Weight, pcf	Testing: % Fines	Remarks
119										SM		Loose, moist, brown, fine grained sand, SILTY SAND.					
118	1																
117	2					SPT	3-3-5	8	18					9.7	93	24.8	
116	3		B1/1														
115	4																
114	5																
113	6					Mod Cal	9-7-10	17	12								
112	7			B1/2						SP-SM		Medium dense, moist, brown and light brown, fine grained sand, POORLY GRADED SAND WITH SILT, trace gravel.					
111	8																
110	9																
109	10									SM		Medium dense, moist, brown, fine grained sand, SILTY SAND.					
108	11					SPT	6-7-10	17	18				▼				
107	12		B1/3														
106	13											- wet.	▽				
105	14																
104	15																
103	16					Mod Cal	6-6-9	15	6								
102	17			B1/4													
101	18																
100	19																
99	20									SP-SM		Loose to medium dense, moist, orange brown, POORLY GRADED SAND WITH SILT, fine grained sand.					
98	21					SPT	2-4-5	9	18								
97	22		B1/5									- dense to very dense, brown					
96	23																
95	24																
94	25																
93	26					Mod Cal	17-50	50/6"	12								
92	27			B1/6								**B-1 Terminated at 26ft (Groundwater was encountered at a depth of approximately 13 feet during drilling and 11 feet after drilling. Boring was backfilled with cement grout and topped with soil cuttings.)**					
91	28																
90	29																
89	30																
88	31																
87	32																
86	33																
85	34																

7-inch Hollow Stem Auger

Allerion Consulting Group

1050 Melody Lane, Suite 160. Roseville, CA 95678

Phone: 916.742.5096

Geotechnical Log - Borehole

B-2

Latitude	**: 39.428372**	**Drill Rig**	**: CME 55**	**Job Number**	**: 05-24059G**
Longitude	**: -123.801972**	**Driller Supplier**	**: V&W Drilling, Inc.**	**Client**	**: Pacific West Communities**
Ground Elevation	**: 119 (ft)**	**Logged By**	**: JC**	**Project**	**: Proposed 3-Story Apartment Building**
Total Depth	**: 30.5 ft BGL**	**Reviewed By**	**: MK**	**Location**	**: Fort Bragg, Caliornia**
		Date	**: 09/04/2024**	**Loc Comment**	**: Refer to Explorations Map**

Elevation (ft)	Depth (ft)	Drilling Method	Samples: SPT Sample	Samples: Mod Cal Sample	Blows per 6 in: COMMENT	Blows per 6 in: TYPE	Blows per 6 in: BLOWS per 6 in (140 lb hammer 30 Inch drop)	Blows per 6 in: N	Blows per 6 in: REC	Classification Code	Graphic Log	Material Description	Groundwater	Testing: Water Content, %	Testing: Dry Unit Weight, pcf	Testing: % Fines	Remarks
119										SM		Loose, moist, brown, fine grained, SILTY SAND.					
118	1																
117	2															31	
116	3					Mod Cal	3-4-4	8	12								
115	4			B2/1													
114	5																
113	6					SPT	5-6-9	15	18	SP		Medium dense, moist, light brown with rust staining, fine grained, POORLY GRADED SAND.					
112	7		B2/2														
111	8																
110	9																
109	10																
108	11					Mod Cal	4-7-7	14	18.0	CL		Stiff, moist, grey and brown with orange, LEAN CLAY, with 6 inches Silty Sand lenses at 10.5 feet.					
107	12			B2/3									▼				
106	13																
105	14																
104	15																
103	16					SPT	2-4-7	11	18	SM		Medium dense, moist, grey with rust staining, fine grained sand, SILTY SAND, trace fine sized gravel.		24.9	104	32	
102	17		B2/4														
101	18																
100	19																
99	20																
98	21					Mod Cal	3-5-10	15	18.0			- brown with rust staining.		27.1	99	16	
97	22			B2/5													
96	23																
95	24																
94	25																
93	26					SPT	7-15-50	65	16			- very dense.					
92	27		B2/6									- red-brown with rust staining.					
91	28																
90	29																
89	30					Mod Cal	50/6"	50/6"	6			- wet, gray.	▽				
88	31			B2/7								**B-2 Terminated at 30.5ft (Groundwater was encountered at a depth of approximately 30 feet during drilling and 12 feet after drilling. Boring was backfilled with cement grout and topped with soil cuttings.)**					
87	32																
86	33																
85	34																

7-inch Hollow Stem Auger

Allerion Consulting Group

1050 Melody Lane, Suite 160. Roseville, CA 95678

Phone: 916.742.5096

Geotechnical Log - Borehole

B-3

Latitude	**: 39.428321**	**Drill Rig**	**: CME 55**	**Job Number**	**: 05-24059G**
Longitude	**: -123.801688**	**Driller Supplier**	**:**	**Client**	**: Pacific West Communities**
Ground Elevation	**: 118 (ft)**	**Logged By**	**: JC**	**Project**	**: Proposed 3-Story Apartment Building**
Total Depth	**: 26.5 ft BGL**	**Reviewed By**	**: MK**	**Location**	**: Fort Bragg, Caliornia**
		Date	**: 09/04/2024**	**Loc Comment**	**: Refer to Explorations Map**

Elevation (ft)	Depth (ft)	Drilling Method	Samples: SPT Sample	Samples: Mod Cal Sample	Blows per 6 in: COMMENT	Blows per 6 in: TYPE	Blows per 6 in: BLOWS per 6 in (140 lb hammer 30 Inch drop)	Blows per 6 in: N	Blows per 6 in: REC	Classification Code	Graphic Log	Material Description	Groundwater	Testing: Water Content, %	Testing: Dry Unit Weight, pcf	Remarks
118										SM		Medium dense, moist, brown, fine grained sand, SILTY SAND.				
117	1															
116	2															
115	3		B3/1			SPT	4-5-7	12	12							
114	4															
113	5															
112	6			B3/2		Mod Cal	5-5-8	13	18	SP-SM		Medium dense, moist, light brown with rust staining, fine grained sand, POORLY GRADED SAND WITH SILT.		12.6	102	
111	7															
110	8															
109	9															
108	10															
107	10.5 11	7-inch Hollow Stem Auger	B3/3			SPT	3-3-5	8	18	CL		Medium stiff, moist, light brown with rust staining, LEAN CLAY.				
106	12															
105	13												▼			
104	14															
103	15			B3/4		Mod Cal	4-10-14	24	18	SM		Medium dense, moist to wet, light brown with gray to orange brown with rust staining, fine grained sand, SILTY SAND.				
102	16															
101	17												▽			
100	18															
99	19									SP		Medium dense, brown, wet, POORLY GRADED SAND, fine to coarse grained sand.				
98	20															
97	21		B3/5			SPT	8-10-15	25	18							
96	22															
95	23															
94	24															
93	25															
92	26			B3/6		Mod Cal	9-11-16	27	12			- light brown, trace gravel.				
91	27											**B-3 Terminated at 26.5ft (Groundwater was encountered at a depth of approximately 17 feet during drilling and 13 feet after drilling. Boring was backfilled with cement grout and topped with soil cuttings.)**				
90	28															
89	29															
88	30															
87	31															
86	32															
85	33															
84	34															

Allerion Consulting Group

1050 Melody Lane, Suite 160. Roseville, CA 95678

Phone: 916.742.5096

Geotechnical Log - Borehole

B-4

Latitude	**: 39.428263**	**Drill Rig**	**: CME 55**	**Job Number**	**: 05-24059G**
Longitude	**: -123.801453**	**Driller Supplier**	**: V&W Drilling, Inc.**	**Client**	**: Pacific West Communities**
Ground Elevation	**: 118 (ft)**	**Logged By**	**: JC**	**Project**	**: Proposed 3-Story Apartment Building**
Total Depth	**: 21.5 ft BGL**	**Reviewed By**	**: MK**	**Location**	**: Fort Bragg, Caliornia**
		Date	**: 09/03/2024**	**Loc Comment**	**: Refer to Explorations Map**

Elevation (ft)	Depth (ft)	Drilling Method	Samples: SPT Sample	Samples: Mod Cal Sample	Blows per 6 in: COMMENT	Blows per 6 in: TYPE	Blows per 6 in: BLOWS per 6 in (140 lb hammer 30 Inch drop)	Blows per 6 in: N	Blows per 6 in: REC	Classification Code	Graphic Log	Material Description	Groundwater	Testing: Water Content, %	Testing: Dry Unit Weight, pcf	Remarks
118										SM		Loose, moist, brown, fine grained, SILTY SAND.				
117	1															
116	2															
115	3					Mod Cal	2-3-3	6	18					11.3	90	
114	4			B4/1												
113	5															
112	5.5 6					SPT	2-3-5	8	12	SP		Loose, moist, light brown, fine grained, POORLY GRADED SAND.				
111	7		B4/2													
110	8															
109	8.5 9											- brown, fine to medium grained, fine to medium to grained sand.				
108	10															
107	10.5 11					Mod Cal	2-5-8	13	18	CL		Stiff, moist, light gray with rust staining, LEAN CLAY.				
106	12			B4/3												
105	13															
104	14															
103	15															
102	16					SPT	4-7-10	17	18	SP		Medium dense, moist to wet, gray with white, fine grained, POORLY GRADED SAND.				
101	17		B4/4													
100	18															
99	19															
98	20															
97	21			B4/5		Mod Cal	8-9-17	26	18			- wet, brown with orange, medium to coarse grained.				
96	22											**B-4 Terminated at 21.5ft (Groundwater was encountered at a depth of approximately 13.5 feet during drilling and 13 feet after drilling. Boring was backfilled with cement grout and topped with soil cuttings.)**				
95	23															
94	24															
93	25															
92	26															
91	27															
90	28															
89	29															
88	30															
87	31															
86	32															
85	33															
84	34															

5-inch Solid Stem Auger

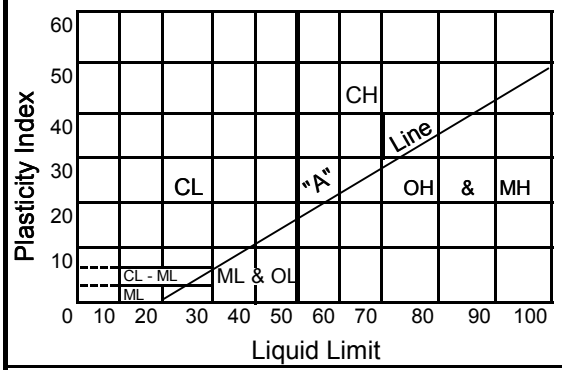
Allerion Consulting Group

1050 Melody Lane, Suite 160. Roseville, CA 95678

Phone: 916.742.5096

UNIFIED SOIL CLASSIFICATION

PT	OH	CH	MH	OL	CL	ML	SC	SM	SP	SW	GC	CM	GP	GW
Highly organic soils	Silts and Clays (Liquid Limit > 50)			Silts and Clays (Liquid Limit < 50)			Sands with fines > 12% fines		Clean sands < 5% fines		Gravels with fines > 12% Fines		Clean gravels < 5% fines	
							Sands - more than 50% of coarse fraction is smaller than No. 4 sieve.				Gravels - more than 50% of coarse fraction is larger than No. 4 sieve.			
Fine grained soils (more than 50% is smaller than No. 200 sieve)							Coarse grained soils (more than 50% is larger than No. 200 sieve)							



LABORATORY CLASSIFICATION CRITERIA

GW and SW-$C_u = \frac{D_{60}}{D_{10}}$ greater than 4 for GW & 6 for SW; $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$ between 1 & 3

GP and SP - Clean gravel or sand not meeting requirements for GW and SW.

GM and SM - Atterberg limits below "A" line or P.I. less than 4.

GC and SC - Atterberg limits above "A" line with P.I. greater than 7.

Fines (silt or clay)	Fine Sand	Medium Sand	Coarse Sand	Fine Gravel	Coarse Gravel	Cobbles	Boulders
Sieve sizes	> # 200	> # 40	> # 10	> # 4	> 3/4"	> 3"	> 10"

Classification of earth materials shown on this sheet is based on field inspection and should not be construed to imply laboratory analysis so stated.

MATERIAL SYMBOLS

- WELL GRADED GRAVEL or GRAVEL WITH SAND (GW)
- POORLY GRADED GRAVEL or GRAVEL WITH SAND (GP)
- SILTY GRAVEL or SILTY GRAVEL WITH SAND (GM)
- CLAYEY GRAVEL or CLAYEY GRAVEL WITH SAND (GC)
- WELL-GRADED SAND or SAND WITH GRAVEL (SW)
- POORLY GRADED SAND or SAND WITH GRAVEL (SP)
- SILTY SAND or SILTY SAND WITH GRAVEL (SM)
- CLAYEY SAND or CLAYEY SAND WITH GRAVEL (SM)
- INORGANIC LOW PLASTIC CLAY, SANDY CLAY, or CLAY WITH SAND/GRAVEL (CL)
- INORGANIC LOW PLASTIC SILT, SANDY SILT, or SILT WITH SAND/GRAVEL (ML)
- INORGANIC HIGH PLASTIC CLAY, SANDY CLAY, or CLAY WITH SAND/GRAVEL (CH)
- INORGANIC HIGH PLASTIC SILT, SANDY SILT, or SILT WITH SAND/GRAVEL (MH)
- ORGANIC LOW/HIGH PLASTIC CLAY or SILT (OL or OH)
- PEAT (PT)

RELATIVE DENSITY / CONSISTENCY CLASSIFICATION FOR SOILS

According to the Standard Penetration Test and AASHTO 1988

No. of Blows	Granular	PP (tsf)	No. of Blows	Cohesive
0 - 4	Very Loose	< 0.25	< 2	Very Soft
5 - 10	Loose	0.25 - 0.5	3 - 4	Soft
11 - 30	Medium Dense	0.5 - 1	5 - 8	Medium Stiff
31 - 50	Dense	1 - 2	9 - 15	Stiff
> 50	Very Dense	2 - 4	16 - 30	Very Stiff
		> 4	> 30	Hard

Where the standard penetration test has not been performed, consistencies shown on the logs are estimated and given in parenthesis, e.g., (Very Stiff).

FIELD AND LABORATORY TEST ABBREVIATIONS

REC: Sample recovery in inches.
PP: Field Pocket Penetrometer in tsf.
LL: Liquid Limit, expressed as a water content.
PI: Plasticity Index, expressed as a water content.
%Fines: percent passing No. 200 Sieve)
UC: Unconfined compressive strength test in tsf.
Dry Unit Weight, pcf: Dry weight per unit volume of soil sample.

TYPICAL SAMPLER GRAPHIC SYMBOLS

- 2-inch-OD split spoon (SPT)
- Bulk Sample
- 3-inch-OD California Modified w/ 2.38-inch-ID Stainless Steel Tube
- 2.5-inch-OD Modified California w/ 1.91-inch-ID stainless steel tube
- Grab Sample

OTHER GRAPHIC SYMBOLS

- Groundwater level (during drilling)
- Groundwater level (after drilling)
- Inferred/gradational contact between strata
- Queried contact between strata

GENERAL NOTES

1: Soil classifications are based on the Unified Soil Classification System (USCS). Descriptions and stratum lines are interpretive, and actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
2: Descriptions on these logs apply only at the specific exploration locations and at the time the explorations were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

LEGEND FOR EXPLORATIONS LOGS

APPENDIX C

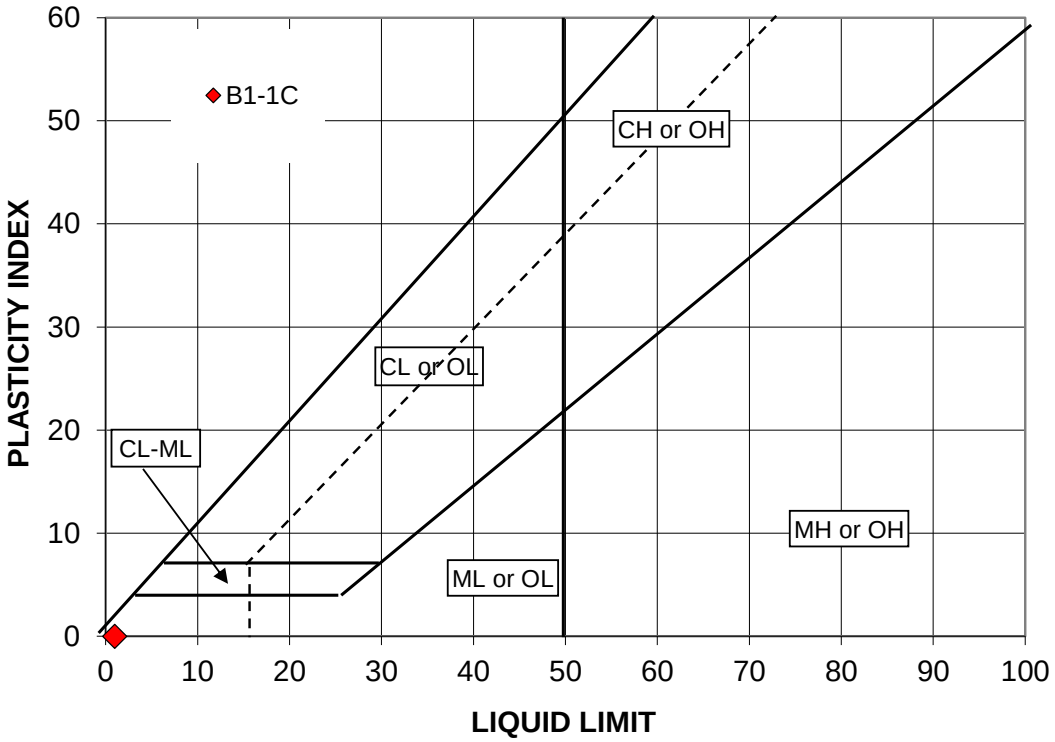
LABORATORY TESTING

LABORATORY TESTING

Samples retrieved during the field exploration were taken to the soil mechanics laboratory for further observation by the project geotechnical engineer and were classified in accordance with the Unified Soil Classification System (USCS) described in Appendix B. An applicable laboratory testing program was formulated for classification testing and to determine engineering properties of the subsurface earth materials. The field descriptions were confirmed or modified based on the test results.

Soil mechanics laboratory tests were performed on soil samples recovered from the explorations to further determine the physical and engineering properties of the soils. These tests included materials R-value test (CTM 301), sieve analysis (ASTM D6913), finer than no. 200 sieve (ASTM D 1140), dry density (ASTM D 2937), Atterberg limits (ASTM D4318), natural moisture content (ASTM D 2216) and evaluation for soil corrosion, including pH and minimum resistivity (CA DOT Test #643), sulfate content (CA DOT Test #417), and chloride content (CA DOT Test #422m). The results of these tests are shown on the Exploration Log at the depth that each sample was recovered. The Atterberg limits, sieve analysis, R-value, and soil corrosion test results are attached. The laboratory test results were used to assess the relative soil and geologic conditions of the site of the proposed construction and to provide geotechnical design criteria for foundations, slabs, grading and drainage.

ATTERBERG LIMITS TEST RESULTS

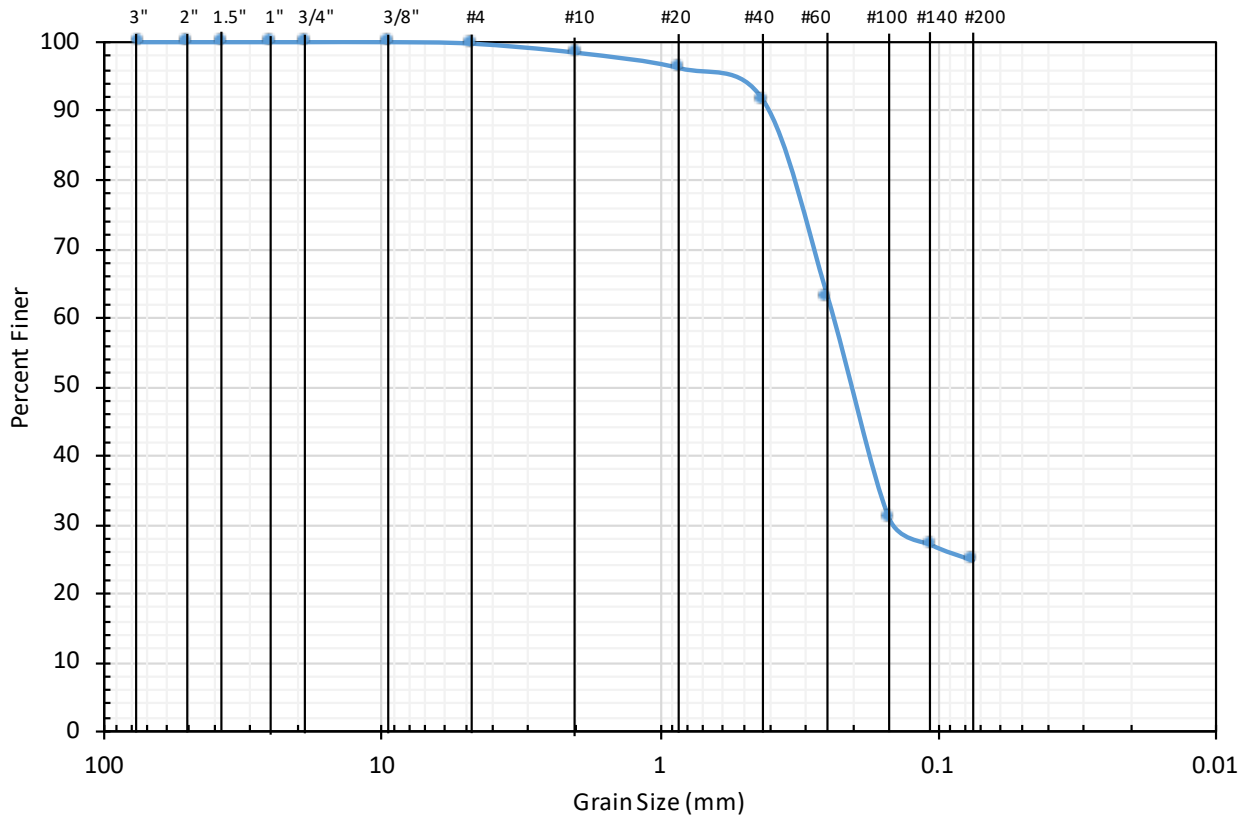


GROUP SYMBOL	UNIFIED SOIL CLASSIFICATION FINE-GRAINED SOIL
OL	Organic silts and organic silty clays of low plasticity
ML	Inorganic clayey silts to very fine sands of slight plasticity
CL	Inorganic clays of low to medium plasticity
OH	Organic sillts and clays of medium to high plasticity
MH	Inorganic silts, clayey silts, and sandy silts
CH	Inorganic clays of high plasticity

SAMPLE ID	DEPTH (feet)	Content (%)	% Fines	LL	PL	PI
B1/1	2-3.5	9.7	25	Non-Plastic		

Lab No.:	118G	**ATTERBERG LIMITS (ASTM - D4318)**	Allerion Consulting Group, Inc.
Project Name:	860 Hazelwood Avenue		
Project No.:	05-24059G	**MATERIAL FINER THAN #200 SIEVE (ASTM D-1140)**	
Tested By:	RP		
Reviewed By:	MK		
Sample Date:	9/4/24		Sheet 1
Test Date:	9/12/24		

Partical Size Distribution Curve



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	Silt & Clay
0	0	0.2	1.3	6.9	66.7	24.8
0	0.2		75.0			24.8

SEIVE DESIGNATION	PERCENT FINER
3"	100.0
2"	100.0
1.5 inch	100.0
1 inch	100.0
3/4 inch	100.0
3/8 inch	100.0
#4	99.8
#10	98.5
#20	96.2
#40	91.5
#60	63.2
#100	30.9
#140	27.1
#200	24.8

Soil Description:

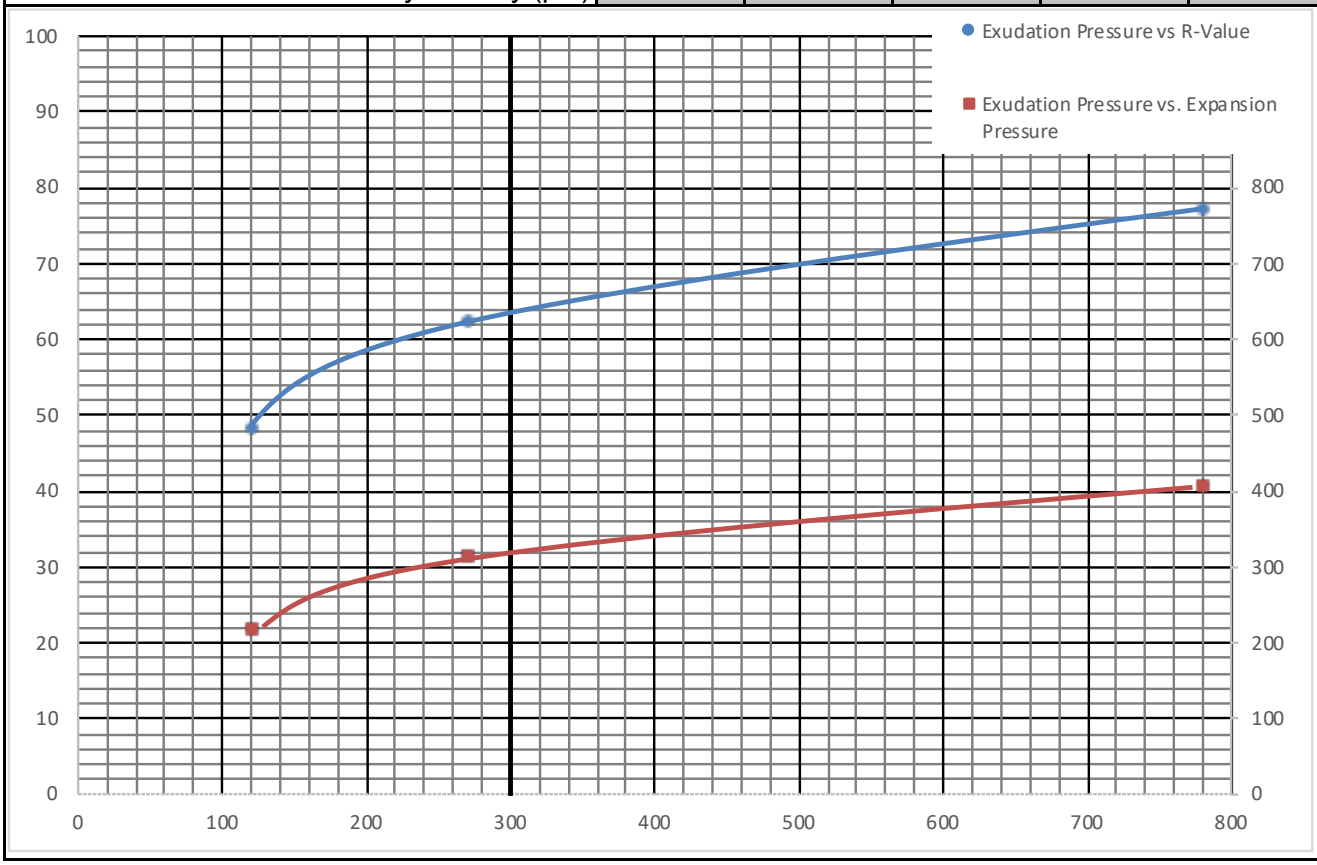
Silty Fine SAND (SM)

Lab No.:	118G	**Gradation of Soils Using Sieve Anaylsis (ASTM - D6913)**		Allerion Consulting Group, Inc.
Project Location:	Fort Bragg, California			
Project No.:	05-24059G			
Tested By:	RP	Boring Number:	B-1	
Reviewed By:	MK	Sample Number:	B1/1	
Sample Date:	9/4/24	Sample Depth:	2 - 3.5'	Sheet 2
Test Date:	9/12/24			

R-Value
CTM 301

CTL Job No.:	1191-054	Boring:	NA	Reduced By:	RU
Client:	Allerion Consulting Group	Sample:	R-1	Checked By:	PJ
Project Number:	05-24059G	Depth:	0-3'	Date:	9/16/24
Project Name:	860 Hazelwood Street		**R-Value**		**63**
Soil Description:	Dark Reddish Brown Silty SAND				
Remarks:			**Expansion Pressure**		**320**

Specimen Designation	A	B	C	D	E
Compactor Foot Pressure (psi)	150	180	280		
Exudation Pressure (psi)	122	272	782		
Exudation Load (lbf)	1533	3418	9827		
Height After Compaction (in)	2.52	2.44	2.40		
Expansion Pressure (psf)	215	310	404		
Stabilometer @ 2000	66	40	26		
Turns Displacement	3.82	4.40	3.56		
R-value	48	63	78		
Corrected R-Value	48	62	77		
Moisture Content (%)	20.0	18.1	16.3		
Wet Density (pcf)	122.6	122.5	123.6		
Dry Density (pcf)	102.1	103.7	106.2		



Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 09/13/2024
Date Submitted 09/10/2024

To: Mohammed Khalid
Allerion Consulting Group, Inc.
1050 Melody Lane Suite 160
Roseville, CA 95678

From: Gene Oliphant, Ph.D. \ Ty Bui
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 05-24059G Site ID : B4-1B+A.
Thank you for your business.

