HEARINGS EXAMINER MEETING AGENDA
Wednesday, July 10, 2019, 5:00 PM
City Hall, 616 NE 4th Avenue

I. CALL TO ORDER

II. INTRODUCTION AND INSTRUCTIONS

III. HEARING ITEM

A. Public Hearing for the Lacamas View Residential Care Facility Conditional Use Permit (CUP18-02)
Presenter: Lauren Hollenbeck, Senior Planner

Staff Report for the Lacamas View Residential Care Facility

Exhibit 1_ Application

Exhibit 2_Applicant's Narrative

Exhibit 3_Vicinity Map

Exhibit 4_Pre Application Notes

Exhibit 5_Original Development Plans

Exhibit 6_Revised Site Plan

Exhibit 7_Revised Civil Plans

Exhibit 8_Revised Landscape Plans

Exhibit 9_Building Elevations and Floor Plan

Exhibit 10_Building Rendorings and Materials

Exhibit 11_Exterior lighting Specifications

Exhibit 12_Revised Arborist Report and Tree Plan

Exhibit 13_Revised Traffic Report

Exhibit 14_Stormwater Infiltration Report

Exhibit 15_Revised Stormwater Report

Exhibit 16_Revised Geotechnical Report

Exhibit 17_Earth Engineers Inc Geotechnical review #1

Exhibit 18_EEI Geotechnical Review #2

Exhibit 19_City Staff TIR and Geotechnical Review

Exhibit 20_Rapid Soil Solutions response to EEI review #1

Exhibit 21_SEPA MDNS and Checklist

Exhibit 22_SWCAA_SEPA Comment 061819

Exhibit 23_Development Sign

Exhibit 24_Incompleteness Review Letter

Exhibit 25_Completeness Review Letter

Exhibit 26_Notice of Application

Exhibit 27_Mailing Labels to Property Owners within 300-ft.

Exhibit 28_Notice of Public Hearing

Exhibit 31_Landscape Revision

Index of Exhibits (CUP18-02)

IV. ADJOURNMENT

V. HEARING ITEM

A. Public Hearing for the Combs Duplex Conditional Use Permit (CUP19-01)
Presenter: Lauren Hollenbeck, Senior Planner

Staff Report for the Lon Combs Duplex

Exhibit 1_Application Form

Exhibit 2_Applicant's Narrative

Exhibit 3_Vicinity Map

Exhibit 4_Pre Application Notes

Exhibit 5_Site Plan

Exhibit 6_Landscape Plan

Exhibit 7_Building Elevations and Floor Plan

Exhibit 8_Neighborhood Multi-Family Buildings

Exhibit 9_SEPA Consolidated Decision

Exhibit 10_Recorded Boundary Line Adjustment (BLA)

Exhibit 11_Development Sign

Exhibit 12_Completeness Review Letter

Exhibit 13_Notice of Application

Exhibit 14_Mailing Addresses to Property Owners

Exhibit 15_Notice of Public Heaing

Index of Exhibits (CUP19-01)

VI. ADJOURNMENT

VII. LAND USE DECISIONS

NOTE: The City of Camas welcomes and encourages the participation of all of its citizens in the public meeting process. A special effort will be made to ensure that persons with special needs have opportunities to participate. For more information, please call the City Clerk's Office at 360.817.1591.

STAFF REPORT

Lacamas View Residential Care Facility

CUP18-02

(Consolidated files SPRV18-07, DR18-11, CA18-15, ARCH18-16; related file SEPA18-26)