* For future reference to this analysis please use SUN # 93059-192716.

EVALUATION FOR SOIL CORROSION

Soil pH	5.43	
Minimum Resistivity	11.26 ohm-cm (x1000)	
Chloride	6.2 ppm	00.00062 %
Sulfate	3.6 ppm	00.00036 %

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422m

APPENDIX D

GUIDE SPECIFICATIONS FOR EARTHWORK

GUIDE SPECIFICATIONS FOR EARTHWORK

A. General Description

1. This item shall consist of all clearing and grubbing, removal of existing obstructions, preparation of the land to be filled, filling the land, spreading, compaction and control of the fill, and all subsidiary work necessary to complete the grading of the cut and fill areas to conform with the lines, grades and slopes as shown on the accepted plans.

2. The Geotechnical Engineer is not responsible for determining line, grade elevations or slope gradients. The property owner or his representative shall designate the party that will be responsible for those items of work.

B. Geotechnical Report

1. The Geotechnical Report has been prepared for this project by Allerion Consulting Group (ACG), Roseville, California, (916-742-5096). This report was for design purposes only and may not be sufficient to prepare an accurate bid. A copy of the report is available for review at **ACG's** office.

2. Contents of these guide specifications shall be integrated with the Geotechnical Report of which they are a part and shall not be used as a self-contained document. Where a conflict occurs between these guide specifications and the conclusions and recommendations contained in the report, then the conclusions and recommendations shall take precedence and these guide specifications adjusted accordingly.

C. Site Preparation

1. Clearing Area(s) to be Filled: All trees, brush, logs, rubbish, and other debris shall be removed and disposed of to leave the areas that have been disturbed with a neat appearance. Underground structures shall be removed or may be crushed in place upon approval by the Geotechnical Engineer. Excavations and depressions resulting from the removal of the above items shall be cleaned out to firm undisturbed soil and backfilled with suitable materials in accordance with the specifications contained herein. Stockpiles of clean soil may be reused as filled material provided the soil is free of significant vegetation, debris, rubble, and rubbish and is approved by the Geotechnical Engineer.

2. Surfaces upon which fill is to be placed, as well as subgrades of structure pad(s) left at existing grade, shall have all organic material removed; or, with permission of the Geotechnical Engineer, closes cut and remove vegetation and thoroughly disc and blend the remaining nominal organics into the upper soil. Discing must be thorough enough so that no concentrations of organics remain, which may require re-discing or cross-discing several times.

3. Organic laden material removed per paragraph C.2. above, may be used as fill in landscaped areas provided that the material shall not extend closer than ten (10) feet to any structure, shall not exceed two (2) feet in thickness or be used where the material could, in the opinion of the Geotechnical Engineer, create a slope stability problem, and shall be compacted to at least eighty-two (82) percent relative compaction per ASTM Test Designation D 1557. Alternatively, the organic laden material may be hauled off-site and suitably disposed of.

4. Upon completion of the organic removal, exposed surface shall be plowed or scarified to a depth of at least six (6) inches, and until the surface is free from ruts, hummocks, or other uneven features which would tend to prevent uniform compaction by the equipment to be used. Where vegetation has been close cut and removed and remaining organics blended with the upper soil, further scarifying may not be necessary. Where fills are to be placed on hill slopes, scarifying shall be to depths adequate to provide bond between fill and fill foundation. Where considered necessary by the Geotechnical Engineer, (typically where the slope ratio of the original ground is steeper than five (5) horizontal to one (1) vertical), the ground surface shall be stepped or benched to achieve this bond. Vertical dimension of the required benches shall be as determined by the Geotechnical Engineer, based upon location, degree, and condition of the hill slope.

5. After the foundation for the fill has been cleared and scarified, it shall be disced or bladed until it is uniform and free from large clods, uniformly moisture conditioned to the range specified by the Geotechnical Engineer, and compacted to not less than [refer to report -- if not recommended, use 90] percent of maximum dry density as determined by ASTM D 1557, or to such other density as may be determined appropriate for the materials and conditions and acceptable to the Geotechnical Engineer and the owner or his representative.

D. Fill Materials

1. Materials for fill shall consist of material approved by the Geotechnical Engineer.

2. The materials used for fill shall be free from organic matter and other deleterious substances and shall not contain rocks, clods, lumps, or cobbles exceeding four (4) inches in greatest dimension with not more than fifteen (15) percent larger than two and one-half (2-1/2) inches.

3. Imported materials to be used for fill shall be non-expansive [typically, have a plasticity index not exceeding twelve (12)], shall be of maximum one (1) inch size, and shall be tested and approved by the Geotechnical Engineer prior to commencement of grading and before being imported to the site.

4. The Contractor shall notify the Geotechnical Engineer at least four (4) working days in advance of the Contractor's intention to import soil; shall designate the borrow area; and, shall permit the Geotechnical Engineer to sample the borrow area for the purposes of examining the material and performing the appropriate tests to evaluate the quality and compaction characteristics of the soil. Compaction requirements for the material shall be based upon the characteristics of the material as determined by the Geotechnical Engineer.

E. Placement of Fill

1. The selected fill material shall be placed in level, uniform layers (lifts) which, when compacted, shall not exceed six (6) inches in thickness. Water shall be added to the fill, or the fill allowed to dry as necessary to obtain fill moisture content at which compaction as specified can be achieved. Each layer shall be thoroughly mixed during the spreading to obtain uniformity of moisture in each layer.

2. The fill material shall be compacted within the appropriate moisture content range (typically optimum to slightly above the optimum) as determined by the Geotechnical Engineer for the soil(s) being used.

3. Each layer of fill shall be compacted to not less than [refer to report; if not recommended, use 90] percent of maximum dry density as determined by ASTM Test Designation D 1557. Compaction equipment shall be of such design that it will be able to compact the fill to the specified density. Compaction shall be accomplished while the fill material is within the specified moisture content range. Compaction of each layer shall be continuous over its entire area and the compaction equipment shall make sufficient trips to ensure that the required density has been obtained. No ponding or jetting is permitted.

4. If work has been interrupted for any reason, the Geotechnical Engineer shall be notified by the contractor at least two (2) working days prior to the intended resumption of grading.

F. Geotechnical Engineer

1. Owner is retaining Geotechnical Engineer to make observations and tests to determine general compliance with Plans and Specifications, to verify expected or unexpected variations in subsurface conditions, and to give assistance in appropriate decisions. Cost of Geotechnical Engineer will be borne by the Owner, except costs incurred for re-tests and/or re-observations caused by failure of the Contractor to meet specified requirements will be paid by the Owner and back charged to Contractor.

G. Observation and Testing

1. Field density tests shall be made by the Geotechnical Engineer or his representative of the compaction of each layer of fill. Density tests shall be taken in the compacted material below any surfaces disturbed by the construction equipment. When these tests indicate that the density of any layer of fill or portion thereof is below the required density or moisture content, the particular layer or portion shall be reworked until the required density or moisture content has been obtained.

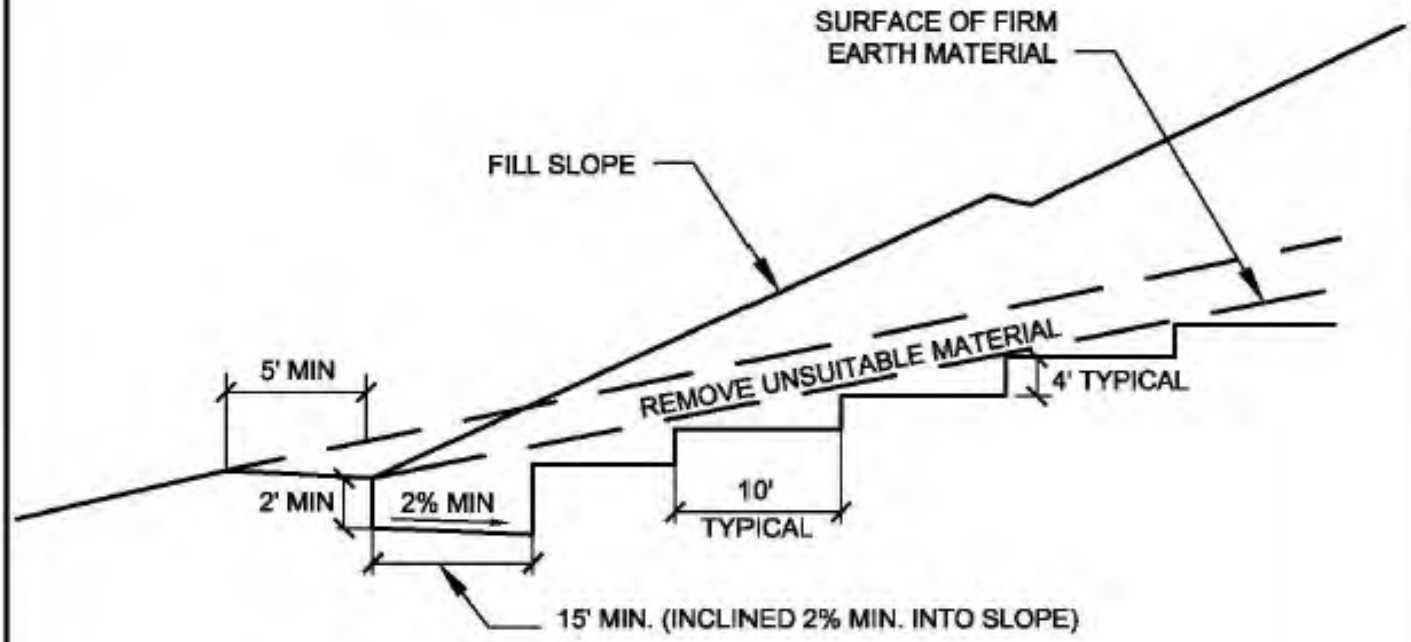
2. All aspects of the site earthwork shall be observed and tested as deemed necessary by the Geotechnical Engineer or his representative so that he can render a professional opinion of the completed fill for substantial compliance with plans and specifications and design concepts. The grading contractor shall give the Geotechnical Engineer at least two (2) working days' notice prior to beginning any site earthwork to allow proper scheduling of the work.

H. Seasonal Limits

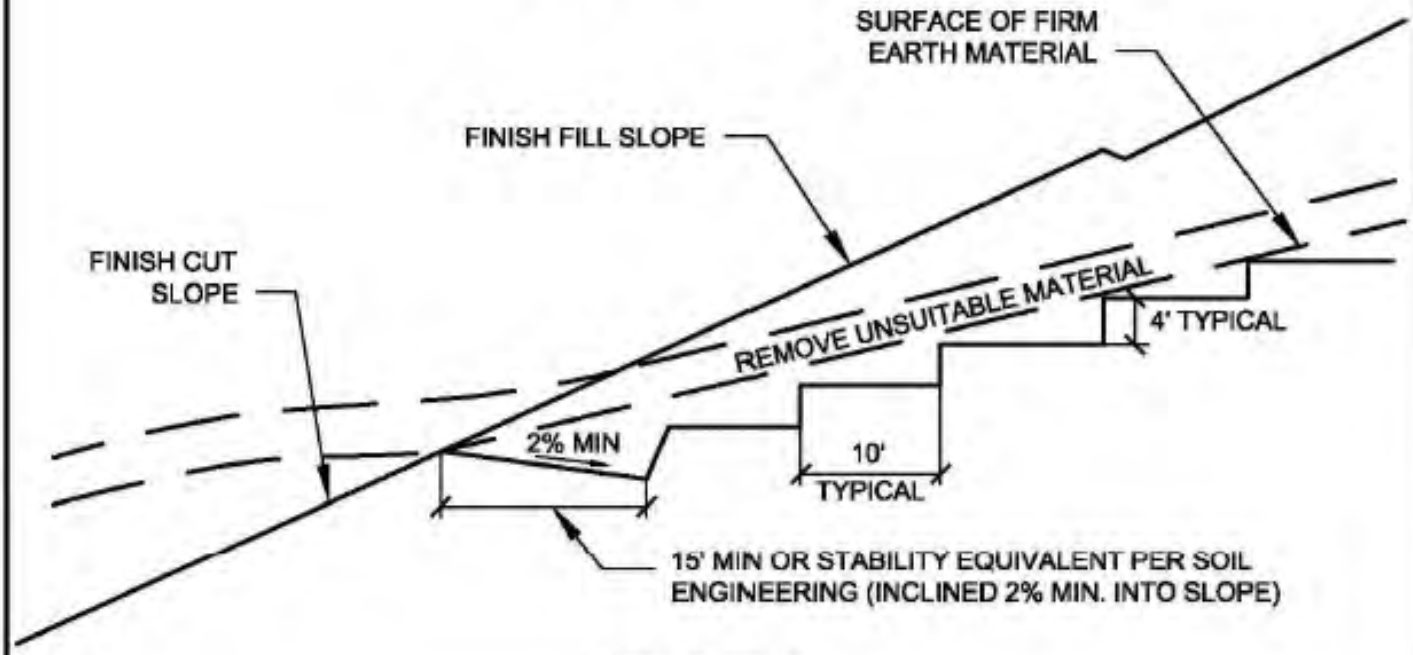
1. No fill material shall be placed, spread, or compacted during unfavorable weather conditions. When work is interrupted by heavy rain, fill operations shall not be resumed until the Geotechnical Engineer or his representative indicates that the moisture content and density of the previously placed fill are as specified.

GRADING DETAILS
(On following pages)

BENCHING FILL OVER NATURAL

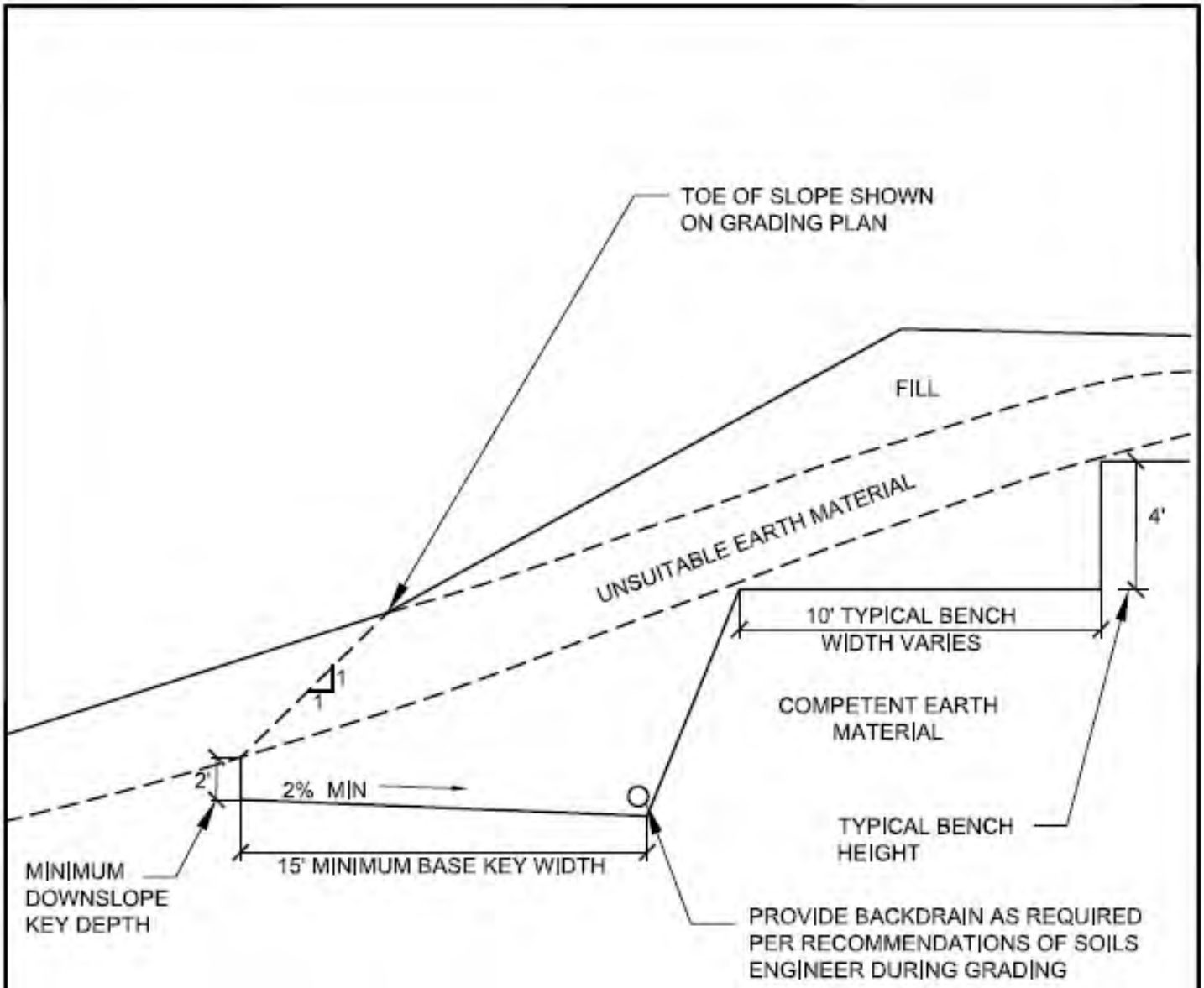


BENCHING FILL OVER CUT



NOT TO SCALE

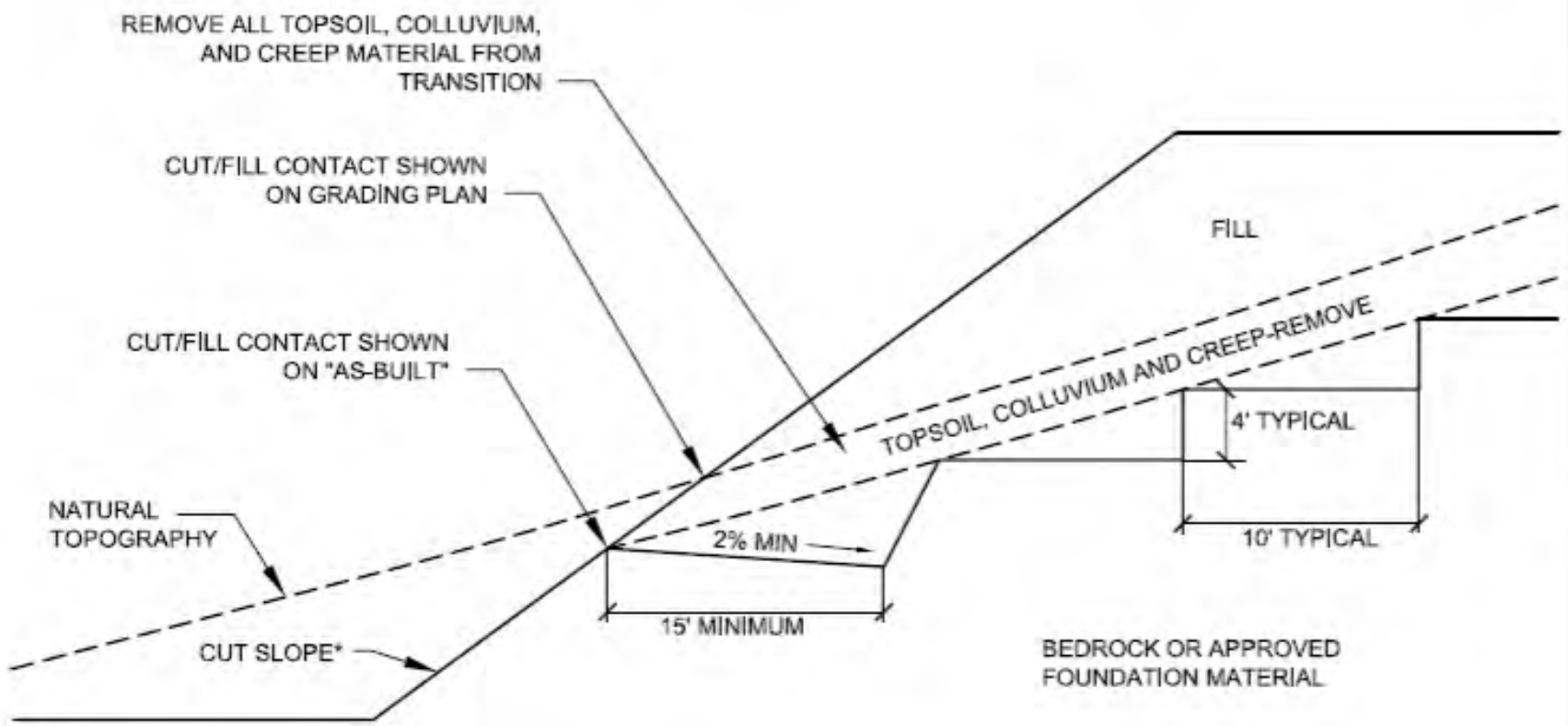
BENCHING FOR COMPACTED FILL DETAIL



WHERE NATURAL SLOPE GRADIENT IS 5:1 OR LESS, BENCHING IS NOT NECESSARY. FILL IS NOT TO BE PLACED ON COMPRESSIBLE OR UNSUITABLE MATERIAL.

NOT TO SCALE

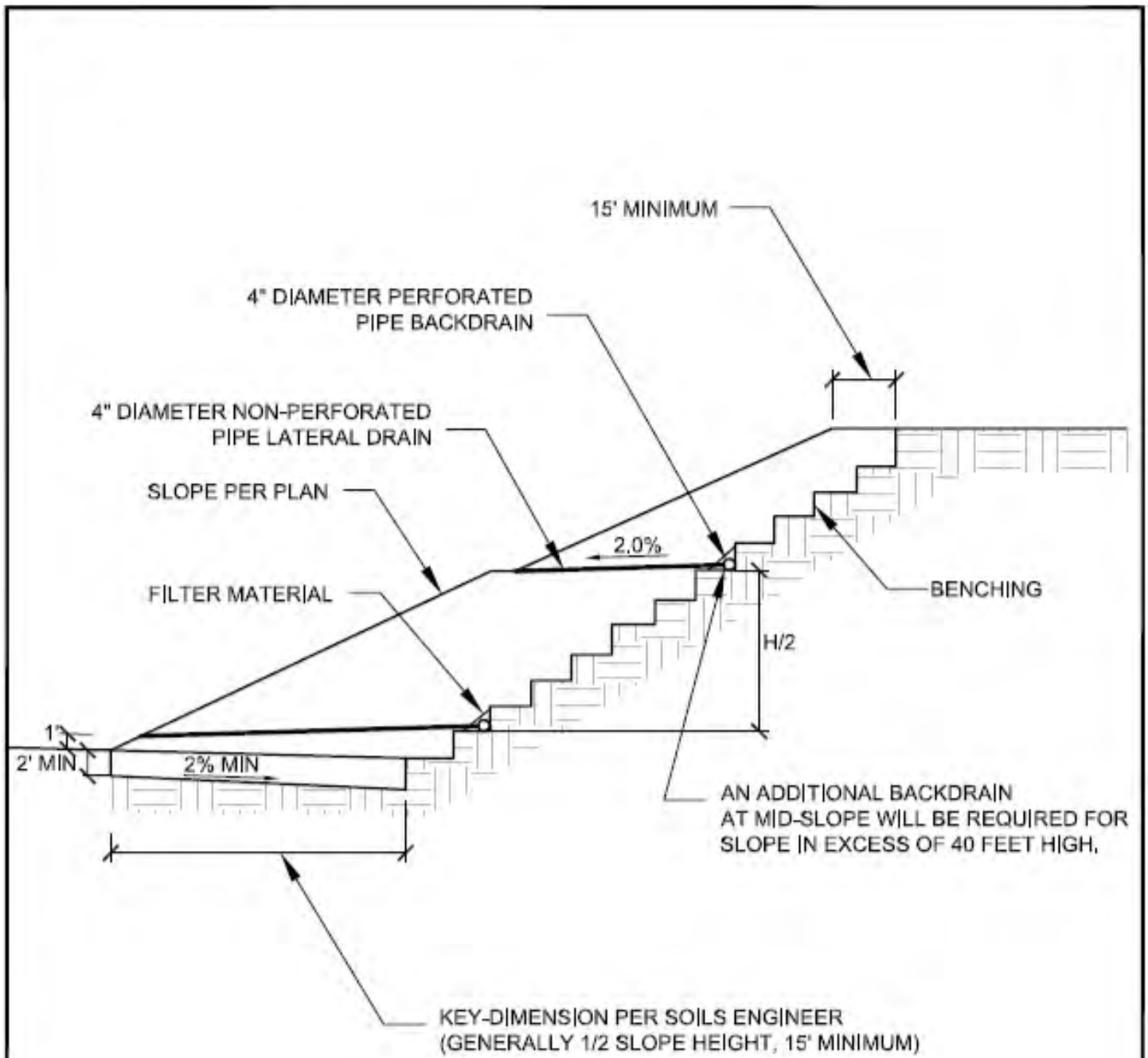
FILL SLOPE ABOVE NATURAL GROUND DETAIL



*NOTE: CUT SLOPE PORTION SHOULD BE MADE PRIOR TO PLACEMENT OF FILL

NOT TO SCALE

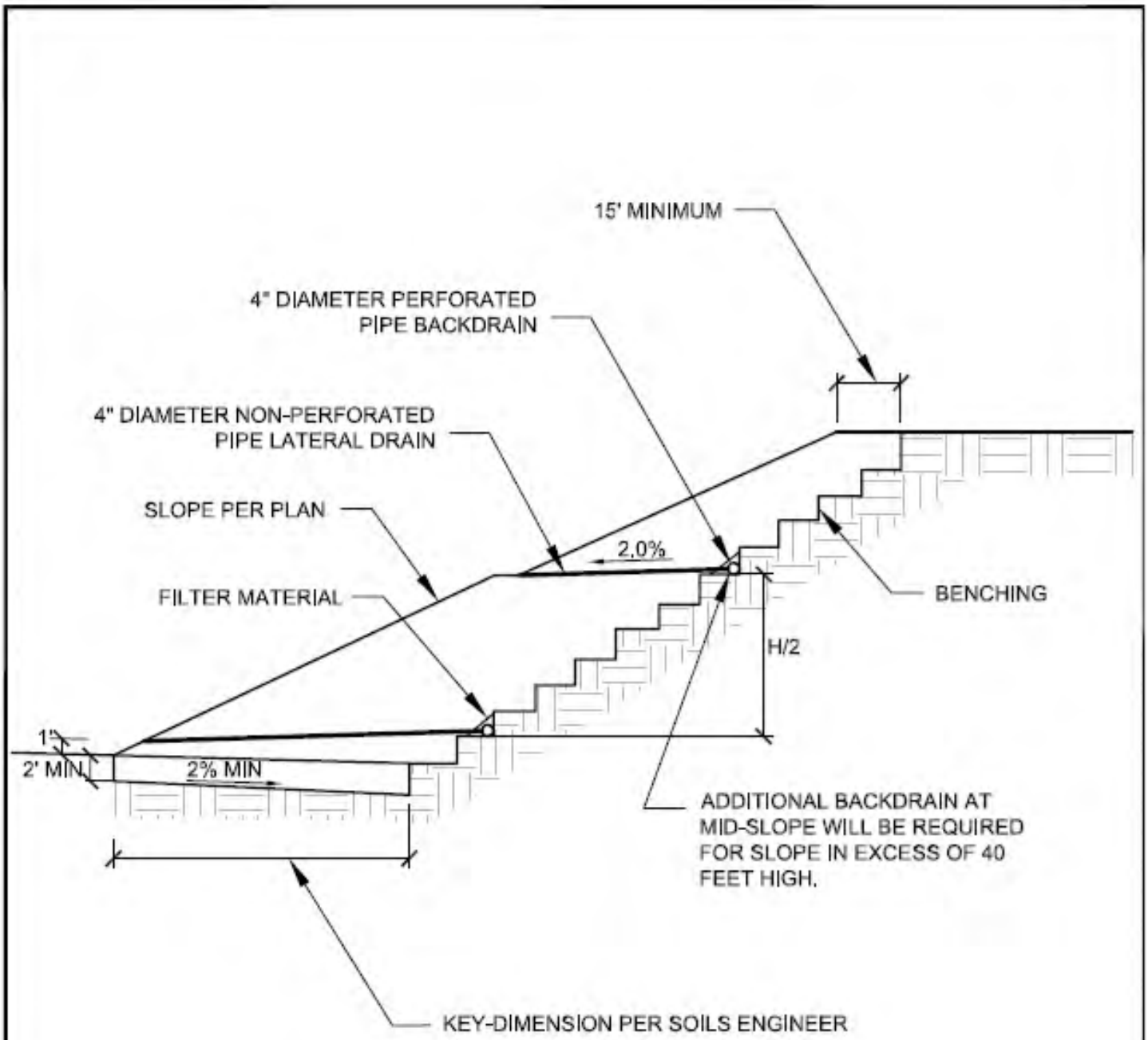
FILL SLOPE ABOVE CUT SLOPE DETAIL



DIMENSIONS ARE MINIMUM RECOMMENDED

NOT TO SCALE

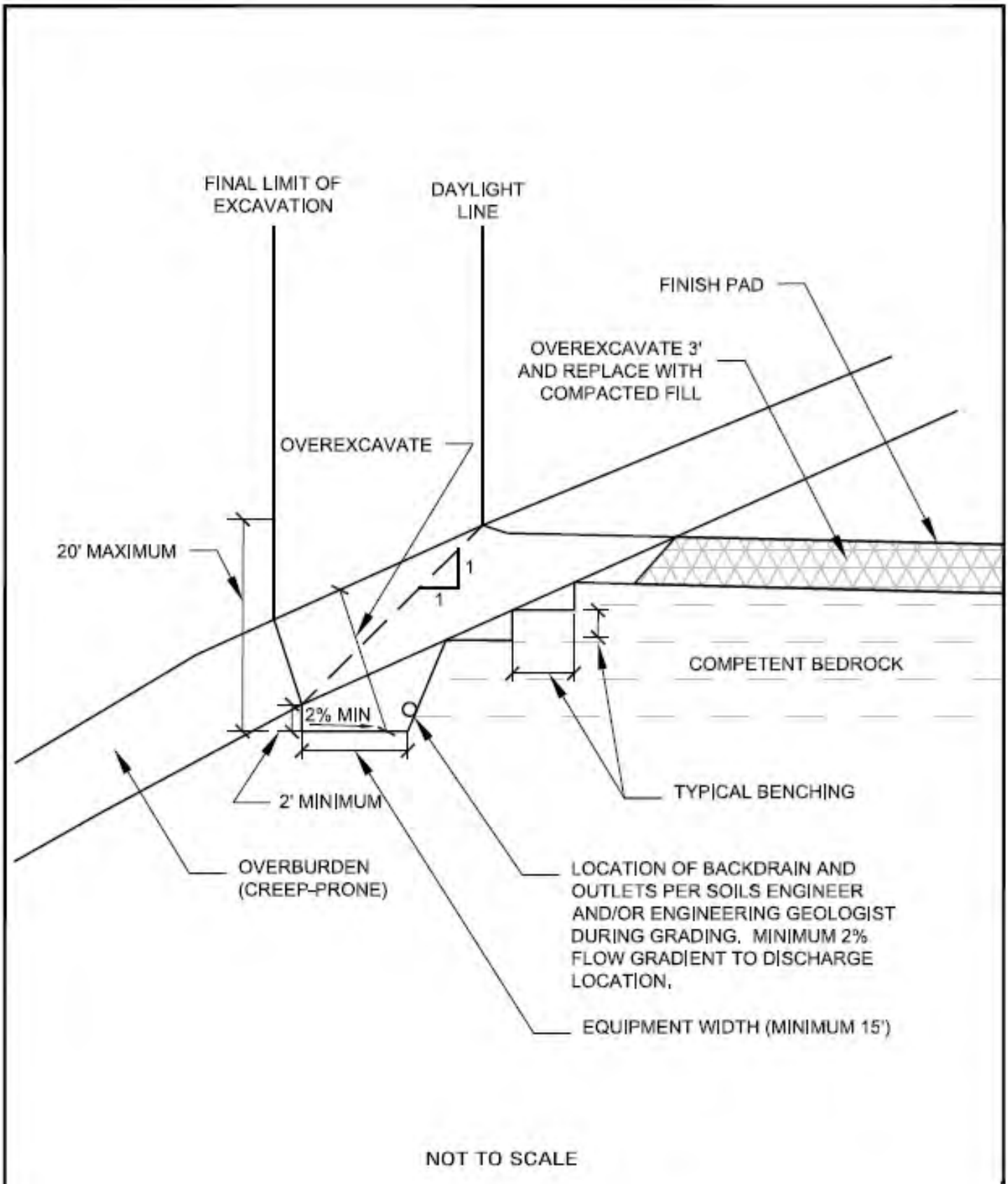
TYPICAL SLOPE STABILIZATION FILL DETAIL



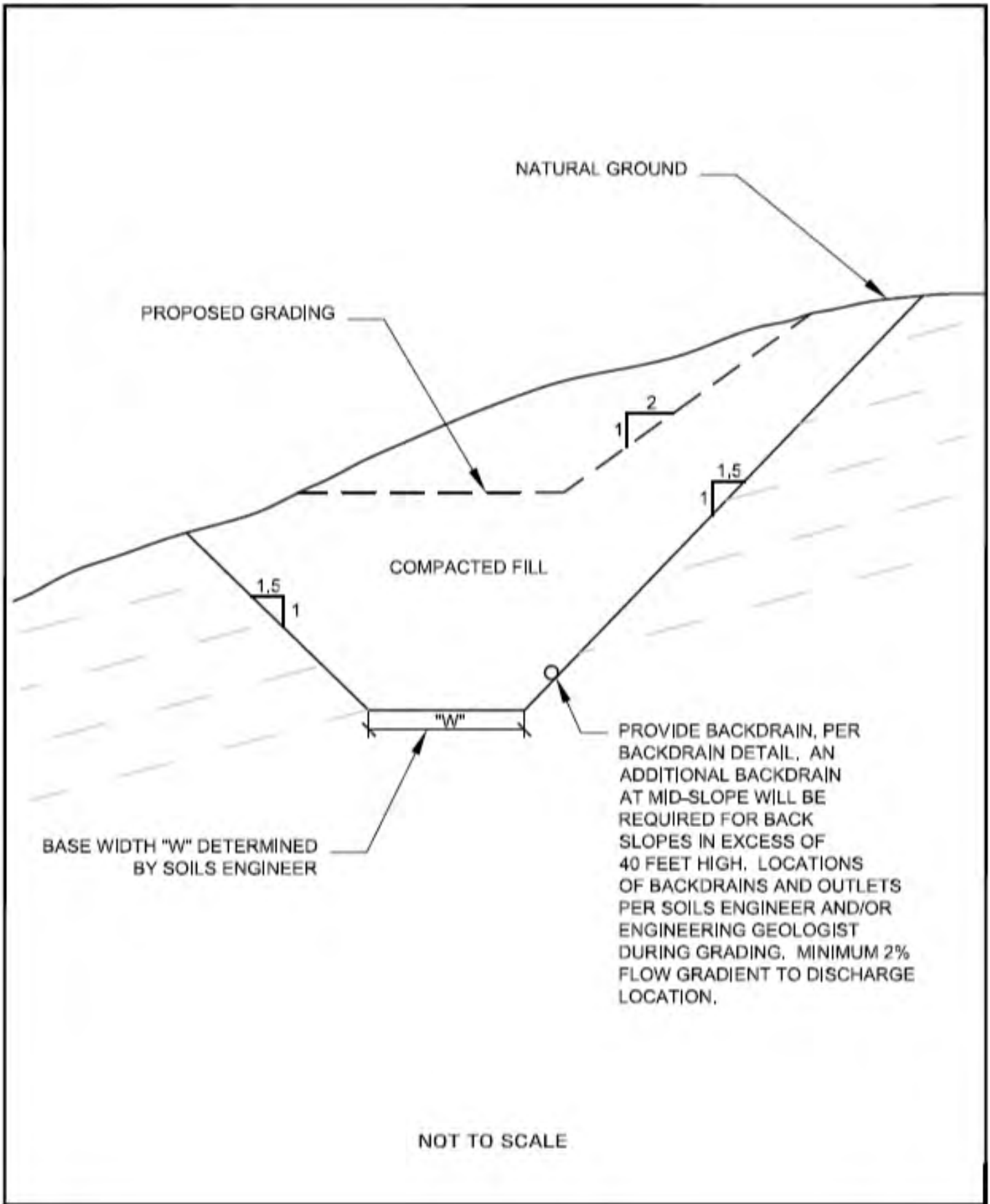
DIMENSIONS ARE MINIMUM RECOMMENDED

NOT TO SCALE

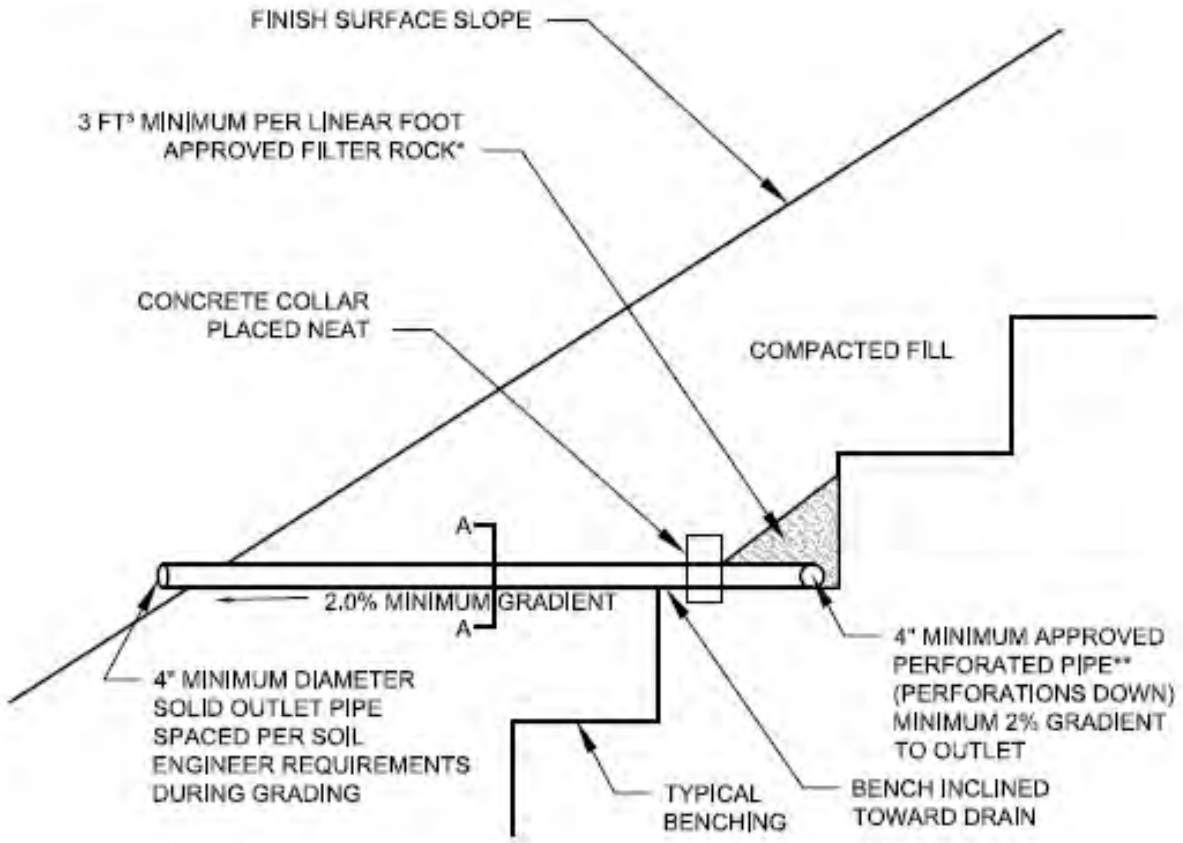
TYPICAL BUTTRESS FILL DETAIL



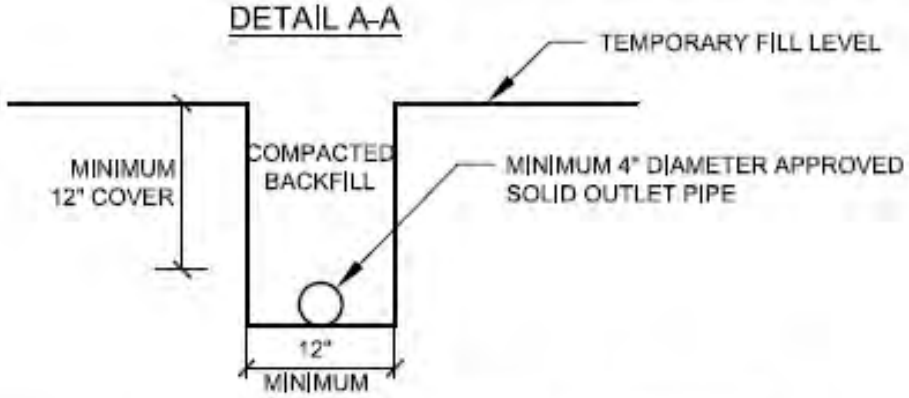
DAYLIGHT SHEAR KEY DETAIL



TYPICAL SHEAR KEY DETAIL



DETAIL A-A



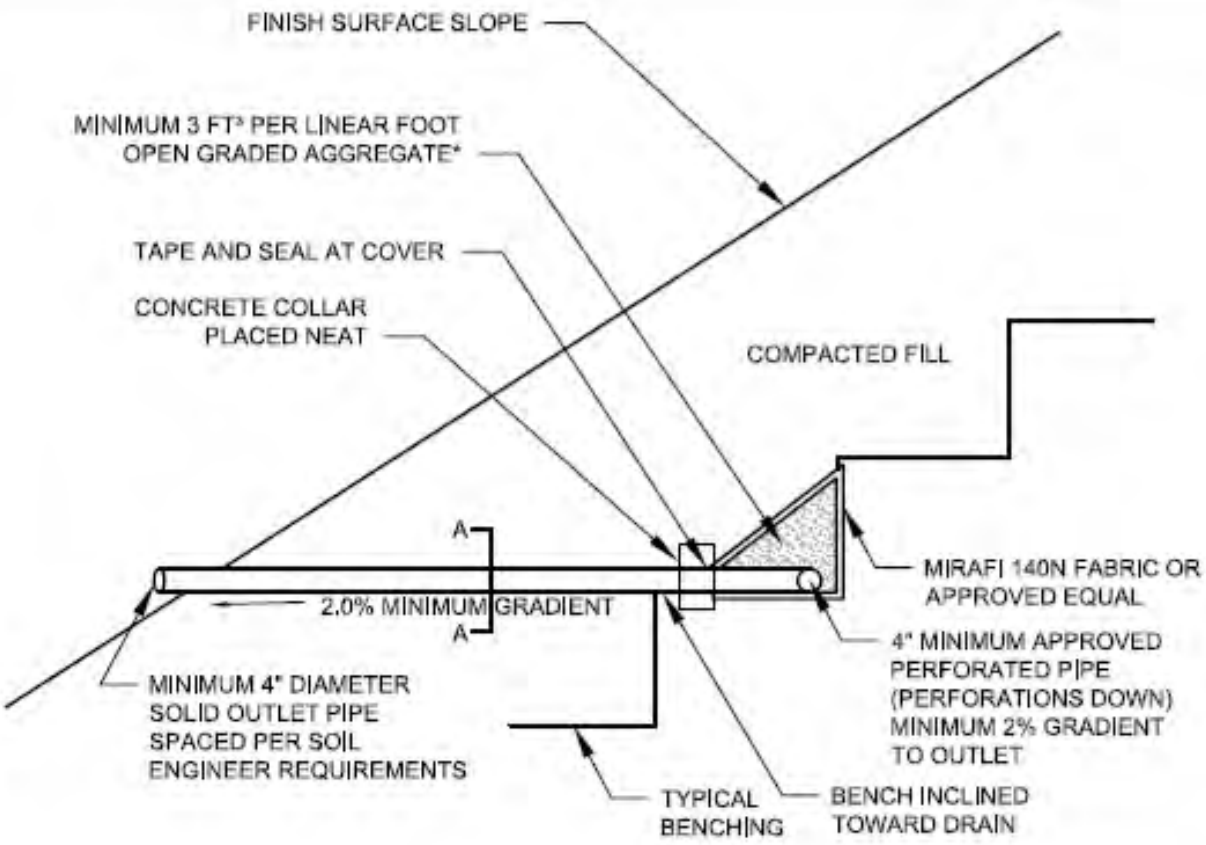
**APPROVED PIPE TYPE:
SCHEDULE 40 POLYVINYL CHLORIDE (P.V.C.) OR APPROVED EQUAL, MINIMUM CRUSH STRENGTH 1000 PSI

*FILTER ROCK TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUAL:

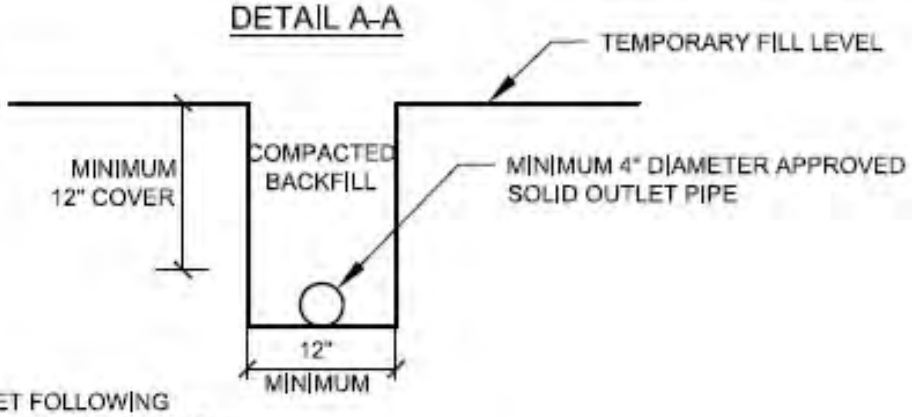
SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 30	5-15
NO. 50	0-7
NO. 200	0-3