Type III

Staff Report Date: July 3, 2019

TO:	Hearings Examiner	HEARING DATE:	July 10, 2019
PROPOSAL:	To construct a 19,000 square foot one-story residential assisted living facility, which includes 36 bedrooms, a dining room, recreational areas, courtyards and facilities for housekeeping.		
LOCATION:	The site is located at 3401 NW Lake Rd. in the NE and NW ¼ of Section 33, Township 2 North, Range 3 East, of the Willamette Meridian; and described as tax parcel # 177666000		
APPLICANT:	Bama Architecture 7350 SE Milwaukie Ave. Portland, OR 97202	OWNER:	Peter Anca PO Box 87651 Vancouver, WA 98687
APPLICATION SUBMITTED:	November 1, 2018	APPLICATION COMPLETE:	February 8, 2019
STATE ENVIRONMENTAL POLICY ACT (SEPA):	The City issued a SEPA Mitigated Determination of Non-significance (MDNS) June 6, 2019. The comment period ended on June 20, 2019. Legal publication #212700.		
PUBLIC NOTICES:	Notice of Application was mailed to property owners within 300 feet of the site and published in the Post Record on February 14, 2018. Legal publication #1394000. Notice of public hearing was mailed to property owners June 19, 2019 and published in the Post Record on June 20, 2019. Legal publication #221500.		

APPLICABLE LAW: The application was submitted **on November 1, 2018**, and the applicable codes are those codes that were in effect at the date of application. Camas Municipal Code Chapters (CMC): Title 16 Environment, Title 17 Land Development; and Title 18 Zoning; Specifically (not limited to): Chapter 16.51 General Provisions; Chapter 16.59 Geologically Hazardous Areas; Chapter 17.19 Design & Improvement Standards; Chapter 18.07 Use Authorization, Chapter 18.11 Parking; Chapter 18.13 Landscaping; Chapter 18.18 Site Plan Review; Chapter 18.43 Conditional Use Permits; and Chapter 18.55 Administrative Provisions.

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SUMMARY

An application has been submitted to the City of Camas for conditional use permit approval of an approximately 19,000 square foot single-story residential assisted living facility, which includes 36 bedrooms, a common dining room, a recreational area, interior open-air courtyard and facilities for housekeeping and personal hygiene. Vehicular access to the site is provided via a one-way drive aisle with the majority of the landscaping focused at the property lines and at the building.

The property abuts the north side of NW Lake Road in the R-10 Single-Family Residential zone. Properties immediately to the east and west are also zoned Single-Family Residential (R-10). North and downhill of the site is the Lacamas Woods subdivision zoned Single-Family Residential (R-15). To the south, on the south side of NW Lake Road, is the Forest Hills subdivision zoned Single-family Residential (R-7.5) and the WaferTech business zoned Light Industrial/Business Park (LI/BP).

The site is approximately 2.23 acres in size, with the property facing the north side of NW Lake Road. The southern side of the property adjacent to NW Lake Road is relatively flat then shifts dramatically to steep slopes on the northern side with densely populated trees. The existing vacant buildings on site will be demolished.

The project requires permits and approval from the City, which include: a conditional use permit, site plan review, design review, critical area permit, archaeological review, SEPA, engineering site construction approval and building permits.

FINDINGS

Title 16 Environment

STATE ENVIRONMENTAL POLICY ACT (SEPA18-26)	CMC CHAPTER 16.07

A SEPA checklist was submitted and a Mitigated Determination of Non Significance (MDNS) was issued June 6, 2019 as the project site contains environmentally sensitive areas per CMC 16.07.025 (Exhibit 21). The comment and appeal period ended June 20, 2019. The City received SEPA comments from Department of Historic and Archaeological Preservation (DAHP) (Exhibit 29) and Southwest Clean Air Agency (SWCAA) (Exhibit 22). DAHP will require an Inadvertent Discovery Plan in case of accidental discoveries of cultural resources and SWCAA requires common control measures from construction dust.

FINDING: Staff finds the mitigation measures identified in the SEPA MDNS including comments from DAHP and SWCAA will need to be complied with.

ARCHAEOLOGICAL RESOURCE PRESERVATION (ARCH18-16) CMC CHAPTER 16.31

An Archaeological Predetermination Survey was prepared by Archaeological Services LLC on September 19, 2018 for the Lacamas View Assisted Living project. Based on the predetermination report, no further study was necessary. The report and findings are not subject to the open public records act and as such, the city cannot disclose the results.

FINDING: Staff finds if potential artifacts are discovered during the course of construction, work must immediately cease and both State Department of Archaeological and Historic Preservation and the City will need be notified.