NOT TO SCALE

TYPICAL BACKDRAIN DETAIL



DETAIL A-A

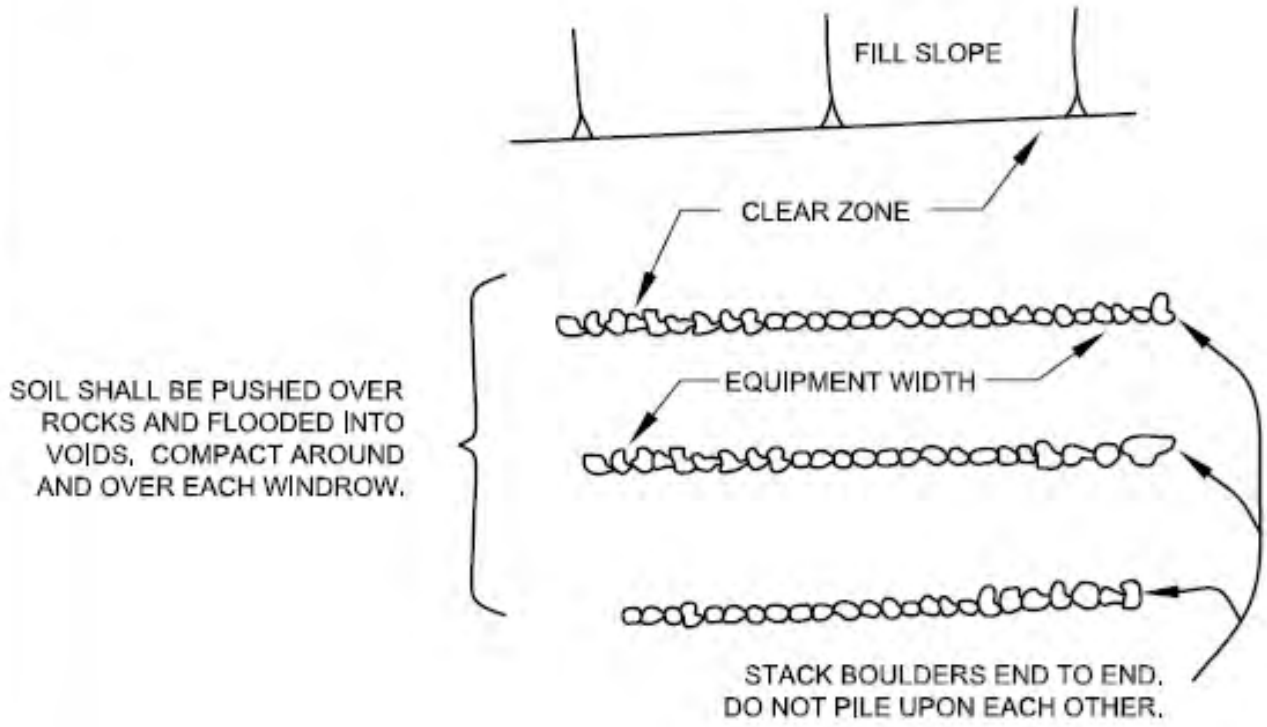


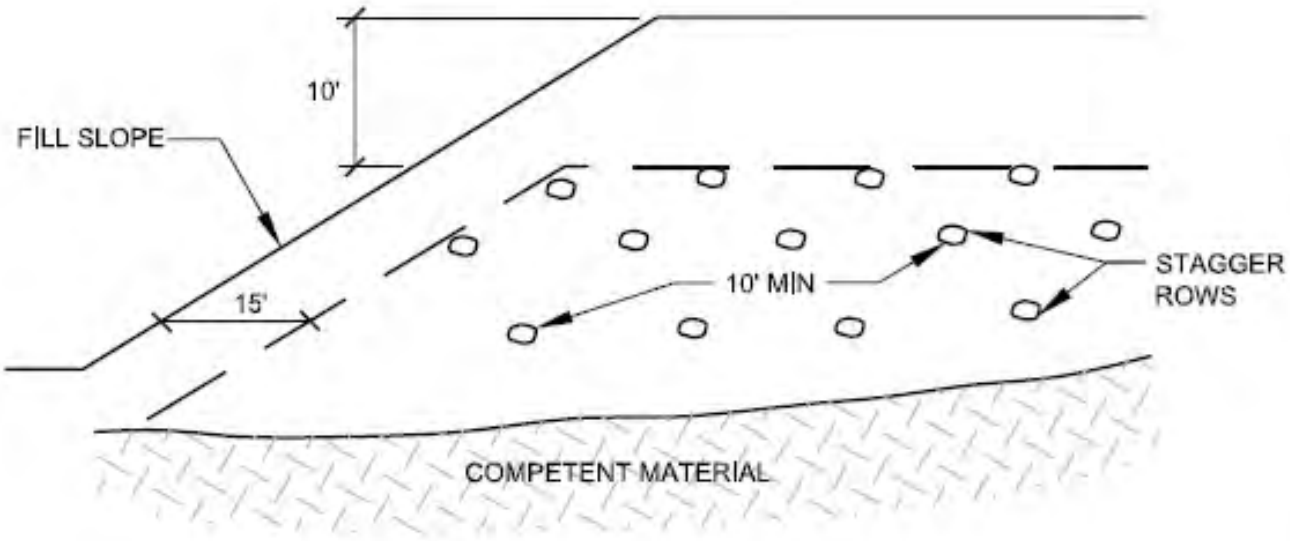
*NOTE: AGGREGATE TO MEET FOLLOWING SPECIFICATIONS OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1 ½"	100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

NOT TO SCALE

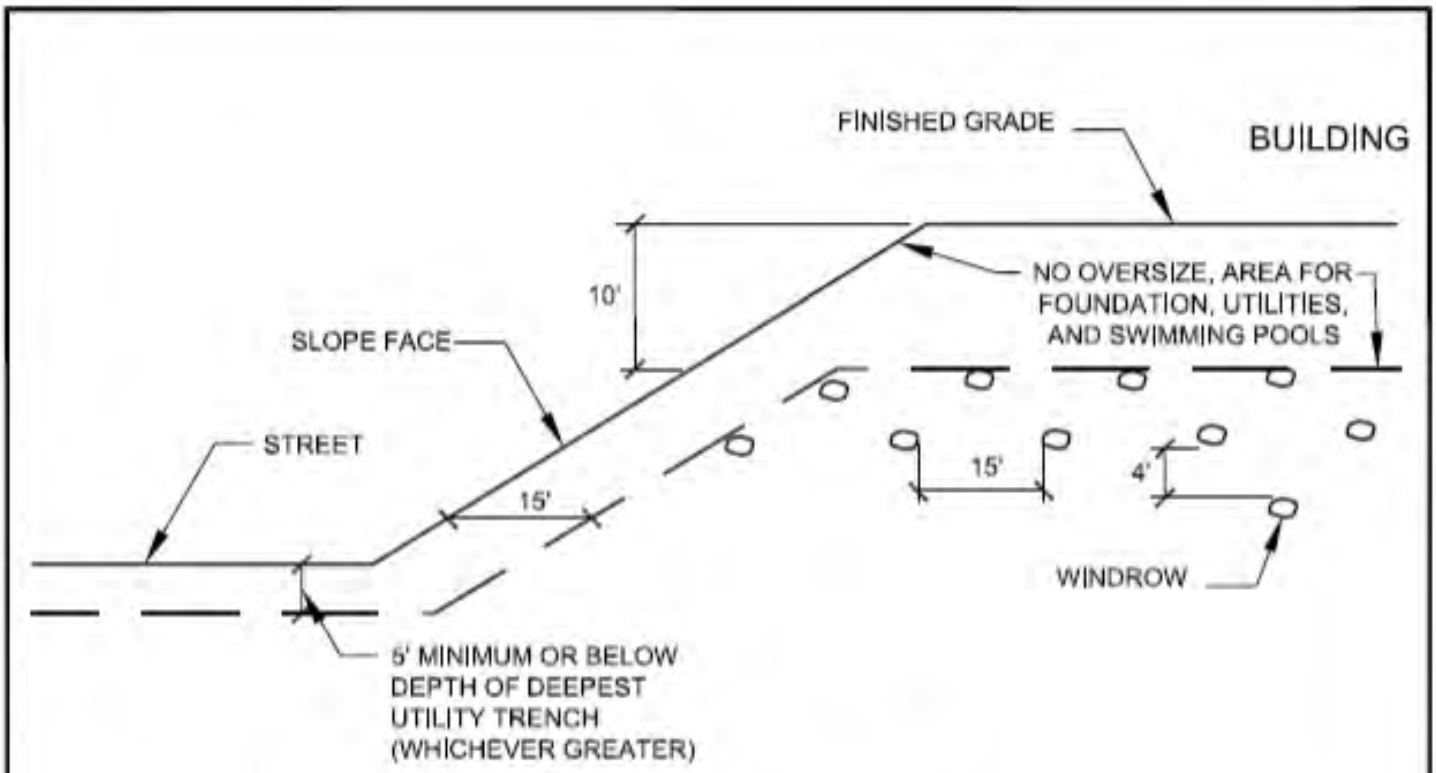
BACKDRAIN DETAIL (GEOFRABIC)



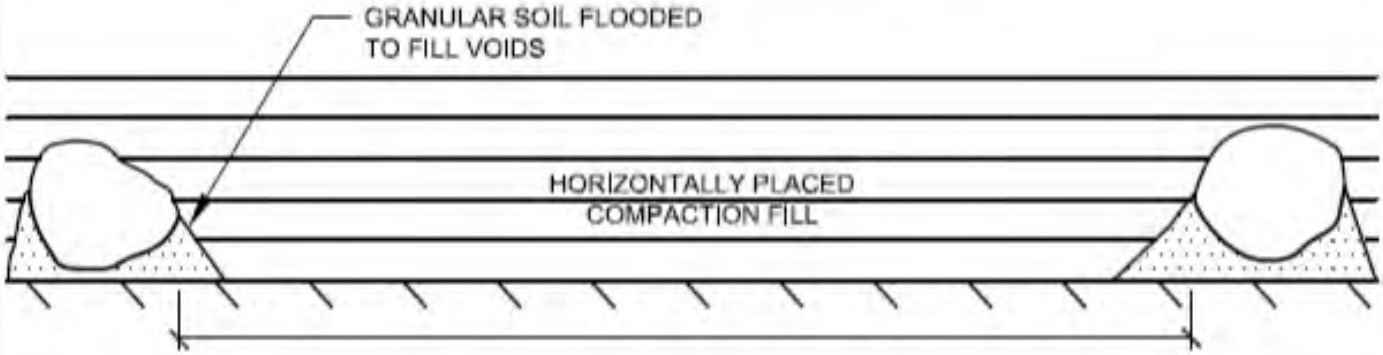


NOT TO SCALE

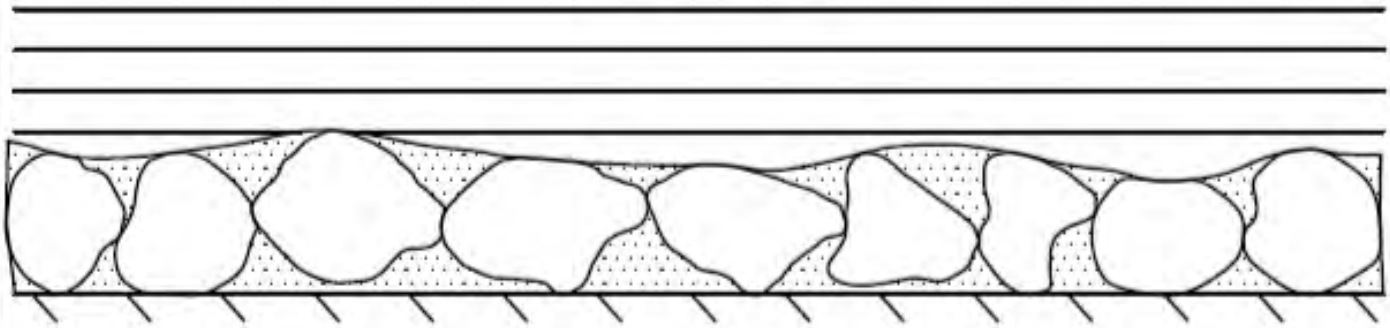
ROCK DISPOSAL DETAIL



TYPICAL WINDROW DETAIL (EDGE VIEW)



PROFILE VIEW

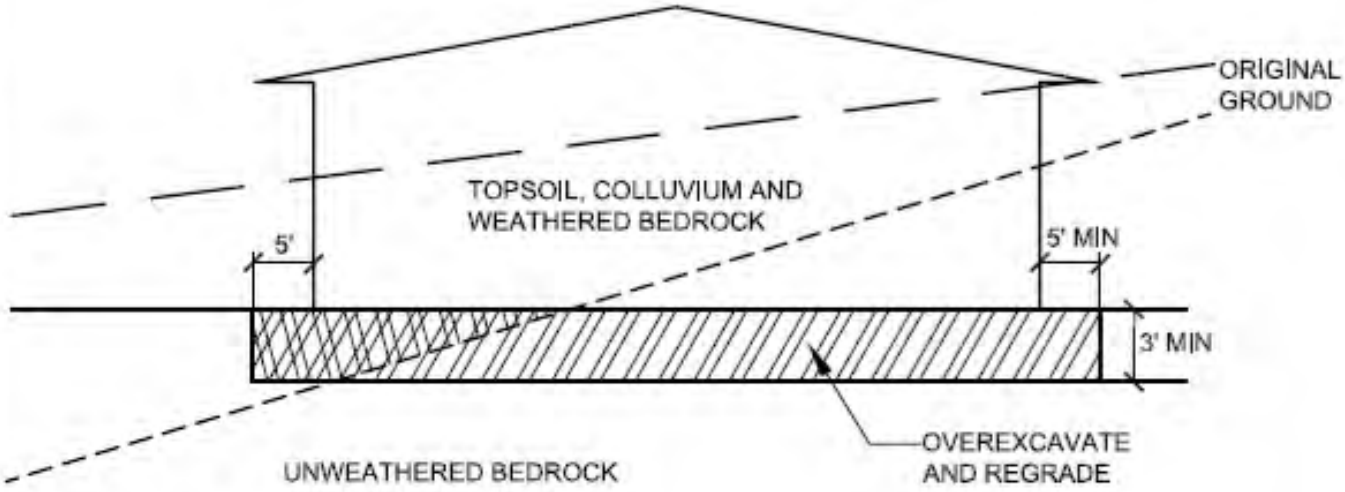


NOT TO SCALE

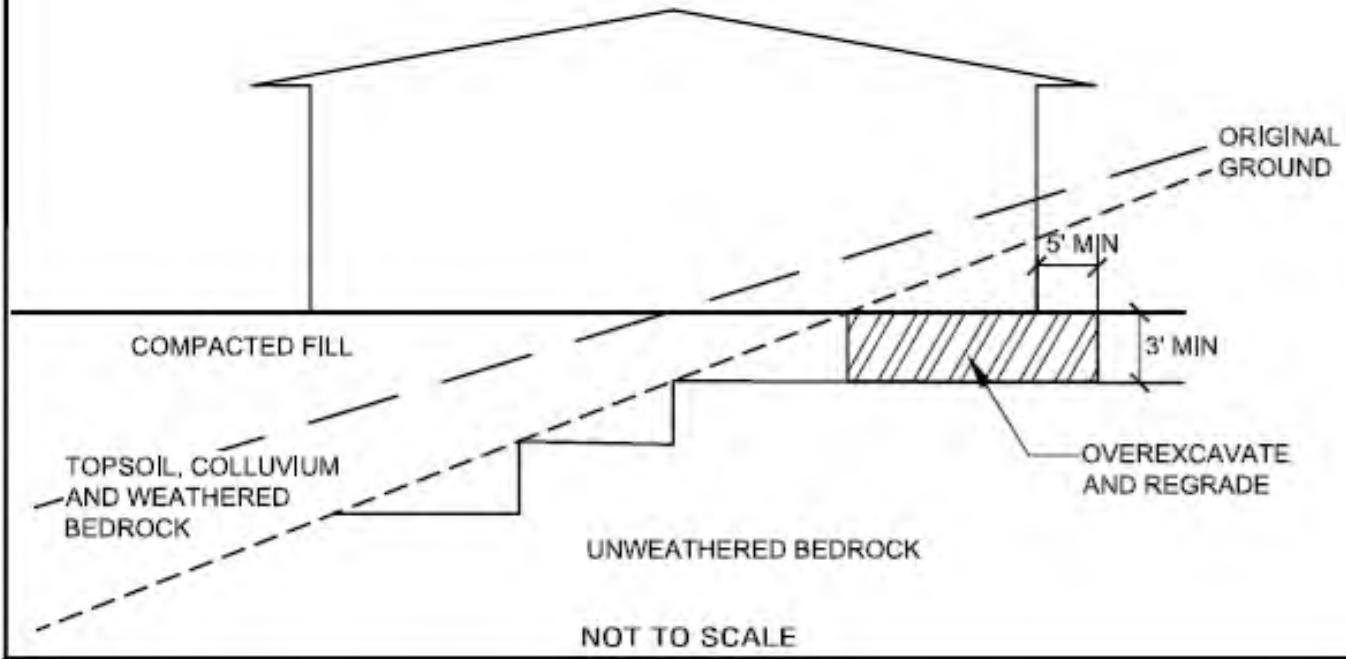
ROCK DISPOSAL DETAIL

GENERAL GRADING RECOMMENDATIONS

CUT LOT

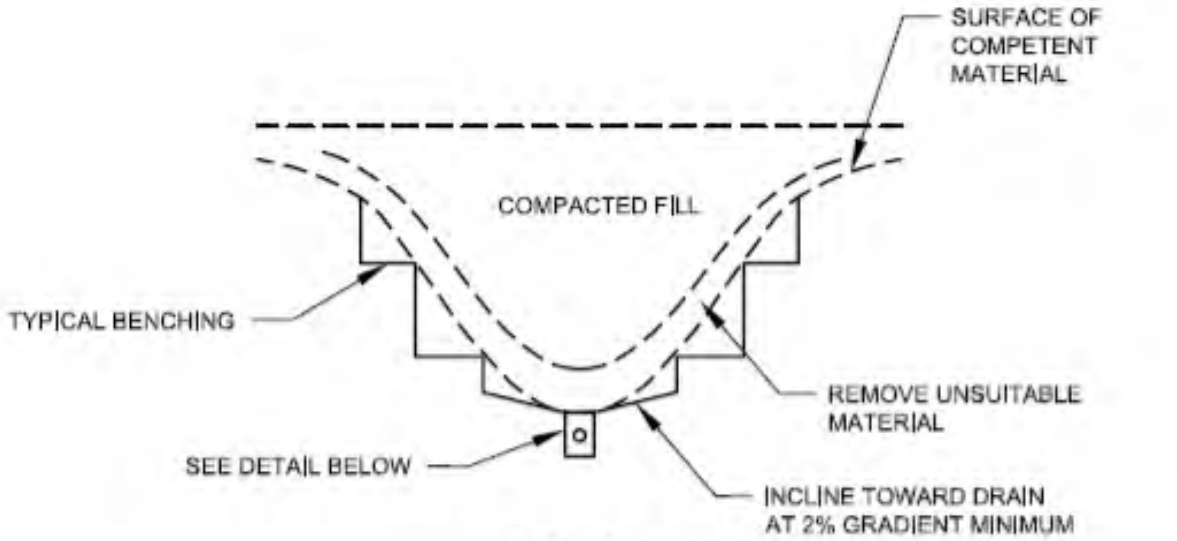


CUT/FILL LOT (TRANSITION)

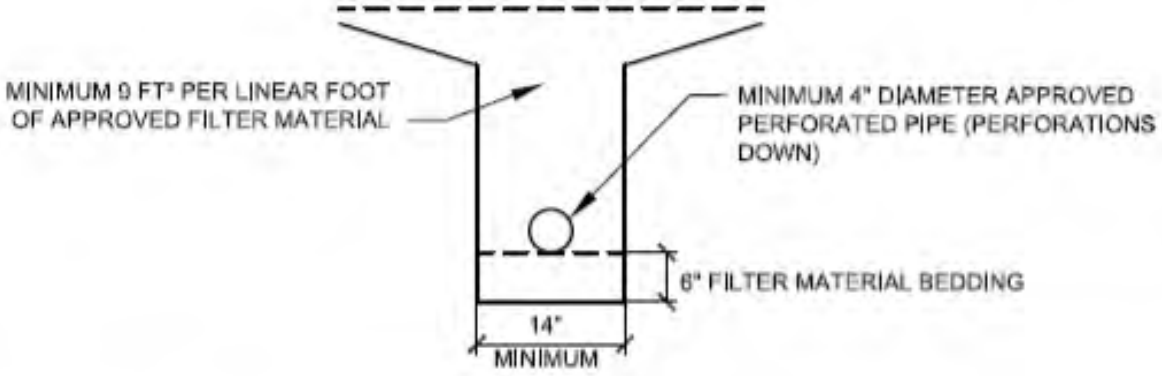


NOT TO SCALE

TRANSITION LOT DETAIL



DETAIL



FILTER MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1"	100
¾"	90-100
⅜"	40-100
NO. 4	25-40
NO. 30	16-33
NO. 8	5-15
NO. 50	0-7
NO. 200	0-3

APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYL-CHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 psi

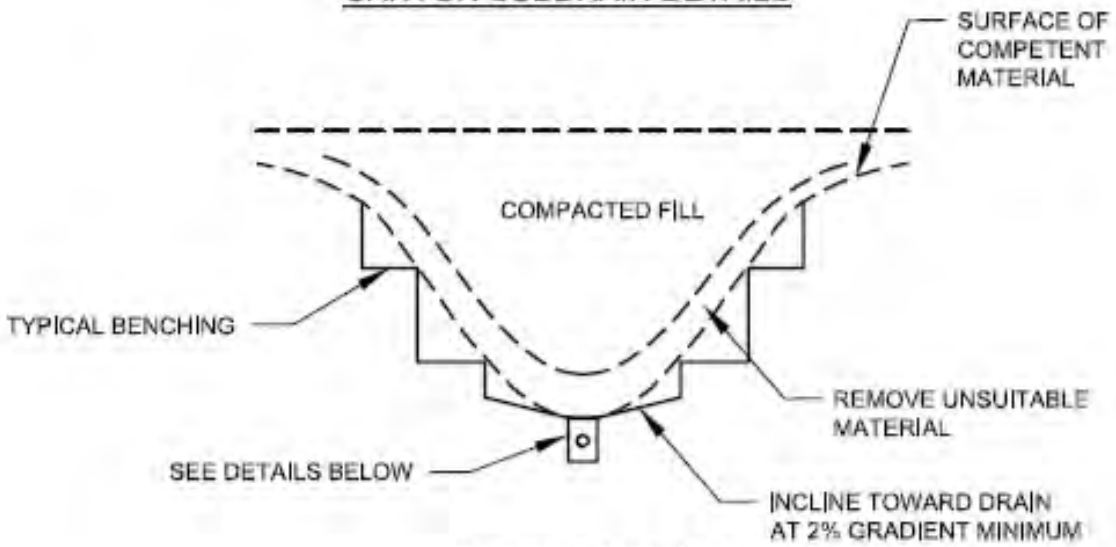
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

NOT TO SCALE

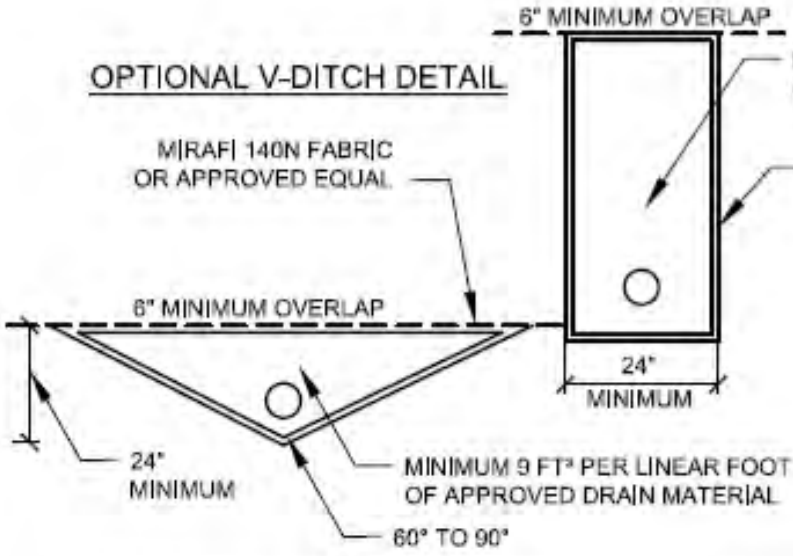
TYPICAL CANYON SUBDRAIN DETAIL

CANYON SUBDRAIN DETAILS



TRENCH DETAILS

OPTIONAL V-DITCH DETAIL



APPROVED PIPE TO BE SCHEDULE 40 POLY-VINYLCHLORIDE (P.V.C.) OR APPROVED EQUAL. MINIMUM CRUSH STRENGTH 1000 PSI.

DRAIN MATERIAL TO MEET FOLLOWING SPECIFICATION OR APPROVED EQUAL:

SIEVE SIZE	PERCENTAGE PASSING
1 ½"	88-100
1"	5-40
¾"	0-17
⅜"	0-7
NO. 200	0-3

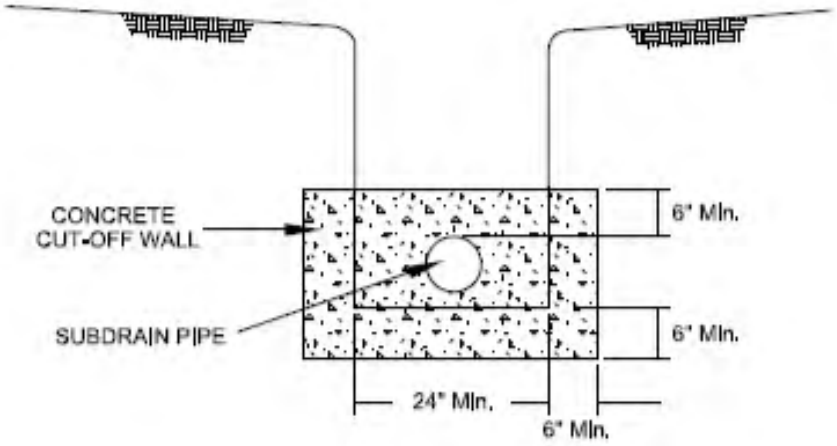
PIPE DIAMETER TO MEET THE FOLLOWING CRITERIA, SUBJECT TO FIELD REVIEW BASED ON ACTUAL GEOTECHNICAL CONDITIONS ENCOUNTERED DURING GRADING

LENGTH OF RUN	PIPE DIAMETER
INITIAL 500'	4"
500' TO 1500'	6"
> 1500'	8"

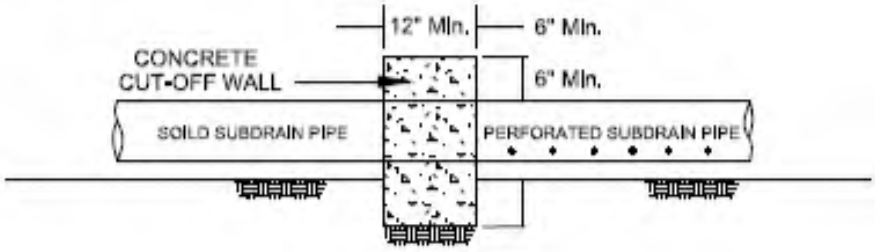
NOT TO SCALE

GEOFABRIC SUBDRAIN

FRONT VIEW



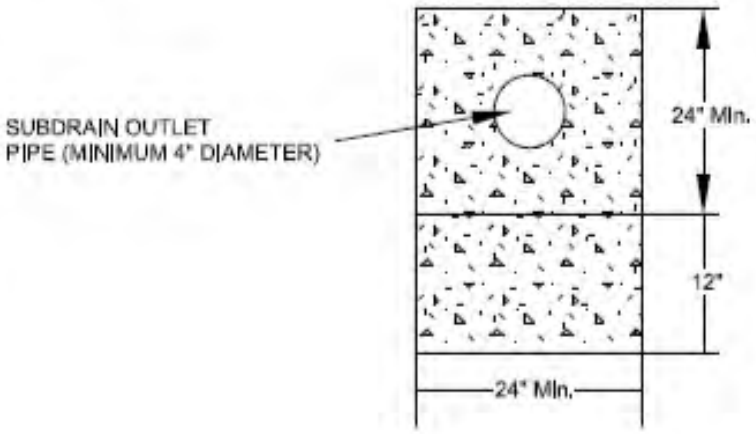
SIDE VIEW



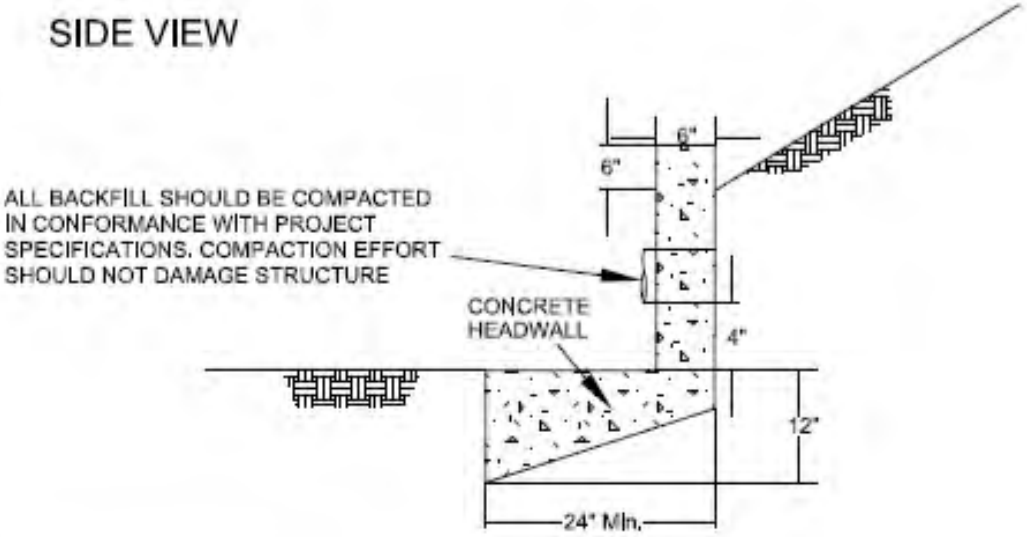
NOT TO SCALE

RECOMMENDED SUBDRAIN CUT-OFF WALL

FRONT VIEW



SIDE VIEW



NOTE: HEADWALL SHOULD OUTLET AT TOE OF SLOPE
OR INTO CONTROLLED SURFACE DRAINAGE DEVICE

ALL DISCHARGE SHOULD BE CONTROLLED

THIS DETAIL IS A MINIMUM DESIGN AND MAY BE
MODIFIED DEPENDING UPON ENCOUNTERED
CONDITIONS AND LOCAL REQUIREMENTS

NOT TO SCALE

TYPICAL SUBDRAIN OUTLET HEADWALL DETAIL

APPENDIX E

SEAOC/OSHPD U.S. Seismic Hazard Maps

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

860 Hazelwood St, Fort Bragg, CA 95437, USA

Latitude, Longitude: 39.4286097, -123.8020746

Date	9/18/2024, 2:25:21 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.505	MCE_R ground motion. (for 0.2 second period)
S_1	0.607	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.505	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	1.003	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.654	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.719	Site modified peak ground acceleration
T_L	12	Long-period transition period in seconds
SsRT	1.868	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	2.075	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.505	Factored deterministic acceleration value. (0.2 second)
S1RT	0.777	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.871	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.607	Factored deterministic acceleration value. (1.0 second)
PGAd	0.654	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.821	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.9	Mapped value of the risk coefficient at short periods
C_{R1}	0.892	Mapped value of the risk coefficient at a period of 1 s
C_V	1.401	Vertical coefficient

DISCLAIMER

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Allerion
Consulting Group, Inc.

Corporate Office:
1050 Melody Lane, Suite 160
Roseville, California 95678
Ph: 916.742.5096
AllerionConsulting.com

Building Envelope | Geotechnical | Environmental | Firestop Systems

CITY OF FORT BRAGG

Incorporated August 5, 1889
416 N. Franklin Street, Fort Bragg, CA 95437
Phone: (707) 961-2827 Fax: (707) 961-2802
www.FortBragg.com

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the Fort Bragg Planning Commission will conduct a public hearing at a regular meeting to be held at 6:00 PM, or as soon thereafter as the matter may be heard, on Wednesday, April 30, 2025 at Town Hall, southwest corner of Main and Laurel Streets (363 N. Main Street), Fort Bragg, California 95437. The public hearing will concern the following item:

APPLICATION NO: Coastal Development Permit 1-25 (CDP 1-25), Design Review 1-25 (DR 1-25), Use Permit 1-25 (UP 1-25)
FILING DATE: January 7, 2025
APPLICANT: AMG & Associates, LLC
PROJECT: Coastal Development Permit, Design Review Permit, and Use Permit for 49 apartments including 41 one-bedroom and 8 two- bedroom units, with one reserved for an on-site manager. The remaining units will be income-restricted for seniors (62+) earning 30-60% of the Mendocino County area median income. Amenities to include a community center, exercise room, management office, laundry, business center, community garden, picnic tables, BBQs and a fenced dog park. The site will offer 75 parking spaces (38 EV adaptable), 18 bicycle spaces. The carport roofs will accommodate solar panels that will provide electricity to the project.
LOCATION: 860 Hazelwood
APN: 018-210-29-00 (2.998 acres)
ZONING: Coastal High Density Residential (RH)
ENVIRONMENTAL DETERMINATION: Statutorily exempt from CEQA pursuant to section 15332 – Class 32 In-Fill Development Projects and 15192 Infill Housing Development.

Public Comment regarding this Public Hearing may be made in any of the following ways: (1) Emailed to the Community Development Department, at cdd@fortbragg.com (2) Written comments delivered to City Hall, 416 N. Franklin Street before 2:00 PM on the day of the meeting; or (3) Verbal comments made during the meeting, either in person at Town Hall or virtually using Zoom if a Zoom link is provided at the time of agenda publication.

Staff reports and other documents that will be considered by Planning Commissioners will be made available for review on the City's website: https://cityfortbragg.legistar.com/Calendar.aspx, at least 72 hours prior to the Planning Commission meeting, and are also available for review and/or copying during normal office hours at Fort Bragg City Hall, 416 N. Franklin Street. To obtain application materials or for more information, please contact the Community Development Department, via email at cdd@fortbragg.com. At the conclusion of the public hearing, the Planning Commission will consider a decision on the above matter.

PERMIT PROCESS: The Planning Commission will make a recommendation by resolution to City Council regarding the Coastal Development Permit, Design Review Permit and Use Permit at this

hearing. City Council will make the final decision at a subsequent meeting. The project is appealable to the Coastal Commission. If you challenge the above case in court, you may be limited to raising only those issues you or someone else raised at the public hearings described in this notice or in written correspondence delivered to the Community Development Department at, or prior to, the public hearing for the Planning Commission and/or the City Council.

DocuSigned by:
John Smith
795F134449F64E1...

John Smith, Acting Community Development Director

POSTING/MAILING ON OR BEFORE: April 17, 2025
PUBLICATION DATE: April 17, 2025

STATE OF CALIFORNIA)
) ss.
COUNTY OF MENDOCINO)

I declare, under penalty of perjury, that I am employed by the City of Fort Bragg in the Community Development Department; and that I caused this notice to be posted in the City Hall Notice case on or before April 17, 2025.

Signed by:
Maria Flynn
D937E29E970F4EF...

Maria Flynn, Administrative Assistant
Community Development Department

cc: Planning Commission
Coastal Commission
Owner/Applicant/Agent
Property Owners within 300'
Residents within 100'
'Notify Me' Subscriber Lists

CIUDAD DE FORT BRAGG

IncorporadoAugust 5, 1889
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Teléfono: (707) 961-2827 Fax: (707) 961-2802
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AVISO DE AUDIENCIA PÚBLICA

SE NOTIFICA que la Comisión de Planificación de Fort Bragg llevará a cabo una audiencia pública en una reunión ordinaria que se celebrará a las 18:00 h, o tan pronto como se trate el asunto, el miércoles 30 de abril de 2025 en el Ayuntamiento, esquina suroeste de las calles Main y Laurel (363 N. Main Street), Fort Bragg, California 95437. La audiencia pública tratará el siguiente tema:

SOLICITUD NO: Desarrollo costero Permiso 1-25 (CDP 1-25) , Diseño Revisar 1-25 (DR 1-25), Permiso de uso 1-25 (UP 1-25)
FECHA DE PRESENTACIÓN: 7 de enero de 2025
SOLICITANTE: AMG & Asociados, LLC
PROYECTO: Permiso de Desarrollo Costero, Permiso de Revisión de Diseño y Permiso de Uso para 49 apartamentos, incluyendo 41 unidades de una habitación y 8 de dos habitaciones, con una reservada para un administrador en el lugar. Las unidades restantes estarán adaptadas a personas mayores de 62 años con ingresos entre el 30 % y el 60 % del ingreso medio del condado de Mendocino. Las comodidades incluirán un centro comunitario, gimnasio, oficina de administración, lavandería, centro de negocios, jardín comunitario, mesas de pícnic, barbacoas y un parque para perros cercado. El terreno ofrecerá 75 plazas de aparcamiento (38 adaptadas para vehículos eléctricos) y 18 plazas para bicicletas. Los techos de las cocheras albergarán paneles solares que suministrarán electricidad al proyecto.
UBICACIÓN: 860 Hazelwood
APN: 018-210-29-00 (2,998 acres)
ZONIFICACIÓN: Residencial costero de alta densidad (RH)
DETERMINACIÓN AMBIENTAL : S exento por estatuto de CEQA de conformidad con la sección 15332 – Proyectos de desarrollo de relleno Clase 32 y Desarrollo de viviendas de relleno 15192.

Los comentarios públicos sobre esta Audiencia Pública se pueden realizar de cualquiera de las siguientes maneras: (1) Enviar por correo electrónico al Departamento de Desarrollo Comunitario, a cdd@fortbragg.com (2) Los comentarios escritos se entregan en el Ayuntamiento, 416 N. Franklin Street antes de las 2:00 p. m. del día de la reunión; o (3) Los comentarios verbales se realizan durante la reunión, ya sea en persona en el Ayuntamiento o virtualmente usando Zoom si se proporciona un enlace de Zoom en el momento de la publicación de la agenda.

Los informes del personal y demás documentos que serán considerados por los Comisionados de Planificación estarán disponibles para su revisión en el sitio web de la Ciudad: https://cityfortbragg.legistar.com/Calendar.aspx, al menos 72 horas antes de la reunión de la Comisión de Planificación. También están disponibles para su revisión o copia durante el horario de oficina habitual en el Ayuntamiento de Fort Bragg, 416 N. Franklin Street. Para obtener los materiales de solicitud o más información, comuníquese con el Departamento de Desarrollo

Comunitario por correo electrónico a cdd@fortbragg.com. Al finalizar la audiencia pública, la Comisión de Planificación tomará una decisión sobre el asunto mencionado.

PROCESO DE PERMISOS: La Comisión de Planificación emitirá una recomendación mediante resolución al Ayuntamiento sobre el Permiso de Desarrollo Costero, el Permiso de Revisión de Diseño y el Permiso de Uso en esta audiencia. El Ayuntamiento tomará la decisión final en una reunión posterior. El proyecto es apelable ante la Comisión Costera . Si impugna el caso mencionado ante los tribunales, podrá limitarse a plantear únicamente las cuestiones que usted u otra persona hayan planteado en las audiencias públicas descritas en este aviso o en la correspondencia escrita entregada al Departamento de Desarrollo Comunitario durante la audiencia pública de la Comisión de Planificación o el Ayuntamiento, o antes de esta.

DocuSigned by:
John Smith
795F134149F64E1...
John Smith, Director interino de Desarrollo Comunitario

ENVÍO POR CORREO EL 17 de abril de 2025 O ANTES
FECHA DE PUBLICACIÓN: 17 de abril de 2025

ESTADO DE CALIFORNIA)
) artículos.
CONDADO DE MENDOCINO)

Declaro, bajo pena de perjurio, que soy empleado de la Ciudad de Fort Bragg en el Departamento de Desarrollo Comunitario; y que hice que este aviso se publicara en la caja de Avisos del Ayuntamiento el 17 de abril de 2025 o antes.

Signed by:
Maria Flynn
D937F29E970F4EF...
María Flynn, Asistente Administrativa
Departamento de Desarrollo Comunitario

cc: Comisión de Planificación
Comisión Costera
Propietario/Solicitante/Agente
Propietarios de propiedades dentro de 300'
Residentes dentro de 100'
Listas de suscriptores de 'Notificarme'

Hazelwood –Affordable Senior Apartments

North

South

Compliance with State and Local Laws

Compliance with State Law

- Inclusionary Housing Requirements
  - 100% of units low-income Seniors
- Three Planning Incentives
  - Increase in the maximum height from 35 feet to 43 feet to accommodate the elevator shaft only.
  - Relief from the requirement to have an egress door visible from the street.
- Density Bonus Law
  - Eligible for 100% density bonus increase but asking for 9%.
  - Parking Reduction per Density Bonus Law is 53 spaces, however applicant is providing 75 spaces. PC can require only 53 spaces if it wants to.

Compliance with Local Law

- Coastal Development Permit: analyze project impacts on biological resources, coastal access, arch resources, scenic resources, availability of public services/infrastructure, stormwater management, etc.
- Use Permit – Multifamily Project
- Design Review – State law limits this analyses to the City's quantitative design review criteria only.
- Sign Permit.

Process

- Planning Commission's Role
  - Provided a recommendation to City Council.
- City Council's Role
  - Approve or deny the permits based on substantiative evidence in the record and required findings.
- Appealable to the Coastal Commission, if City Council approves the project.

- Permits are conditioned so the project complies with the Coastal General Plan and Zoning Ordinance.
  - Resolution includes 40 special conditions for compliance.
  - Resolution includes 8 standard conditions.
  - City Council may add new additional special conditions.
- If approved, the project must comply with all special and standard conditions.

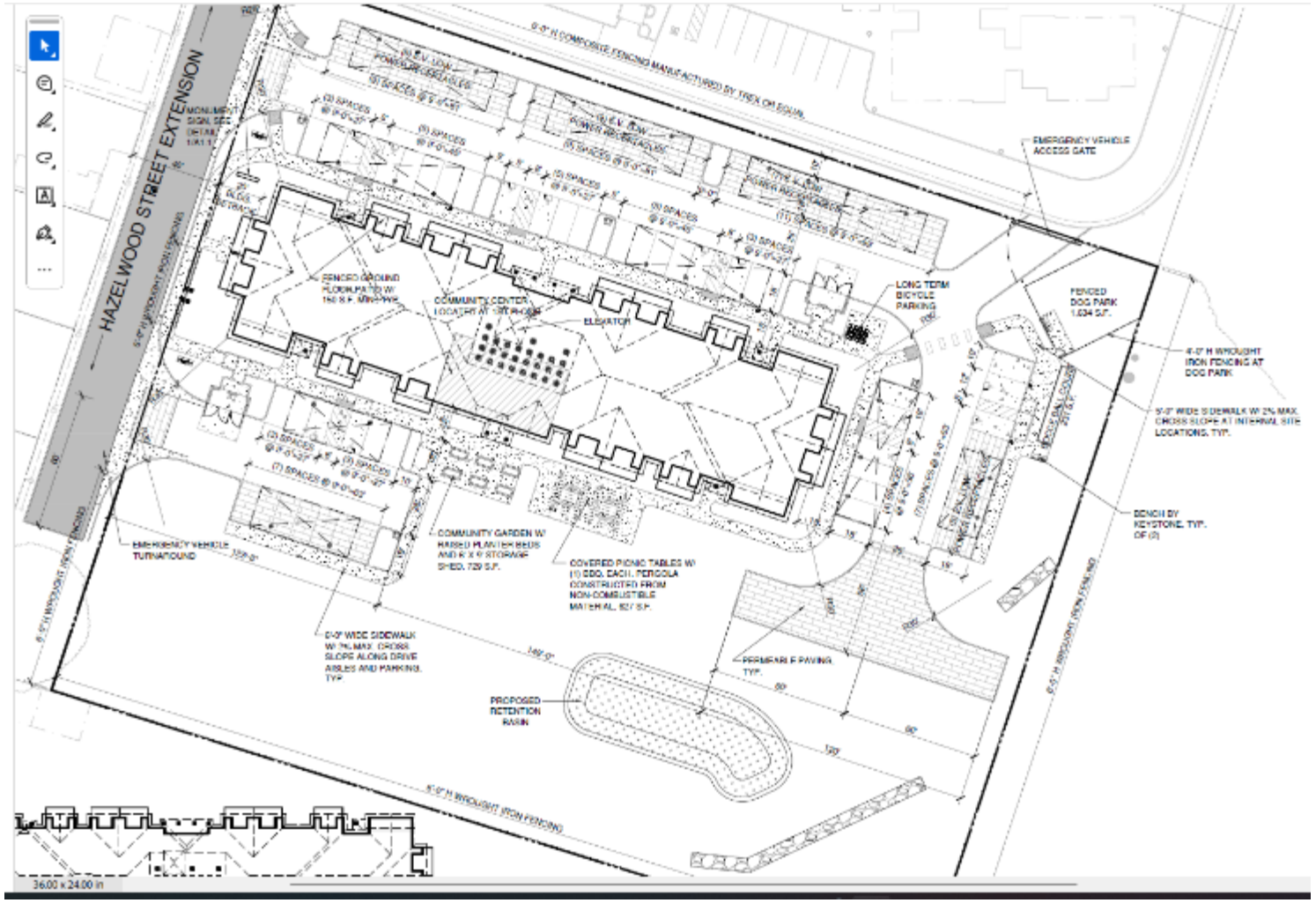
Architectural Renderings

North

South

Site Plan & Project Description

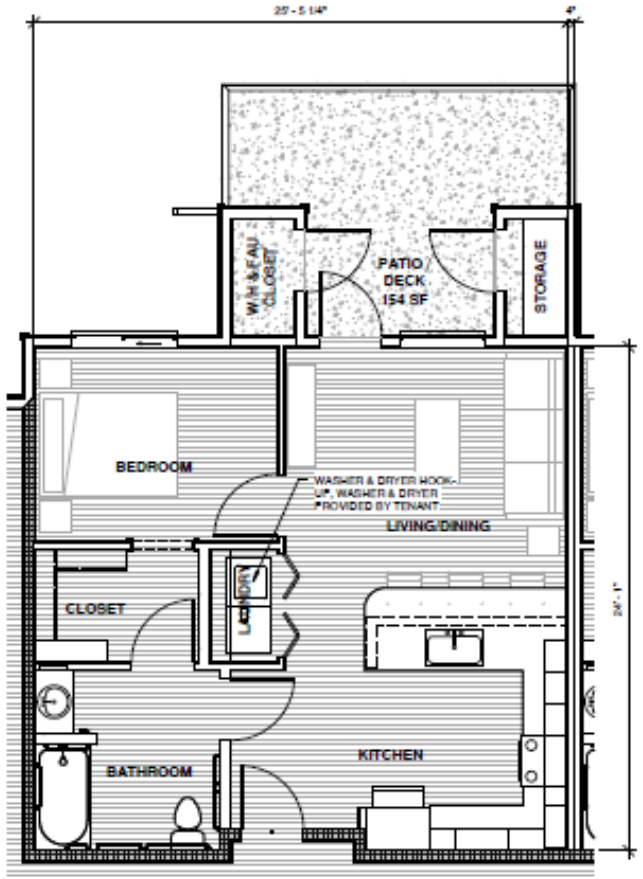
- One 3 story building with forty-nine units.
- 41 one-bedroom (613 SF) and 8 two-bedroom (802 SF), one reserved for an on-site manager.
- Each unit features a private patio or balcony.
- Units will be income-restricted for low-income seniors (62+) earning 30-60% of area median income.
- Interior amenities include a community center with a kitchen, exercise room, laundry, and business center.
- 75 parking spaces (38 EV-adaptable) and 18 bicycle spaces. The carport roofs will accommodate solar panels that will provide electricity to the Project.
- Outside amenities: community garden with raised planter beds, covered picnic tables with BBQs, and a fenced dog park.
- Extensive landscaping, a large stormwater bioswale, and offsite street improvements to Hazelwood Street.



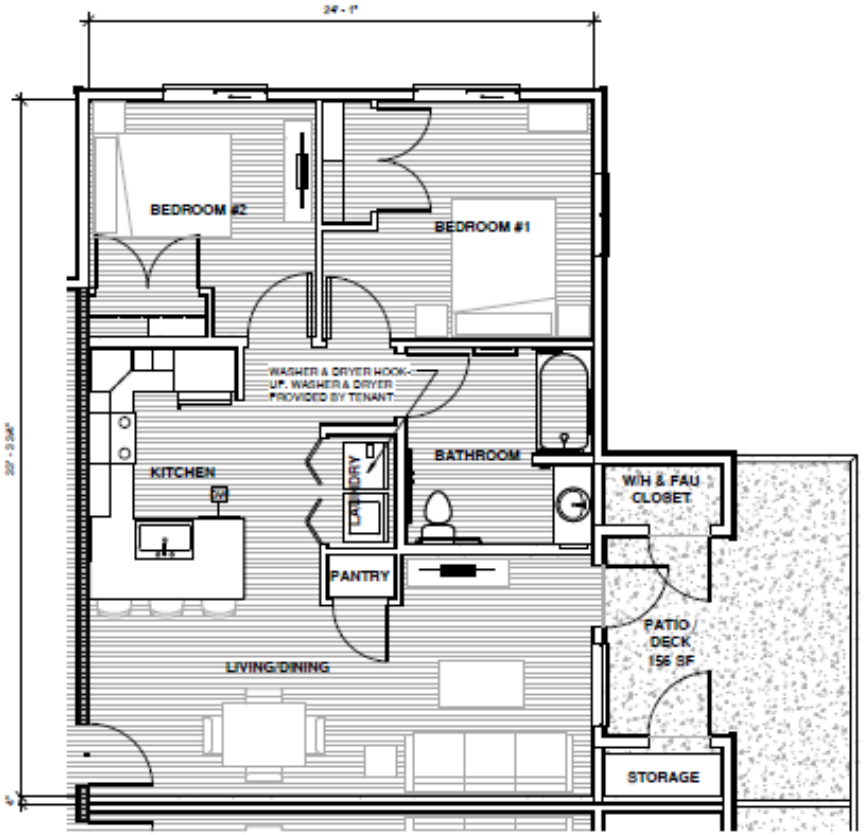
Floor Plans

The project includes

- 41 one-bedrooms 613 SF
- 8 two-bedroom units 802 SF
- Each unit features a private patio or balcony.



1 1-BEDROOM UNIT PLAN. TYP. - 613 S.F.
1/4" = 1'-0"



2 2-BEDROOM UNIT PLAN. TYP. - 802 S.F.
1/4" = 1'-0"

Landscaping

Landscaping includes:

- 5,200 SF of building landscaping
- 9,491 SF of parking lot landscaping,
- Retain open undeveloped field of 40,000 SF.
- The Landscaping plan includes 34 native trees.

Special Conditions to remove trees bushes that hamper driver visibility, all landscaping must be non-native with native plants, retain existing trees as feasible, provide more landscaping at parking lot entrances, prohibit planting of invasive non-natives.

Use Permit

Multifamily Use Permit

- Project complies with all Multifamily Requirements except for insufficient common outdoor space.
- This is addressed with a special condition requiring expansion of existing outdoor open space or adding a walking trail through the open space to the south of the building.

Inclusionary Housing & Density Bonus Law

- **Purpose:** To require affordable units as part of a market rate rental project. Balance project feasibility with public need for more affordable units.
- Project would be entirely affordable.
- Units are not eligible for sale as condos.
- Units cannot be rented for vacation rentals as the City prohibits all vacation rentals except in the downtown.
- Units must be affordable for 55 years.
- Applicant must enter into an affordable unit regulatory agreement with the City.

- Per State Law, project is eligible for 100% density bonus to allow up to 89 units. Project includes 49 units.
- Per State Law, project is eligible for three planning Incentives. Applicant is only asking for two.
  - Increase in height limit for elevator shaft. This is required for ADA for senior housing to be feasible.
  - Relaxation of requirement that applicant have an entrance door facing Hazelwood. This is a dead-end street with minimum pedestrian use so that street facing access door is not critical. Additionally, the project does include multiple patio doors facing the street. Redesign of the project to include a public entrance on the west side would result in smaller units on the west side.

Additional Issues

- Views
- Biological Resources
- Water and Public Services
- Circulation
- Stormwater Management
- Noise

Biological Resources

Views

- This area is not mapped for view protections in the Coastal General Plan.
- Area does not require a visual analysis per the Coastal General Plan.
- Views to the ocean are not present from or across the site. Likewise the site is not visible from the ocean.

Rare Plans & Animals

- Site has no Environmentally Sensitive Habitat Area.
- May have Special Status Bee
- Requirements:
  - Pre-construction bird surveys.
  - Landscape with locally native bee-friendly plants and shrubs.
  - Mowing of field to the south prohibited in the spring. Allowed in the summer.
  - Install bee hotel.

Water Availability

- Water availability was a significant issue for large development projects.
- The City has invested in many new water projects to address this issue.
- Per Public Works, the proposed project can be served by the City with existing water infrastructure.

Water Budget Proposed 49-unit Project at 860 Hazelwood

Unit Size	Number of Units	Estimated Residents/ Unit	Total Water Use/ Year (gallons)	Total Water Use/Day (gallons)
1-bedroom	41	1.5	1,197,200	3,280
2-bedroom	8	3	233,600	640
Total	**49**	**85.5**	**1,430,800**	**3,920**

Completed Water Availability Projects

Project	Annual Water (gallons)	Daily Water (Gallons)
Package Desalination Plant (2022)	52,560,000	144,000
Raw Water Line Replacement (2025)	1,000,000	2,740
Water Meter Conservation Project (2025)	20,000,000	54,795
Subtotal	***73,560,000***	***201,534***
Proposed Project Projected Water Use (2026)	(1,430,800)	(3,920)
Net Available Water Post Project	**72,129,200**	**197,614**

Circulation

- Coastal Access is available by vehicle on Cypress Street (green).
- Coastal Access is available by walking and bicycle this same route. (green)
- Vehicles can leave the site by driving west on South Street and then turning north or south onto Highway 1 or by driving to the signalized intersection at Cypress Street. (Blue)
- The future residents will not have direct access to N Harbor Drive.

Circulation & Traffic

Level of Service (LOS)

- Project Population 1.79*49 = 87 people
- Approximately 200 vehicle trips/day
- Seniors do not generally drive at peak traffic times.
- Traffic study was not required for this project as it would have minimal impacts.
- Project will not exceed allowable LOS limits (D and F on highway 1 for non-signalized intersections).

Key Special Conditions

- Paint a cross walk on the south side of South Street at the intersection with Hazelwood.
- Work with MTA to determine if the addition of a transit stop at the property is warranted and feasible

Circulation

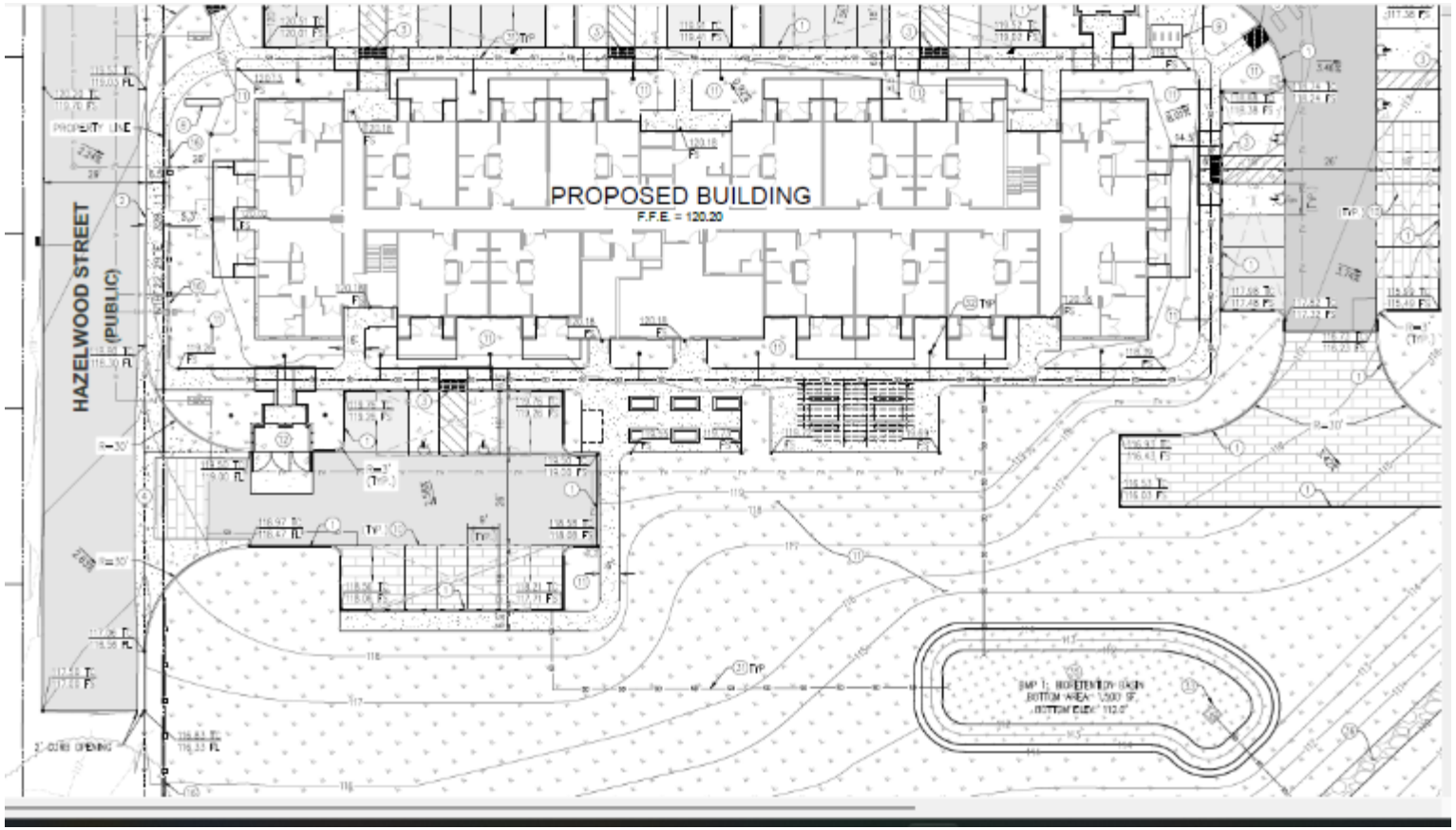
- Public Works has always made the call if a Traffic Study is warranted for a particular project based on the project size and the characteristics of the roadway system in the area.
- The purpose of a Traffic Study is to determine if new traffic control/safety measures are warranted.
- The intersection of South Street and Highway 1 is allowed to achieve a LOS D or LOS F.
- Maximum allowable LOS standards for Main Street apply to the p.m. peak hour weekdays during the summer and to the p.m. peak hour on weekdays and weekends during the remainder of the year.

- As noted in the table below from the Grocery Outlet EIR, these intersections currently function at LOS levels (B, C, and A) much above the Maximum allowable LOS for the intersections.
- The Grocery Outlet EIR found that even with 84 trip per hour (over 1,000 trips per day) and the exiting traffic levels did not result in a change in the LOS for any of the intersections. No signalization was warranted by that project.
- Based on a review of this traffic analysis for the Grocery Outlet EIR, Staff determined that a traffic study was not necessary for this project as it could not on its own result in a drop of LOS would result in a signalization warrant (D or F).

		Weekday PM Peak Hour			*Saturday Peak Hour*		
			Observed			*Observed*	
Intersection	*Control*	*Min*	*LOS*	*Average Delay (sec/veh)*	*Min*	*LOS*	*Aver Del (sec/v*
SR 1 - Main Street / Cypress Street	Signal	D	B	14	D[1]	B	13
Cypress Street / Franklin Street	AWS	C	B	12	C	A	9
SR 1 – Main Street / South Street							
Southbound left turn	WB Stop	D	B	11	D[1]	B	11
Westbound approach			C	20		C	17
South Street / Franklin Street							
Westbound left turn	NB/SB Stop	C	A	7	C	A	7
Eastbound left turn			A	8		A	7
Northbound approach			B	12		B	11
Southbound approach			B	12		B	11

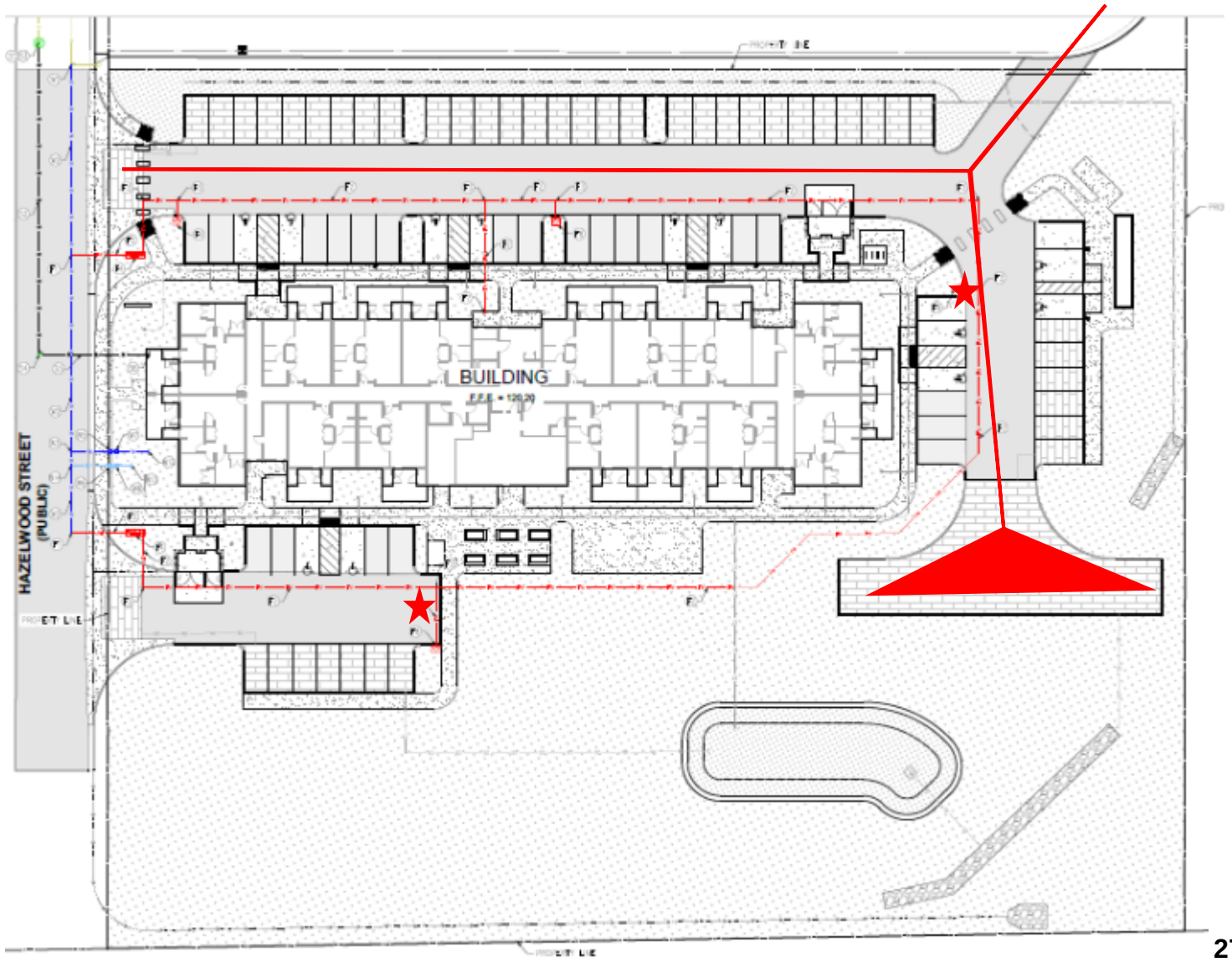
Stormwater System

- A large bioretention basin to reduce the peak runoff volume and rate to avoid adverse impacts to coastal waters.
- Project reduced impervious surfaces at City's request by:
  - Adding a hammerhead turnaround rather than a drive isle around the entire project.
  - Use permeable paving for perimeter parking bays and the turnaround.
  - Reduce the number of parking spaces.
- Many special conditions.
  - Prohibit the use of inorganic landscaping chemicals.
  - Stenciling for all storm drain inlets.
  - Required annual maintenance and inspection of system.
  - Water Quality Management Plan and SWIPP.



Fire Safety

- Safe and effective firefighting access.
- Installation of two fire hydrants.
- Installation of sidewalks, curbs, and gutter on Hazelwood.



Noise

Construction Noise

- Construction noise is regulated by the City's noise ordinance in the Municipal Code.

"Between the hours of 10:00 p.m. of one (1) day and 7:00 a.m. of the following day, it is unlawful for any person within a residential zone, or within a radius of 500 feet therefrom, to create, cause to be created or maintain sources of noise which cause annoyance or discomfort to a reasonable person of normal sensitiveness in the neighborhood."

Occupancy Noise

- The City's noise element in the General Plan notes that the existing noise levels in this neighborhood are consistently below 50 decibels. This was confirmed with an onsite noise reading.
- Residential uses are allowed to have an exterior noise exposure of less than 60 dB preferable and up to 75 dB is conditionally acceptable.
- Noise studies are only required for projects with "noise environments that are conditionally acceptable."
- This project is not located in an area that is "conditionally acceptable" nor would it cause noise to neighboring uses that would be "conditionally acceptable" e.g. between 60 and 75 dB. Noise from this senior residential project will consist of noise from vehicle use, which will blend into the background noise of 50-60 dB.
- Noise levels do not consider single event noises such as ambulances, train horns or helicopters.

Community Concerns

- Height
  - 3 stories (35 feet) is allowed per the code for this zoning district.
- Neighborhood Compatibility
  - Surrounding uses are residential and include senior and multifamily projects.
- Construction noise
  - Managed through noise ordinance.
- Occupancy noise
  - Compatible with the existing noise environment.
- Feasibility analysis for incentives
  - Additional height is required to accommodate an elevator which is required for a three-story senior project.
- Concerns about environmental impacts
  - Project reviewed by CDFW and relevant Special Conditions have been added to protect the environment.
- Traffic Impacts
  - As discussed, no significant impact on LOS
- CEQA Exemption
  - The project qualifies for both the infill development project and the infill housing CEQA exemptions as analyzed in the Staff Report.

Special Conditions

- Add one motorcycle space
- Add 50 SF of shrubs at parking lot entrance.
- Revised landscaping plan with all natives.
- Trash enclosures and other buildings must match materials of project.
- Add 710 SF of usable open space or trail.
- Enter into regulatory agreement with City ensuring affordability of affordable units.
- Tribal monitoring during earth moving activities.
- Procedures for addressing any found cultural resources or human remains.
- Pre-construction bird survey.
- Resubmit landscaping plan with bee friendly native species.
- No spring mowing of field.
- Remove 6 parking spaces to save a tree.
- Refrain from planting any non-native invasive species.

More Special Conditions

- Pay all utility and other fees
- All infrastructure must conform to City specs.
- Document that required water pressures at site can be achieved.
- Install gravity feed sewer improvements.
- Install cross walk.
- Install bus stop for MTA bus.
- Install road and sidewalk improvements on Hazelwood.
- No use of inorganic landscaping chemicals.
- Install stenciling on all storm drain inlets.
- Annual inspection of all storm drain systems.
- Storm water management plan and SWIPP.
- Submit and follow project specific geotechnical study.
- Install fancy fence.

More Special Conditions

- Include directory and individual lighted unit numbers.
- Visually screen all outdoor equipment.
- Modify sign design.

The Housing Accountability Act (HAA) (Government Code Section 65589.5),

- A local government may not deny, reduce the density of, or make infeasible housing development projects, emergency shelters, or farmworker housing that are consistent with objective local development standards.

A City can only deny a housing project if:

- There is a specific, adverse impact upon the public health or safety.

&

- There is no feasible method to satisfactorily mitigate or avoid the adverse impact.

Housing Accountability Act (HAA)

- The “reasonable person” standard for determining consistency with zoning regulations.
- The receipt of a density bonus pursuant to Density Bonus Law (Government Code § 65915) (density bonus, incentives, concessions) is not a valid basis to find a project is inconsistent with zoning laws.
- local government must provide written notification and documentation of the inconsistency, noncompliance, or inconformity within 30 days of complete application.
- If the local government fails to provide the written documentation within the required timeframe, the housing development project is deemed consistent.
- Court imposed fine of up to $10K/unit.

From: Shannon Johnson <sjschaul@yahoo.com>
Sent: Monday, March 10, 2025 5:03 PM
To: Godeke, Jason <JGodeke@fortbragg.com>
Subject: Letter to City Council RE: Hazelwood Senior housing proposal.

Honorable Members of the City Council,

I respectfully present this proposal for the development of a **Community Educational Enrichment Center** as an alternative to the proposed 49 low-income senior housing units. Our community is at a critical juncture, and the decisions we make now will shape the future of our children, families, and overall quality of life for generations to come. This is an opportunity to invest in a project that will provide long-lasting benefits to our community, protect our natural environment, and avoid the unintended consequences that come with the proposed housing development.

We respectfully urge the City Council to consider the following points as you deliberate:

Preserving the Character and Integrity of Our Community

The proposed low-income senior housing development, which calls for a 3-story structure in a historically low-rise town, risks disrupting the aesthetic harmony and character of our rural community. Building a high-rise building in an area designated within the **California Coastal Commission Zone** and in close proximity to the **Noyo River** would not only violate zoning regulations but also place an undue strain on the land. The weight and scope of a 3-story building would cause significant environmental damage to the watershed and surrounding ecosystem, as evidenced by the developer requesting a reduction in required parking spaces. This proposal also overlooks the reality that such a project would primarily serve individuals from outside our community, exacerbating the displacement of local residents. The recent completion of the Danco Family and Senior housing complex is prime example of how a large majority of housing units intended to help the local population actually go to people from areas as far as **Redding, LA, Ukiah**, and beyond.

Negative Impact on Property Values and Community Well-being

Research consistently shows that the construction of low-income housing developments can lower surrounding property values and negatively affect the quality of life in adjacent neighborhoods. This can create a ripple effect, leading to decreased local investment and a decline in overall community morale. The experience of recent low-income housing developments in our area, such as the **Danco low-income family and senior housing project**, has been marked by increased crime, higher rates of drug activity, and disruption, which has created hardship for nearby residents, police, and hospital staff. There has been a **noticeable uptick in the amount of drug, alcohol, and homeless activity** in the area, further straining the resources of the local hospital and surrounding neighborhoods. This would only continue with the addition of another low-income housing complex,

potentially further isolating our senior citizens and creating additional strain on our local resources.

Protecting Our Environment and Natural Resources

The land selected for the proposed housing development is not suited for such a large-scale build. Building over three stories in height on land close to a river and within a coastal zone is inappropriate due to the risk it poses to our natural resources and the fragile ecosystem surrounding the Noyo River. This land is better suited for preservation as **open space**, which would provide environmental benefits and be a much-needed space for community connection and outdoor education.

Alternatives: More Suitable Housing Solutions

Rather than proceeding with a large-scale, multi-story low-income senior housing complex, the city of Fort Bragg should consider alternative solutions that better meet the needs of local seniors while preserving the town's character and infrastructure. Recently, the city council approved several new housing proposals, such as **Accessory Dwelling Units (ADUs)**, **tiny home communities**, and **relaxed restrictions on garage conversions**. These options offer more sustainable, community-focused alternatives to large-scale developments, and they allow for the creation of affordable housing without overwhelming the town's limited infrastructure. These smaller-scale developments would also help maintain the town's aesthetic charm, reduce environmental impact, and ensure that housing solutions are more closely aligned with local needs. They would provide low-income seniors with the housing they need while also promoting a sense of community integration and support.

Supporting Our Community's Children and Families

The proposed **Educational Enrichment Center** would be a much-needed asset to our rural community. It would not only preserve the open space but also provide an indoor and outdoor educational hub that fosters growth, creativity, and collaboration for children and families from birth through high school. The center would provide a variety of enriching programs that cater to children's academic, social, and emotional development, from math and science classes to outdoor gardening, arts, music, and cooperative learning experiences. This project would have a direct, lasting impact on the young families who are already a vital part of our community, providing them with a safe space for learning and growth.

An Investment in Our Future

While the need for affordable housing is undeniable, the solution does not lie in isolating our senior citizens in large, high-rise developments that won't directly serve our local community. The City Council's approval of **accessory dwelling units (ADUs)** and **tiny homes** already represents a thoughtful, sustainable effort to address the housing crisis for seniors and families alike. These smaller, more affordable housing solutions better align with the character of our town and are a far better fit for the needs of local residents. Meanwhile, the **Educational Enrichment Center** would serve the next generation of our community—our children—by offering them opportunities to thrive, fostering strong community bonds, and

supporting local families in ways that would truly benefit the long-term health and vitality of our town.

The Case for Open Space and Community Unity

Instead of creating a new high-density housing project that would likely be occupied by individuals from outside the area, the **Educational Enrichment Center** would honor the values that make our rural community unique: inclusivity, sustainability, and connection. By preserving the proposed land for educational purposes, we can protect the environment while fostering a space that promotes collaboration, growth, and a strong sense of community among our youngest residents. This project would become a **community hub** that encourages both learning and cooperation, offering a safe, inclusive space for children and families to engage, interact, and grow together.

Addressing the Challenges of Small-Town Infrastructure

A critical issue with the proposed housing development is that **Fort Bragg already struggles to meet the needs of our local seniors**. As it stands, **our Senior Center is currently without federal funding**, which limits its ability to provide the essential services that many of our older residents rely on. **Our local clinics** face a **6-month waiting list** for appointments, and there are very few slots available with the specialized doctors that many seniors need. Consequently, our seniors must **commute up to 1.5 to 2 hours to Ukiah or Santa Rosa** to receive the care they need, with very limited options for transportation.

The creation of this proposed housing complex would only exacerbate these difficulties, as we do not have the necessary infrastructure to meet the complex and varied needs of the senior population. The chronic health conditions that many seniors experience—such as mobility issues, dementia, and serious physical ailments—require specialized medical services that simply cannot be accommodated within Fort Bragg's existing framework. The addition of 49 units occupied by seniors, particularly if the project attracts people from outside the area, would overwhelm an already stressed healthcare system. These residents would not have adequate access to the services and care they require and would be further isolated by the remote nature of the town and its limited resources.

The proposed development also fails to address the shortage of services for seniors with **mental health challenges** or **substance abuse issues**, both of which are prevalent among the low-income populations that such a development might attract. Fort Bragg's **social service infrastructure** is already stretched thin, and we simply do not have the necessary resources to provide the level of care that these individuals need.

Conclusion

In conclusion, we ask the City Council to consider the long-term benefits of building the **Community Educational Enrichment Center** in lieu of the proposed 49-unit senior housing complex. This center would have a far-reaching positive impact on the community, preserving the environment, offering critical educational programs, and strengthening the bonds among

families. It’s an investment in our children, our future, and the well-being of our community.

By prioritizing the **Educational Enrichment Center**, we can take a progressive step toward creating a thriving, supportive, and sustainable community that benefits those who already call the Mendocino Coast home.

Thank you for your time and consideration.

Flynn, Maria

From: Jacob Patterson <jacob.patterson.esq@gmail.com>
Sent: Friday, April 4, 2025 1:35 PM
To: cdd
Cc: Whippy, Isaac
Subject: Written Comment for CDP 1-25, DR 1-25, UP 1-25, & SP 1-25

Community Development Department & Staff,

I received the public hearing notice for the Hazelwood senior apartments project and find the CEQA determination to be unfounded and incorrect. Although it is possible this project may be categorically exempt from further environmental review under CEQA, it certainly is not for the reasons stated in the notice. As such, I object to this CEQA determination and request a proper environmental evaluation of this project, which has the potential to contribute in a cumulatively considerable way to public safety issues regarding the dramatically-increased traffic that is expected from this project as well as the cumulative impacts from recent nearby residential development like the Plateau. This project is also in a previously undeveloped location with existing open space and biological resources and is not surrounded on all sides by existing development so it is unclear if even the infill exemption would apply.

This notice appears to be defective in the somewhat likely chance that this is not the actual categorical exemption that will be asserted by CDD (i.e., someone made a mistake by listing the common sense exemption). The prior council discussion of the requested incentives is entirely different from the hearing for the land use entitlements. Thus, the common sense exception that applied to the preliminary approval of the incentives doesn't apply to this project, which is the actual permits and construction of a large apartment complex that is uncharacteristically tall for Fort Bragg.

Taller buildings present unique public safety concerns about potential fires and firefighting efforts due to the necessity for fire trucks and hoses to reach high enough to fight fires on the roof or top floor. Is the local equipment capable of fighting fires on taller buildings like this one? Wasn't that a factor in the City establishing height limits in the CLUDC? The public (and future residents) need more information to ensure that the local fire district can actually safely and effectively respond to potential fires in the top floors or roof and attic structures of this proposed building. Moreover, the increased traffic on South Street, particularly considering the poor quality of the existing South Street pavement, contributes to traffic hazards and will likely slow down ambulance response times for ambulances accessing the hospital ER from South Street.

Since I cannot speculate as to the categorical exemption that the City may choose to apply to this project, I must object to the misuse of the common sense exemption or the assertion that this is not a project under CEQA based on a prior stage in this review that didn;t involve an actual "project". How are people supposed to know what the City has done regarding CEQA compliance if incorrect information is included in the public hearing notice?

The public should be able to rely on the accuracy of information in notices and staff reports but that would be misplaced in this instance.

--Jacob

Outlook

PC 04162025 Item 6A

From Paul Clark <pclark@fortbraggrealty.co>
Date Wed 4/16/2025 10:44 AM
To cdd <cdd@fortbragg.com>
Cc Paul Clark <pclark@fortbraggrealty.co>

1 attachment (158 KB)
DensityBonusCode.pdf;

Is this a typo?

17.32.070 - Inclusionary Housing Incentives

A. Process for describing incentives. A residential development that complies with the inclusionary housing requirements in Subsection 17.32.040.A. (Number of units required), through the actual construction of inclusionary units, shall be entitled to the following procedures and incentives.

1. Voluntary conceptual preliminary approval of incentives.

a. Before the submittal of any formal application for a General Plan amendment, rezoning, Coastal Development Permit, Use Permit, Tentative Map, or other permit or entitlement describing and specifying the location, number, size, and type of the housing development, the developer may submit **a letter of request for incentives identifying any requests for density bonus, incentives, modifications, or waivers of development or zoning standards necessary to make construction feasible for the proposed development, including the inclusionary units**. The Council shall review the preliminary development proposal and the letter of request for incentives within 90 days of submittal at a public hearing and indicate conceptual preliminary approval or disapproval of the proposed development and request for incentives, modifications, or waivers of development or zoning standards.

b. Preliminary approval or disapproval shall not bind the Council, but rather shall be subject to the discretion of the Council to modify its preliminary recommendations based upon a full review of all pertinent project information, including any CEQA analysis, presented at the public hearing on the subject application.

c. The provisions of this Section do not replace, supersede or modify the independent requirement for a CDP approved pursuant to the otherwise applicable policies and standards of the certified LCP.

State law requires the City to grant at least three incentives per Government Code section 659159(d)(2)(c) as the project is proposed at 100% affordable to low-income seniors.

(C) Three incentives or concessions for projects that include at least 24 percent of the total units for lower income households, at least 15 percent for very low income households, or at least 30 percent for persons and families of moderate income in a development in which the units are for sale.

The applicant has requested the following two incentives (Attachment 1):

1. *"Height: Pursuant to Table 2-5 in the Code, the Project may have a maximum height of 35 feet, which it currently exceeds by 7'8". The entire 3rd story of the development would need to be removed in order for the Project to abide by this development standard, therefore making its removal necessary for the Project's financial feasibility.*
2. *Parking: Pursuant to Table 3-7 in the Code, the Project must provide 2 parking stalls per unit plus guest parking at a rate of 1 stall per 3 units. This would place the mandatory minimum parking count at 114 stalls. As designed, the Project can only accommodate 75 parking spaces. This is above the minimum parking count as outlined in California Government Code (p)(l)(A) and (p)(l)(B)."*

Additionally, according to State Law, the applicant may request a density bonus of 80% based on the level of affordability (100%) of the project. However, the applicant has requested a 9% density bonus to construct the project at 16.39 units/acre instead of the 15 units/acre required in the zoning district.

Cal. Gov. Code § 65915

Section 65915 - Granting density bonus

(a)

(1) When an applicant seeks a density bonus for a housing development within, or for the donation of land for housing within, the jurisdiction of a city, county, or city and county, that local government shall comply with this section. A city, county, or city and county shall adopt an ordinance that specifies how compliance with this section will be implemented. Except as otherwise provided in subdivision (s), failure to adopt an ordinance shall not relieve a city, county, or city and county from complying with this section.

(2) A local government shall not condition the submission, review, or approval of an application pursuant to this chapter on the preparation of an additional report or study that is not otherwise required by state law, including this section. This subdivision does not prohibit a local government from requiring an applicant to provide reasonable documentation to establish eligibility for a requested density bonus, as described in subdivision (b), and parking ratios, as described in subdivision (p).

(3) In order to provide for the expeditious processing of a density bonus application, the local government shall do all of the following:

(A) Adopt procedures and timelines for processing a density bonus application.

(B) Provide a list of all documents and information required to be submitted with the density bonus application in order for the density bonus application to be deemed complete. This list shall be consistent with this chapter.

(C) Notify the applicant for a density bonus whether the application is complete in a manner consistent with the timelines specified in Section 65943.

(D)

(i) If the local government notifies the applicant that the application is deemed complete pursuant to subparagraph (C), provide the applicant with a determination as to the following matters:

(I) The amount of density bonus, calculated pursuant to subdivision (f), for which the applicant is eligible.

(II) If the applicant requests a parking ratio pursuant to subdivision (p), the parking ratio for which the applicant is eligible.

(III) If the applicant requests incentives or concessions pursuant to subdivision (d) or waivers or reductions of development standards pursuant to subdivision (e), whether the applicant has provided adequate information for the local government to make a determination as to those incentives, concessions, waivers, or reductions of development standards.

Outlook

FW: How Tax Credits work for developers 04162025 Item 6A

From Paul Clark <pclark@fortbraggrealty.co>
Date Wed 4/16/2025 10:54 AM
To cdd <cdd@fortbragg.com>
Cc Paul Clark <pclark@fortbraggrealty.co>

Please look at this I am enclosing for several reasons, the biggest is the latest comments on 1151 S Main and Hazelwood that the height variance is partly to make the project pencil out. That does not fit the equation in my opinion. Land cost would be a variable but using profitability as a justification does not sound right.

10 Useful Real Estate Tax Credits for Developers and Investors

Posted on August 14, 2023 by Moskowitz LLP Posted in Real Estate Law

Table of Contents:

FAQs:

How do tax credits work for developers?

Real estate tax credits were developed to encourage investment in projects that provide a direct societal or environmental benefit. Today, as more people are seeking an investment strategy that's guided by conscience as well as gain, these credits allow taxpayers to address vital environmental, social, and governance (ESG) issues—while substantially reducing their tax burden.

How can investors make money on LIHTC?

The LIHTC credit aims to promote the construction and renovation of affordable housing units for residents with income limitations. The LIHTC also frees up funds for additional community development projects.

How does a tax credit provide benefit to an investor?

A tax credit, however, is a dollar-for-dollar reduction in your taxes. Some tax credits can even make you money. Most tax credits are *nonrefundable*, meaning that if the credit reduces your tax obligation to zero or below, you owe nothing (and the IRS owes you nothing). With a *refundable* or *partially refundable* tax credit, however, if your tax obligation is brought below zero by claiming the credit, you'd get a refund from the IRS! That's something no deduction can do

Real estate investors and developers have a keen eye for opportunity. One emerging investment strategy that's gaining traction comes from an unlikely source—the IRS. Each year, millions of dollars in tax credits go unclaimed by eligible businesses. This includes valuable credits aimed at generating sustainable energy, reducing waste, addressing climate change, promoting health and safety, and encouraging workplace diversity.

Here we'll review the purpose and role of tax credits, the ways credits differ from deductions, and how your business can benefit directly from tax credits. Then, to help you get started, we'll list 10 tax credits useful to real estate developers and investors.

Why Were Real Estate Tax Credits Created?

Real estate tax credits were developed to encourage investment in projects that provide a direct societal or environmental benefit. Today, as more people are seeking an investment strategy that's guided by conscience as well as gain, these credits allow taxpayers to address vital environmental, social, and governance (ESG) issues—while substantially reducing their tax burden.

For example, a business might claim a tax credit for converting its warehousing facilities from conventional to solar power. The resulting savings can then be used to fuel more ESG-conscious projects—like switching the company's car fleet from gas to hybrid—or to make further improvements to processes, systems, or equipment.

The long-term goal is that, by spurring environmentally and socially conscious investment now, we as a society can encourage sustainable technologies for our economic future.

How Do Tax Credits Differ from Deductions?

When people talk about reducing their tax burden, there are two terms that commonly arise—deductions and credits. So what exactly is the difference between the two, and what advantages are unique to tax credits?

A tax deduction reduces your taxable income, and in turn can lower your tax obligation. A tax credit, however, is a dollar-for-dollar reduction in your taxes. For example, if you claim a $2500 tax credit, you'll save $2500 on your bottom-line tax liability.

Some tax credits can even make you money. Most tax credits are *nonrefundable*, meaning that if the credit reduces your tax obligation to zero or below, you owe nothing (and the IRS owes you nothing). With a *refundable* or *partially refundable* tax credit, however, if your tax obligation is brought below zero by claiming the credit, you'd get a refund from the IRS! That's something no deduction can do.

Benefits of Tax Credits

Both federal and state governments use tax credits to encourage specific types of investment, particularly public–private partnerships that create programs to benefit communities locally and globally.

Depending on the nature and amount of the credit, tax credits can guide investment toward socially responsible endeavors. Some examples include:

- Increasing the amount of affordable housing for those in need.
- Repurposing historic structures for preservation and community use.
- Growing the nation's sustainable energy infrastructure through investment in solar, wind, and geothermal technologies.
- Promoting carbon sequestration technologies to reduce harmful greenhouse gas emissions.

Whether at the state or federal level, ESG-conscious tax credits share the long-term aim of benefiting society and humankind, while also stimulating economic growth. Today's globally conscious investors can look forward to:

- **Accelerated growth** (ESG-conscious projects often receive higher valuations than competitors with less social capital)
- **Lowered costs** let you offset rising operating expenses

- **Reduced regulatory pressure** and greater strategic freedom
- **Increased worker motivation** and boosted morale
- **Improved investment optimization** as capital moves to sustainable technologies

Common Types of Real Estate Tax Credits

Which types of tax credits are of the greatest benefit to real estate developers and investors? Let's have a look at 10 of the most often claimed real estate tax credits and see how they stack up:

1. **Opportunity Zones:**
   In 2017, Congress established a system of zones in neighborhoods in need. Developers were encouraged to build (or renovate) within these zones as a way of fostering the public good. Businesses that relocate to federal opportunity zones are often able to defer capital gains, allowing them to use the savings to add workers and value to a project. Developers can generate third-party investment by establishing a fund for projects built in these zones. This fund can then be used to defer tax on their initial investment and to eliminate tax on the sale of the development project. Unrealized profit from the sale of their properties or investments can then be channeled into "Opportunity Funds" dedicated to investing within these zones.

2. **Historic Tax Credits:**
   Society values history, and both federal and state tax credits are available to taxpayers renovating historically significant older structures. Taking state and federal tax credits together, the credit can reach 40% of eligible construction costs. To be eligible, the property needs to be included on the National Register of Historic Places, be eligible for a National Registry Listing, or be located within a designated Historic District.

3. **Low Income Housing Tax Credits (LIHTC):**
   Since its introduction in 1986, the LIHTC has subsidized over 3 million housing units in the U.S. The credit aims to promote the construction and renovation of affordable housing units for residents with income limitations. The LIHTC also frees up funds for additional community development projects. For a project to qualify, Housing and Urban Development (HUD) deems a unit affordable if the tenant is spending 30% or less or their adjusted gross income (AGI) on rent. Additionally, a project must offer either 20% of units at an affordable price for tenants earning 50% of the area's median income (AMI) or 40% of units affordable to those earning 60% or less in AMI.

4. **Year 15 Exit (LIHTC):**
   Year 15 is a time when real estate investors frequently look to divest from their low-income housing projects. You may opt to sell the property, or merely to sell your interest in it. Whichever you choose, your exit strategy should be part of an overall tax and investment strategy. A seasoned tax professional can help you understand the potential advantages of divesting and can guide you safely through the process.

5. **New Markets Tax Credit:**
   Created by Congress in 2000, the New Markets tax credit is designed to encourage investment in low-income communities. The program aims to generate $15B in new investment in these communities. Most businesses located in low-income communities could qualify for loans or equity lines of credit. Residential rental property does not qualify as an active low-income business.

6. **Cost Segregation:**
   Cost segregation is a strategic tax planning tool that allows taxpayers who have constructed, purchased, expanded, or remodeled any type of real estate to accelerate

depreciation deductions and defer federal and state income taxes to free up cash for other projects or investments. A tax strategist can help you understand the details of cost migration studies so you get the most from your credit.

7. **Investment Tax Credit (ITC):**
   Introduced in 1962, investment tax credits were initially designed to protect American industry from foreign competition. Today, credits are more often used in areas such as pollution control, energy conservation, green technology, and other methods of economic development. Available investment tax credits include the Reforestation Credit, Rehabilitation Tax Credit, Solar Energy Investment Tax Credit, and the Federal Business Energy Investment Credit.

8. **Production Tax Credit (PTC):**
   Designed to encourage investment in renewable and sustainable energy sources, the renewable electricity production tax credit (PTC) is a per kilowatt-hour (kWh) federal tax credit for electricity generated by qualified renewable energy resources. The PTC provides a corporate tax credit of 1.3 cents/kWh for electricity generated from landfill gas (LFG), open-loop biomass, municipal solid waste resources, qualified hydroelectric, and marine and hydrokinetic (150 kW or larger). Electricity from wind, closed-loop biomass and geothermal resources receive as much as 2.5 cents/kWh.

9. **Energy/Renewable Energy Tax Credit:**
   By building or investing in renewable energy, you as a developer or investor will earn subsidies for your effort. This support of energy conservation, pollution control, or various forms of desirable economic development not only improves the world, it benefits your year-end tax position. Created as part of the Consolidated Appropriations Act of 2021, the renewable energy tax credit offers substantial reductions in your tax burden for fuel cells and small wind turbines. Geothermal heat pumps now feature a gradual step down in the credit value, similar to those for solar energy systems. The credit offers a 30% reduction for systems in place by 12-31-2019, 26% for systems in service after 12-31-2019 but before 1-1-2023, and 22% for systems in service after 12-31-22 but before 1-1-2024. The deadline to claim the credit is December 31, 2023.

10. **Brownfields Tax Credit:**
    Some states offer programs that reward developers who engage in projects aimed at reclaiming tainted or contaminated land. The Brownfields tax credit in Massachusetts exists to lessen the financial burden for owners who did not cause the contamination but are obligated to clean up the land. Developers claiming the credit can negate 50% of the eligible costs of a qualified remediation when implementing a permanent solution to a property or investment.

Have Questions? Moskowitz LLP Has the Answers

Navigating the world of real estate investment and tax law can seem treacherous, especially for the uninitiated. Fortunately, the team of accountants, attorneys, and financial advisors at Moskowitz LLP is ready and eager to help. Our experienced tax and accounting professionals can help you get organized, then we'll look at your complete tax and investment picture. We'll work with you to develop a tax and investment strategy that focuses on today's needs and tomorrow's goals.

Why leave your financial future to chance? Contact Moskowitz LLP today!

Paul Clark

From: Jacob Patterson <jacob.patterson.esq@gmail.com>
Sent: Friday, April 18, 2025 12:45 PM
To: cdd <cdd@fortbragg.com>
Cc: Whippy, Isaac <iwhippy@fortbragg.com>
Subject: Major Projects and Traffic & transportation Analysis

CDD & City Manager,

I want to follow up regarding something Marie said at this week's PC meeting, which I find objectionable and misleading (not intentionally on her part though, it is a difference of opinion).

One of the major (IMO unresolved) issues with the Todd's Point apartments was the transportation impacts and the lack of a traffic study even though a study is required by the Coastal General Plan for all major development proposals. By any definition, 1151 S Main is a major development proposal. I made a comment about Wednesday night and Marie's explanation was that Caltrans was consulted and didn't request one. Caltrans only cares about Main Street and Highway 20, not the rest of our street network. The apartments' issue is the project's projected impact on Ocean View Drive from a safety standpoint as well as a capacity concern (e.g., traffic back up to or past what should probably be a four-way stop at Ocean View and Harbor). When consulted, our attorneys have no clue about which roads have issues and which do not. Instead, they rely on the planners to make the correct call and assume that it is defensible. The CDD team apparently imposes their personal judgment on whether or not to require something as part of the planning process regardless of what the applicable general plan policies say. There is a basis for this but it needs to be reasonable and what happened in this case isn't reasonable due to the scope of the project. The other CGP policy that provides staff discretion is about allowing staff to require traffic studies for other less-than-major developments.

CGP Policy C-2.6 the policy that clearly requires a traffic study for 1151. IMO, the Hazelwood project meets the criteria as well yet that project didn't run one either based on my review of the project file.

> **Policy C-2.6: Traffic Studies for High Trip Generating Uses**: *Traffic studies shall be required for all major development proposals*, including but not limited to, drive-through facilities, fast food outlets, convenience markets, major tourist accommodations, shopping centers, commercial development, residential subdivisions, and other generators of high traffic volumes that would affect a Level of Service. Traffic studies shall identify, at a minimum: (a) the amount of traffic to be added to the street system by the proposed development; (b) other known and foreseeable projects and their effects on the street system; (c) the direct, indirect, and cumulative adverse impacts of project traffic on street system operations, safety, and public access to the coast; (d) mitigation measures necessary to provide for project traffic while maintaining City Level of Service standards; (e) the responsibility of the developer to provide improvements; and (f) the timing of all improvements.

Please note the "shall" which doesn't say "shall except when Caltrans doesn't request one" or "shall except when Marie/staff thinks one isn't necessary". Everyone involved indicated that 1151 is the biggest development project considered in Fort Bragg in decades and it will generate a lot more traffic than many of the examples of the types of projects listed as requiring a traffic study.

Obviously, if Caltrans requests a study, we need to do one but the converse isn't automatically true and that is what Marie suggested drove her determination. We also need to require traffic studies for "all major development proposals" based on purely local and not regional Caltrans concerns. responsible agencies don't review projects for consistency with our local requirements (except maybe the Coastal Commission), they review the projects within the context of their regulatory scope, which is too limited to cover all the planning bases.

Regards,

--Jacob

Outlook

Public Comment -- 4/30/25 PC Mtg., Item No. 6A, Hazelwood Apartments

From Jacob Patterson <jacob.patterson.esq@gmail.com>
Date Mon 4/28/2025 4:21 PM
To cdd <cdd@fortbragg.com>
Cc Whippy, Isaac <iwhippy@fortbragg.com>

1 attachment (123 KB)
CGP Element 08 Noise.pdf;

Planning Commission,

In addition to my earlier concerns about the traffic and transportation impacts of the proposed project not being addressed through any analysis whatsoever, I have a similar concern about the lack of noise impacts analysis. Our CLUDC and Coastal General Plan (CGP) both impose noise regulations and standards that apply to all projects in the City. Use types have different noise thresholds that are considered acceptable and projected exposure beyond those levels is generally prohibited. I recommend reviewing the Noise Element of the CGP (attached below) to review the applicable exposure thresholds. Just as it was omitted from the 1151 S. Main Todd's Point Apartment project review, this project hasn't undergone any noise exposure analysis. Without any data or analysis to evaluate the project's projected impacts to surrounding sensitive uses (i.e., the adjacent existing senior apartments and the nearby medical offices and hospital), we cannot determine if this project meets the requirements set out in the CLUDC or Noise Element. Instead of addressing this important planning issue, the staff report and analysis completely ignores any noise-related concerns (the only CGP consistency analysis comes from the Housing Element and Land Use Element).

This project will involve noise generation and exposure in three different ways:

1. The demolition activities (i.e., the existing house and outbuildings) and site preparation work will have impacts on existing surrounding development and known sensitive noise receptors.
2. The subsequent construction activities will also have these types of noise exposure impacts.
3. The residents and visitors of the apartments will have noise exposure post-construction from surrounding noise generators (e.g., ambulance sirens and other nearby traffic).

None of these potentially concerning noise exposure impacts have been evaluated. Just because Marie didn't address the issue doesn't mean it doesn't matter. In fact, our CLUDC and Noise Element of the CGP have these exposure thresholds for a reason and we need to evaluate every major project to ensure that the projected exposure levels will fall within these limits or, if not, we need to add special conditions to address the impacts and reduce the projected exposure levels to less than the applicable threshold (e.g., through sound dampening materials installed along the temporary perimeter construction fencing). This is normally done through a noise study where the ambient noise levels at various locations around the site are measured and then projected noise from each planned activity is then calculated using the baseline noise conditions and adding projected additional noise exposure

through standard formulas. We have done this for many significant construction projects in the past and it seems that, again, just because this project has been deemed to be exempt from detailed CEQA review, staff and consultants are ignoring the fact that our local planning documents require this type of analysis independently from any environmental review process.

Basically, we need to run a traffic study or functional equivalent to be able to determine if the project meets our local planning requirements regarding vehicular and pedestrian safety and we also need to run a noise impacts analysis to be able to determine if the project meets our local planning requirements regarding exposure to noise. These requirements are not waived just because we don't also have to perform that analysis as part of an environmental review under CEQA. Moreover, unlike transportation analysis where we at least have an outside responsible agency reviewing the project to see if they find any concerns worth evaluating, there is no outside responsible agency looking into the project's potential to expose sensitive noise receptors to exposure levels that may exceed our local thresholds. That includes the Coastal Commission even though this project is in the Coastal Zone because the policies in the Noise Element are not part of the Certified LCP (note the City logo next to the relevant policies) so they don't review the CDP portion of this project application for those policies. That said, we still need to address them in our local planning review because they remain requirements even if non-compliance wouldn't be evaluated through a potential appeal to the Coastal Commission.

We are the only agency looking into the noise issue and we need to actually do our due diligence as part of the entitlement review and approval process for this project because our CLUDC and CGP require us to. Because we have failed to do so, I must object to the Planning Commission recommending that the City Council approve this project despite that being the recommendation in the staff report. Instead, you should postpone a decision and direct staff to perform at least a basic noise analysis that recognizes the nearby sensitive receptors as well as the seniors who will live there, who are also sensitive receptors. Once that analysis is complete and included in the future agenda materials (or at least addressed through an amended staff report (or additional specialized attached report), then you can safely proceed with your discussion and recommendation. Please note that complete omission of relevant and necessary analysis is one of the primary reasons development project approvals are reversed upon challenge. Why would we set ourselves, and the developer or much-needed affordable senior housing, up for potential failure and delay when all we have to do is follow our planning documents and properly analyze this issue?

For reference, a couple of the CGP policies are as follows (there may be cut-and-paste errors I missed so review the actual format in the attached Noise Element):

> **Policy N-1.1** General Noise Levels : The maximum allowable noise levels are established in this Element.
>
> **Policy N-1.2** Reduce Noise Impacts : Avoid or reduce noise impacts first through site planning and project design. Barriers and structural changes may be used as mitigation techniques only when planning and design prove insufficient.
>
> Program N-1.2.1: Adopt and use a Noise Ordinance in environmental review of all development proposals and incorporate project design measures to reduce noise to allowable limits. The Noise Ordinance should include the noise standards described in this Element as well as consider other noise concerns, including but not limited to, allowable hours for grading and construction, allowable noise levels for electronic sound devices (e.g., radios, stereos, etc.), time restrictions on the use of mechanical devices (e.g.,

leafblowers and other power equipment), and requirements for the placement of fixed equipment (e.g., air conditioners and condensers).

Program N-1.2.2: Consider requiring an acoustical study and mitigation measures for projects that would cause a "substantial increase" in noise as defined by the following criteria or would generate unusual noise which could cause significant adverse community response:

a) cause the Ldn in existing residential areas to increase by 3 dB or more;

b) cause the Ldn in existing residential areas to increase by 2 dB or more if the Ldn would exceed 70 dB; or

c) cause the Ldn resulting exclusively from project-generated traffic to exceed an Ldn of 60 dB at any existing residence.

Program N-1.2.3: Consider requiring an acoustical study and mitigation measures for proposed projects that City staff finds may generate unusual noise that would cause significant adverse community response, such as, but not limited to, night-time, single-event noise or recurring impulse noise.

Policy N-1.3 Noise and Land Use Compatibility Standards : Ensure that all new noise sensitive development proposals be reviewed with respect to Table N-4: Noise and Land Use Compatibility Standards. Noise exposure shall be determined through actual on-site noise measurements.

Policy N-1.4 Residential and Noise Sensitive Land Use Standards : Require a standard of 45 Ldn for indoor noise level for all new residential development including hotels and motels, and a standard of 60 Ldn for outdoor noise at residences. These limits shall be reduced by 5 dB for senior housing and residential care facilities.

Program N-1.4.1: Use the standards in Policy N-1.2.2 to determine the need for noise studies and require new developments to provide noise attenuation features as a condition of approving new projects.

Program N-1.4.2: Require an acoustical study for all new residential projects with a future Ldn noise exposure of 60 Ldn or greater. The study shall describe how the project will comply with the Noise and Land Use Compatibility Standards. The studies shall also satisfy the requirements set forth in Title 24, part 2 of the California Code of Regulations, Noise Insulation Standards, for multi-family attached dwellings, hotels, motels, etc. regulated by Title 24.

Policy N-1.5 Non-Transportation Noise Generation : For new non-transportation noise generators, Table N-5 describes the maximum noise level at the nearest residential property line:

Policy N-1.6 Mitigate Noise Impacts : Mitigate noise impacts to the maximum feasible extent.

Program N-1.6.1: Require acoustical studies and noise reduction measures, when warranted, for new developments and roadway improvements which affect noise sensitive uses such as residences, schools, hospitals, libraries, and convalescent homes.

Program N-1.6.2: Require acoustical studies and noise reduction measures for any project that would potentially generate non-transportation noise levels in a residential area such that noise levels would exceed the planning standards set forth in Program N-1.2.2 and/or Table N-5.

Program N-1.6.3: Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered when State and Federal funds are available.

Program N-1.6.4: Consider and carefully evaluate the noise impacts of all street, highway, and other transportation projects.
Program N-1.6.5: Recommend acoustical studies and noise reduction measures for all projects that would be exposed to noise levels in excess of those deemed normally acceptable, as defined in Table N-4.
Program N-1.6.6: Consider developing an ordinance that regulates the allowable hours of construction activities
Program N-1.6.7: Consider requiring post-construction testing and sign-off by an acoustical engineer for residential projects exposed to an Ldn in excess of 65 dB to ensure compliance with applicable exterior and interior standards in the Noise and Land Use Compatibility Standards.
Program N-1.6.8: Restrict truck traffic to designated routes.

We can't ignore these requirements and the only way to determine if the noise exposure will or will not meet the exposure thresholds is if we take some measurements and run some basic projections. If the preliminary analysis suggests decibels will be higher than those laid out in the above policies, a full, more-detailed acoustical study will be required.

Regards,

--Jacob

8. NOISE ELEMENT

The policies of the Noise Element are not part of the City of Fort Bragg certified Local Coastal Program and do not govern the review and approval of coastal development permits.

A. Purpose

The purpose of the Noise Element is to protect the health and welfare of the community by promoting development which is compatible with established noise standards. This element has been prepared in conformance with Government Code Section 65302(f) and the guidelines adopted by the State Office of Noise Control, pursuant to Health and Safety Code Section 46050.1. Existing and future noise problems in the Planning Area are identified. Policies and implementation programs are provided to reduce the community's exposure to excessive noise levels. Accomplishing this task requires an evaluation of the noise generation from sources such as roads, highways, and stationary sources such as industrial facilities.

B. Noise Characteristics

Noise is defined as unwanted sound. Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Decibels and other technical terms are defined in Table N-1.

Most of the sounds which we hear in the environment do not consist of a single frequency, but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. The method commonly used to quantify environmental sounds consists of evaluating all of the frequencies of a sound in accordance with a weighting that reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the mid-range frequency. This method is called weighting, and the decibel level so measured is called the A-weighted sound level (dBA). In practice, the level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve.

Although the A-weighted noise level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a conglomeration of noise from distant sources which create a relatively steady background noise, often called ambient noise, in which no particular source is identifiable. To describe the time-varying character of environmental noise, the statistical noise descriptors, L_{10}, L_{50}, and L_{90}, are commonly used. They are the A-weighted noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated time period. A single number descriptor called the L_{eq} is now also widely used. The L_{eq} is the average A-weighted noise level during a stated period of time.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noise becomes very noticeable. Further, sensitivity to noise increases when

people sleep at night. To account for human sensitivity to nighttime noise levels, a descriptor, the L_{dn} (day/night average sound level) was developed. The L_{dn} divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted 10 dB higher than the daytime noise level.

TABLE N-1
DEFINITION OF ACOUSTICAL TERMS

Term	Definition
Decibel (dB)	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency (Hz)	The number of complete pressure fluctuations per second above and below the atmospheric pressure.
A-Weighed Sound Level (dBA)	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded by 1%, 10%, 50% and 90% of the time during the measurement period.
Equivalent Noise Level (L_{eq})	The average A-weighted noise level during the measurement period.
L_{dn}	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 PM and 7:00 AM.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

C. The Existing and Future Noise Environment

Fort Bragg experiences noise from autos and trucks on Highway One, Highway 20, local arterials, the railroad, and several industrial uses, including the Georgia-Pacific operations and the Baxman aggregate processing facility. Existing and year 2011 traffic noise (L_{dn}) contour distances from major thoroughfares are shown on Tables N-2 and N-3.

TABLE N-2
EXISTING TRAFFIC NOISE (L_{dn}) CONTOUR DISTANCES

Roadway	Noise Level 50 ft. from Centerline (L_{dn})	Contour Distances (in feet from Centerline) 70 L_{dn}	65 L_{dn}	60 L_{dn}
Hwy. One (Ocean View Drive to Hwy. 20)	72	65	140	305
Hwy One (Cypress St. to Ocean View Dr.)	73	75	165	350
Hwy. One (Chestnut St. to Cypress St.)	70	50	110	240
Hwy. One (Oak St. to Chestnut St.)	69	45	100	215
Hwy. One (Redwood Ave. to Oak St.)	69	45	95	205
Hwy. One (Laurel St. to Redwood Ave.)	69	40	90	190
Hwy. One (Pine St. to Laurel St.)	68	40	80	175
Hwy. One (Elm St. to Pine St.)	68	40	80	175
Hwy. One (Pudding Creek Rd. to Elm St.)	68	35	75	160
Franklin St. (South of Chestnut St.)	60	---	---	50
Franklin St. (Oak St. to Chestnut St.)	61	---	---	55
Franklin St. (Redwood Ave. to Oak St.)	60	---	---	50
Franklin St. (Laurel St. to Redwood Ave.)	60	---	---	50
Hwy. (at Hwy. One)	62	---	40	70
Ocean View Drive (East of Hwy. One)	60	---	---	50
Chestnut St.(East of Hwy. One)	59	---	---	45
Chestnut St.(East of Franklin St.)	58	---	---	35
Elm St. (West of Hwy. One)	61	---	---	60

Source: Illingworth & Rodkin, Inc., February, 2002

TABLE N-3
FUTURE (YEAR 2011) TRAFFIC NOISE (L_{dn}) CONTOUR DISTANCES

Roadway	Noise Level 50 ft. from Centerline (L_{dn})	Contour Distances (in feet from Centerline) 70 L_{dn}	65 L_{dn}	60 L_{dn}
Hwy. One (Ocean View Drive to Hwy. 20)	73	80	175	380
Hwy. One (Cypress St. to Ocean View Dr.)	74	100	205	450
Hwy. One (Chestnut St. to Cypress St.)	71	55	125	270
Hwy. One (Oak St. to Chestnut St.)	70	50	115	245
Hwy. One (Redwood Ave. to Oak St.)	70	50	105	225
Hwy. One (Laurel St. to Redwood Ave.)	69	45	90	205
Hwy. One (Pine St. to Laurel St.)	69	45	90	200
Hwy. One (Elm St. to Pine St.)	69	45	95	195
Hwy. One (Pudding Creek Rd. to Elm St.)	69	45	95	195
Franklin St. (South of Chestnut St.)	61	---	---	55
Franklin St. (Oak St. to Chestnut St.)	62	---	---	60
Franklin St. (Redwood Ave. to Oak St.)	60	---	---	55
Franklin St. (Laurel St. to Redwood Ave.)	60	---	---	50
Franklin St. (Pine St. to Laurel St.)	61	---	---	55
Hwy. 20 (at Hwy. One)	63	---	40	85
Ocean View Drive (East of Hwy. One)	61	---	---	55
Ocean View Drive (West of Hwy. One)	61	---	---	55
Chestnut St.(East of Hwy. One)	60	---	---	50
Chestnut St.(East of Franklin St.)	61	---	---	60
Oak St. (East of Hwy. One)	61	---	---	60
Oak St. (East of Franklin St.)	60	---	---	50
Redwood Ave. (West of Hwy. One)	64	---	45	100
Laurel St. (West of Hwy. One)	61	---	---	55
Elm St. (West of Hwy. One)	64	---	45	95

Source: Illingworth & Rodkin, Inc., February, 2002

Noise from traffic on local roadways, distant industrial activities, and neighborhood activities are the most significant sources of community noise in the majority of the City.

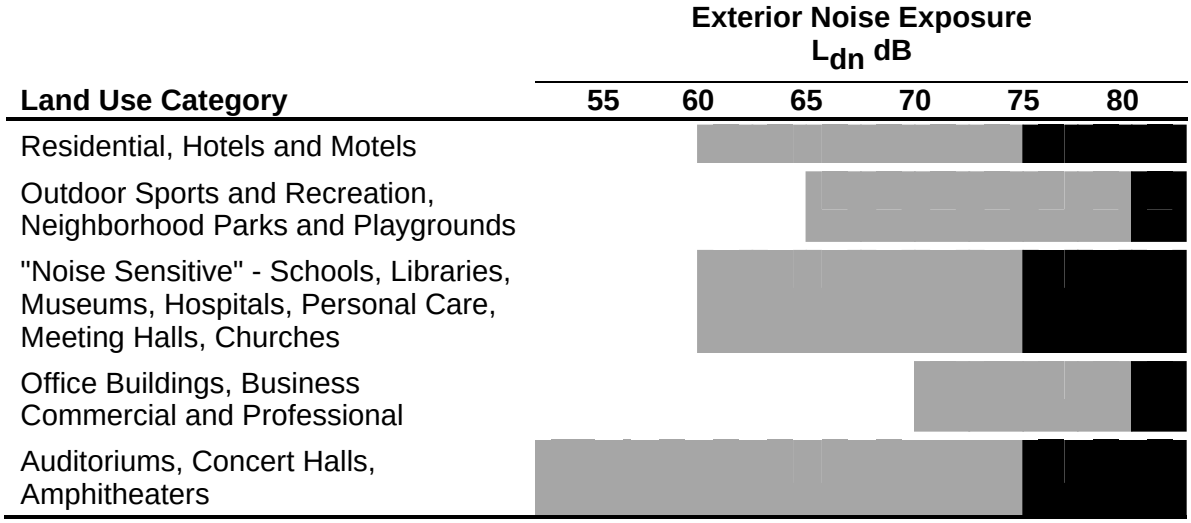
Noise from industrial uses was audible during the evening and nighttime hours at most noise sites that were monitored. Background noise levels in the areas of Fort Bragg which generally contain noise sensitive land uses would be considered to be moderately quiet and compatible with the City's noise exposure standards.

The principal areas that are affected by excessive noise are along both sides on Highway One throughout the City (ranging from 160-350 feet on either side of the highway) and along Franklin Street and several east-west arterials (ranging from 35-70 feet from the road edge). See the Draft EIR for a more detailed discussion of the existing and projected noise environment in the City.

D. Noise and Land Use Compatibility Standards

The standards listed in Table N-4 shall be used to evaluate the compatibility between land uses and future noise in Fort Bragg.

TABLE N-4
NOISE AND LAND USE COMPATIBILITY STANDARDS



Normally Acceptable
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal, conventional construction, without any special insulation requirements.

Conditionally Acceptable
Specified land use may be permitted only after a detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

Unacceptable
New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Source: Illingworth & Rodkin, Inc., March, 2002

E. Explanation of Table N-4: Land Use Compatibility for Community Noise

1. Noise Source Characteristics

Table N-4 shows the ranges of exterior noise exposure which are considered acceptable, conditionally acceptable, or unacceptable for the specified land use. Table N-4 is used to determine whether the noise exposure requires mitigation in order to achieve a compatible noise environment.

Where the noise exposure is acceptable for the intended land use, new development may occur without requiring an evaluation of the noise environment.

Where the noise exposure would be conditionally acceptable, a specified land use may be permitted only after a detailed analysis is made of the noise impacts, and the needed noise insulation features are included in the design to protect people from exposure to excessive noise. Such noise insulation features may include measures to protect noise sensitive outdoor activity areas (e.g. at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in residences, schools, hospitals, or other buildings which are sensitive to noise. Noise reduction measures should be focused on reducing noise where it would have an adverse effect for the specified land use, outdoors and/or indoors depending upon the land use.

For areas where the existing noise environment is unacceptable, new development should generally not be undertaken, because there may not be sufficient noise reduction measures to bring the development into compliance with the noise policies of this Element.

Sensitive receptors are land uses which are sensitive to noise such as hospitals, convalescent homes, schools, and libraries.

2. Acceptable Noise Environments

Another consideration, which in some communities is an overriding factor, is the desire for an acceptable outdoor noise environment. When this is the case, more restrictive standards for land use compatibility, typically below the maximum considered normally acceptable for that land use category, may be appropriate.

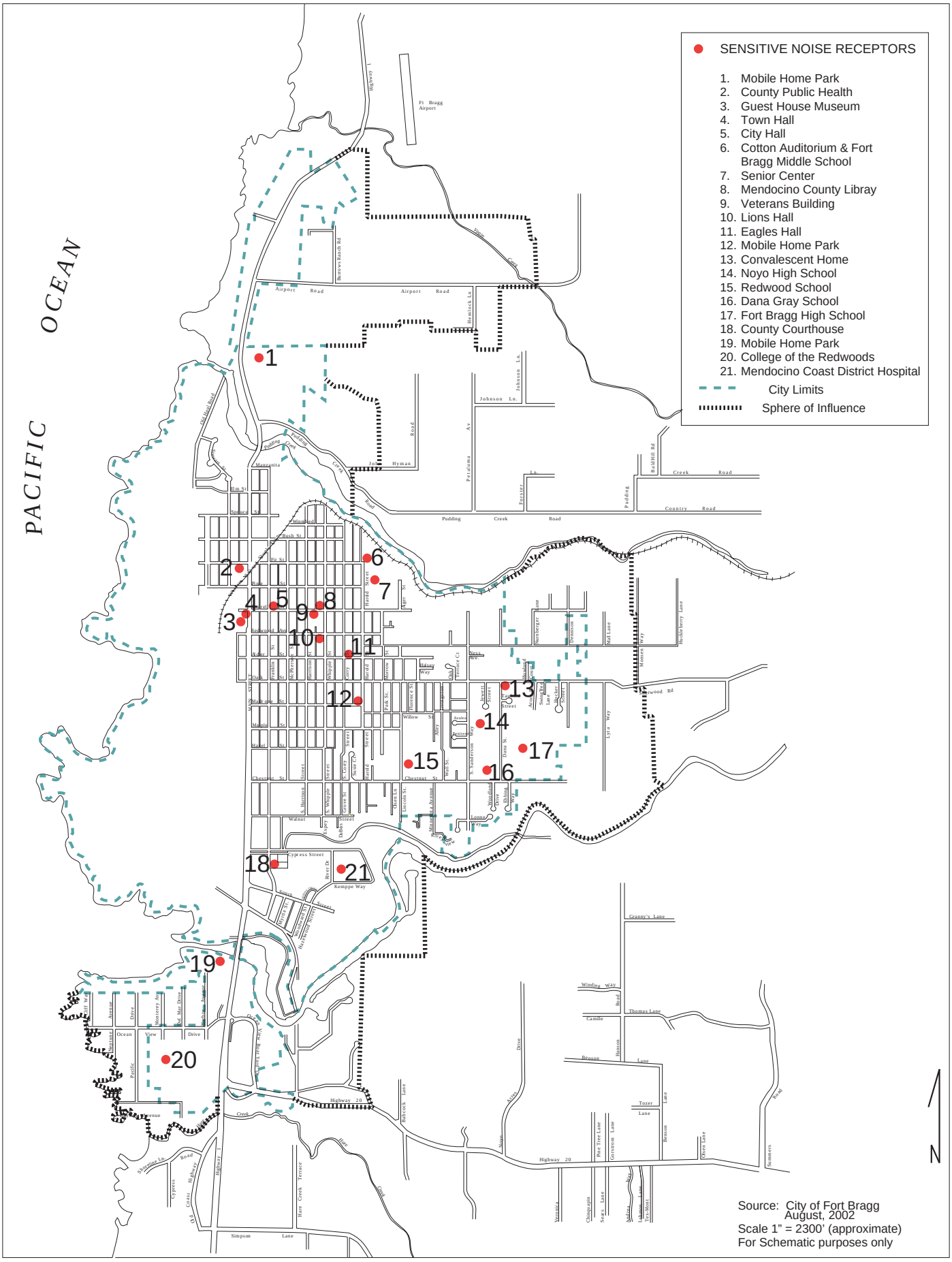
The following are the Noise and Land Use Compatibility Standards for noise exposure:

1. The standard for maximum outdoor noise level permitted in residential areas is a L_{dn} of 60 dB. This standard is applied where outdoor use is a major consideration, such as backyards in single-family housing developments and recreation areas in multi-family developments. This standard should not be applied to outdoor areas such as small decks and balconies typically associated with multi-family residential developments, which can have a higher exposure of 65 dB L_{dn}.

2. The maximum acceptable interior noise level in new multi-family residential development required by the State of California Noise Insulation Standards is a L_{dn} of 45 dB. This standard is also applied to single-family and all other residential development.

3. For projects occurring within noise environments that are conditionally acceptable, studies must be conducted to show how noise levels will be reduced in the areas that people use (which is generally the interior of offices, stores, industrial buildings, auditoriums, etc.). For

Map N-1
Sensitive Noise Receptors



non-residential projects, no maximum outdoor standard is established other than the exterior environment cannot exceed the lower limit of the unacceptable range, since noise mitigation is not feasible at these noise exposure levels. Building construction will incorporate noise reduction measures recommended by an acoustic engineer to reduce interior noise levels to an acceptable level. For non-residential projects, the interior noise level is what is important. The conditionally acceptable noise levels indicate that interior noise levels can be reduced to an acceptable level given noise reduction implementation. Non-residential projects may be allowed even if the exterior noise environment is within the conditionally acceptable range. No standards are established for industrial uses since the exterior noise environment is not important for such uses.

4 Sensitive receptors are land uses that are sensitive to noise such as hospitals, convalescent homes, schools, and libraries. Exterior noise levels for these types of uses where the uses include outdoor use locations (e.g., such as schools) should not exceed those allowed as normally acceptable in Table N-4. For those uses where the use areas are within buildings (e.g., hospitals, halls, and churches), interior noise levels should be reduced as described under No. 3 above, but projects can be permitted with exterior noise levels within the conditionally acceptable range. Map N-1: Noise Sensitive Receptors shows the location of some noise sensitive uses in the City.

5. These standards are not intended to be applied reciprocally. In other words, if an area is currently below the desired noise standard, a project that causes an increase in noise up to the maximum should not necessarily be permitted. The impact of a proposed project on existing land use should be evaluated in terms of the potential for adverse community response, based on existing community noise levels, regardless of the compatibility standards.

6. The Noise and Land Use Compatibility Standards should be reviewed in relation to the specific source of noise. These standards are based on measurement systems which average noise over a 24-hour period and do not take into account single-event noise sources. Different noise sources yielding the same composite noise exposure do not necessarily create the same environment. Additional standards may be applied on a case-by-case basis where supported by acoustical analysis to assess the effects of single-event noise sources.

F. Goals, Polices and Programs

The policies of the Noise Element are not part of the City of Fort Bragg certified Local Coastal Program and do not govern the review and approval of coastal development permits.

Goal N-1 Protect City residents from harmful and annoying effects of exposure to excessive noise.

Policy N-1.1 General Noise Levels: The maximum allowable noise levels are established in this Element.

Policy N-1.2 Reduce Noise Impacts: Avoid or reduce noise impacts first through site planning and project design. Barriers and structural changes may be used as mitigation techniques only when planning and design prove insufficient.

Program N-1.2.1: Adopt and use a Noise Ordinance in environmental review of all development proposals and incorporate project design measures to reduce noise to allowable limits. The Noise Ordinance should include the noise standards described in this Element as well as consider other noise concerns, including but not limited to, allowable hours for grading and construction, allowable noise levels for electronic sound devices (e.g., radios, stereos, etc.), time restrictions on the use of mechanical devices (e.g., leafblowers and other power equipment), and requirements for the placement of fixed equipment (e.g., air conditioners and condensers).

Program N-1.2.2: Consider requiring an acoustical study and mitigation measures for projects that would cause a "substantial increase" in noise as defined by the following criteria or would generate unusual noise which could cause significant adverse community response:

a) cause the L_{dn} in existing residential areas to increase by 3 dB or more;
b) cause the L_{dn} in existing residential areas to increase by 2 dB or more if the L_{dn} would exceed 70 dB; or
c) cause the L_{dn} resulting exclusively from project-generated traffic to exceed an L_{dn} of 60 dB at any existing residence.

Program N-1.2.3: Consider requiring an acoustical study and mitigation measures for proposed projects that City staff finds may generate unusual noise that would cause significant adverse community response, such as, but not limited to, night-time, single-event noise or recurring impulse noise.


Policy N-1.3 Noise and Land Use Compatibility Standards: Ensure that all new noise sensitive development proposals be reviewed with respect to Table N-4: Noise and Land Use Compatibility Standards. Noise exposure shall be determined through actual on-site noise measurements.


Policy N-1.4 Residential and Noise Sensitive Land Use Standards: Require a standard of 45 L_{dn} for indoor noise level for all new residential development including hotels and motels, and a standard of 60 L_{dn} for outdoor noise at residences. These limits shall be reduced by 5 dB for senior housing and residential care facilities.

Program N-1.4.1: Use the standards in Policy N-1.2.2 to determine the need for noise studies and require new developments to provide noise attenuation features as a condition of approving new projects.

Program N-1.4.2: Require an acoustical study for all new residential projects with a future L_{dn} noise exposure of 60 L_{dn} or greater. The study shall describe how the project will comply with the Noise and Land Use Compatibility Standards. The studies shall also satisfy the requirements set forth in Title 24, part 2 of the California Code of Regulations, Noise Insulation Standards, for multi-family attached dwellings, hotels, motels, etc. regulated by Title 24.


Policy N-1.5 Non-Transportation Noise Generation: For new non-transportation noise generators, Table N-5 describes the maximum noise level at the nearest residential property line:

TABLE N-5
NOISE LEVEL PERFORMANCE STANDARDS FOR NEW PROJECTS AFFECTED BY OR INCLUDING NON-TRANSPORTATION NOISE SOURCES

Noise Level Descriptor	Daytime (7 A.M. to 10 P.M.)	Nighttime (10 P.M. to 7 A.M.)
Hourly Leq dB	55	45
Maximum level, dB	75	65

Note: These noise levels apply to the residential property line nearest the project. Each of the noise levels shall be lowered by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises. These noise level standards do not apply to residential units established in conjunction with industrial or commercial uses (e.g., caretaker dwellings).

Policy N-1.6 Mitigate Noise Impacts: Mitigate noise impacts to the maximum feasible extent.

Program N-1.6.1: Require acoustical studies and noise reduction measures, when warranted, for new developments and roadway improvements which affect noise sensitive uses such as residences, schools, hospitals, libraries, and convalescent homes.

Program N-1.6.2: Require acoustical studies and noise reduction measures for any project that would potentially generate non-transportation noise levels in a residential area such that noise levels would exceed the planning standards set forth in Program N-1.2.2 and/or Table N-5.

Program N-1.6.3: Work with Caltrans to ensure that adequate noise studies are prepared and alternative noise mitigation measures are considered when State and Federal funds are available.

Program N-1.6.4: Consider and carefully evaluate the noise impacts of all street, highway, and other transportation projects.

Program N-1.6.5: Recommend acoustical studies and noise reduction measures for all projects that would be exposed to noise levels in excess of those deemed normally acceptable, as defined in Table N-4.

Program N-1.6.6: Consider developing an ordinance that regulates the allowable hours of construction activities.

Program N-1.6.7: Consider requiring post-construction testing and sign-off by an acoustical engineer for residential projects exposed to an L_{dn} in excess of 65 dB to ensure compliance with applicable exterior and interior standards in the Noise and Land Use Compatibility Standards.

Program N-1.6.8: Restrict truck traffic to designated routes.

From: Paul Clark <pclark@fortbraggrealty.co>
Sent: Tuesday, April 29, 2025 9:53 AM
To: cdd <cdd@fortbragg.com>
Cc: Paul Clark <pclark@fortbraggrealty.co>; CMAR (CMAR@MCN.ORG) <CMAR@MCN.ORG>
Subject: Item 6A Planning commission 04/30/2025

Questions for this project.

Page 16 4 where is the analysis that shows this project is not feasible without the indicated incentives?
Page 16 5 where is the studies the City Council used to make this determination? See attached demographics info from just one internet source.
Page 28 Circulation. Where is the analysis done by staff to warrant this conclusion? Why was a traffic study not done? Who made that decision?
Page 48 Section 15195 In Fill. Another example of why this type of project is not welcomed by many. Not subject to the same treatment as any other project might be.
Page 51 Section 15332 Exemption analysis. States the city council may determine a project to be exempt. Has that happened? If so, was the public notice that such a decision would be made done? If they did then they own that decision.

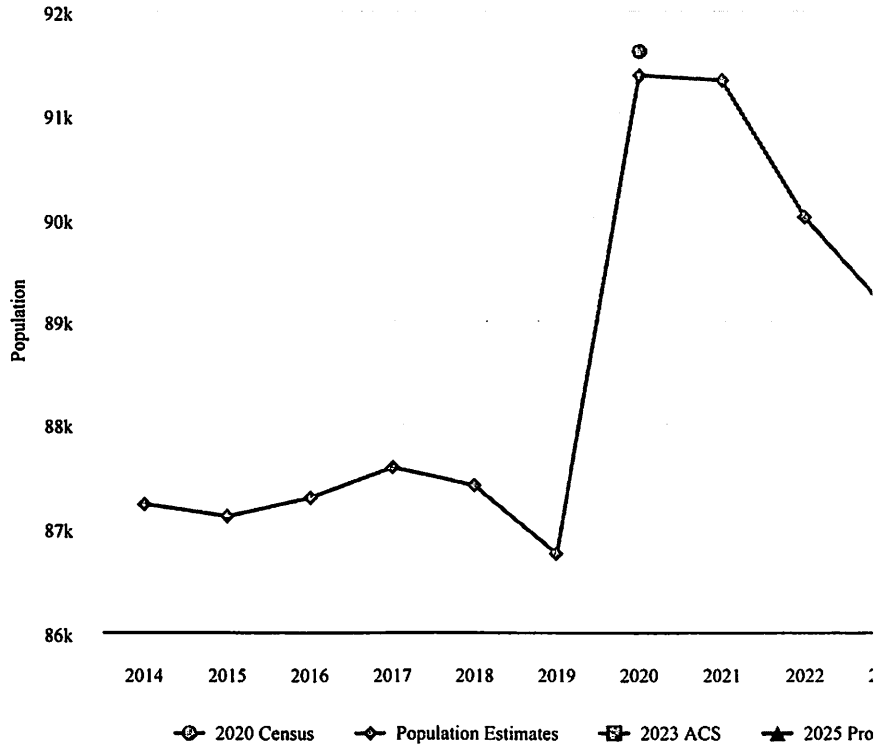
Thank you

Paul Clark.

Mendocino County Demographic Statistics

2025 Population	2023 Population	Median Age	Median Income
87,328	89,108	43.9 years	$64,688

Mendocino County Population Trends



Sources:

- United States Census Bureau. P2 Hispanic or Latino, and Not Hispanic or Latino by Race. 2020 Census State Redistricting Data (Public Law 94-171) Summary File. August 2021.
- United States Census Bureau. Annual Estimates of the Resident Population: April 1, 2020 to July 1, 2023. Population Division. May 2024.
- United States Census Bureau. 2023 American Community Survey 5-Year Estimates. December 2024.
- Cubit Planning. 2025 Population Projections. December 2024.

Check out our FAQs for more details.

2025 Projected Population

The 2025 projected population for Mendocino County is

Outlook

Public Comment for Hazelwood Senior Apartment Complex

From Jacob Patterson <jacob.patterson.esq@gmail.com>
Date Wed 4/30/2025 3:27 PM
To cdd <cdd@fortbragg.com>

Planning Commission,

I am writing on behalf of the Scrutiny Coalition Repudiating Administrative Mediocrity (S.C.R.A.M) to formally object to the recommended approval of the proposed senior apartment complex on Hazlewood you are considering tonight. I won't repeat the concerns I raised on my own behalf in my earlier written comments but S.C.R.A.M. is concerned that this project has not been properly reviewed and any approval is premature.

Thank you for your consideration of this matter.

Jacob Patterson for S.C.R.A.M.