GEOLOGICALLY HAZARDOUS AREAS (CA18-15) CMC CHAPTER 16.51

Clark County GIS mapping identified the subject property with geologically hazardous areas (i.e. steep slopes). As such, the applicant submitted a Geotechnical Report prepared by Rapid Soil Solutions (RSS) (dated May 23, 2018, revised April 12, 2019) (Exhibit 16), which identified steep slopes and a severe erosion hazard area. The southern end of the site along NW Lake Road is relatively flat then dramatically drops downhill starting at a point in the middle of the site towards the northern property line. Figure 4 of the revised Geotechnical report shows the general location of the hazard area.

The City's geotechnical consultant Earth Engineers, Inc. (EEI), performed a peer review of the applicant's geotechnical reports (Exhibits 17 and 18). Based on review of the revised Geotechnical Report, it did not appear RSS had the revised preliminary civil drawings for review and as such the geotechnical report will need to be revised based on the final location of the building and the conditions in the SEPA decision.

FINDING: Prior to building permit issuance, the applicant should submit a site specific geotechnical investigation report that includes final development recommendations including but not limited to adequate mitigation for the proposed building and must comply with the SEPA conditions.

Title 18 Zoning

CONDITIONAL USE PERMIT (CUP18-02) CMC CHAPTER 18.45

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

The proposed use as an assisted living facility is allowed as a conditional use permit in a Single-Family Residential zone per CMC 18.07.040 Table 2. CMC 18.03.030 defines an assisted living facility as "*any group residential program that provides personal care and support services to people who need help with daily living activities as a result of physical or cognitive disability. Assisted living communities usually offer help with bathing, dressing, meals and housekeeping. The amount of help provided depends on individual needs, however, full-time (twenty-four hours a day) care is not needed. Assisted living communities go by a variety of names: adult homes, personal care homes, retirement residences, etc."* Since the use is not prohibited in the zone, the City has considered that the use will not be at face value detrimental.

Per the Applicant's narrative, the commercial impacts of the project will be minimized as the building will be designed with residential characteristics of a neighborhood to include a single-story gabled building and a small parking area. Further, the proposed use will add to the variety of housing opportunities within the City.

> **FINDING:** The proposed development is allowed with approval of a conditional use permit per CMC Chapter 18.07 Use Authorization and will not be detrimental to the public or adjacent uses given the existing uses in the vicinity.

B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;

An assisted living facility is a permitted use subject to a conditional use permit per CMC 18.07.040 Table 2. The application meets the single-family residential (R-10) development standards of CMC 18.09.040 Table 1. The existing site size of 2.23 acres complies with the minimum lot size requirement of 8,000 square feet. The building height is less than the maximum 35-feet allowed in the R-10 zone and a large portion of the building will be under 20-feet in height. The Applicant's narrative indicates the building lot coverage is approximately 26%, which is less than the 35% maximum building lot coverage requirement. Further, the applicable minimum building setback standards per CMC 18.09.030 Table 2 are as follows: 1) Front Yard: 30-feet, 2) Site Yard: 15-feet and 3) Rear Yard: 35-feet.

Chapter 18.13 includes the landscaping requirements and describes the types of landscaping materials and plantings that may be utilized to meet the landscape requirements. Refer to the Site Plan Review section of this report at Criterion B for findings in regard to landscaping and parking standards.

As previously noted, the proposed use is subject to the Design Review requirements of CMC 18.19 and therefore elevation drawings, exterior colors, lighting and landscape design elements of the proposed building were submitted for review by the Design Review Committee. Design Review is discussed in further detail below of this staff report.

> **FINDING:** Staff finds the proposed development as conditioned can or will meet the development standards that are required in the zoning district.

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;

[Traffic]
The proposed development is bordered on the south by NW Lake Road, the west by a vacant lot, on the east by a residential subdivision and its open space tract, and on the north by a residential subdivision. NW Lake Road is a fully improved 3-lane arterial that consists of rights-of-way that varies from 81-feet to 70-feet, with curb & gutter, bike lane, planter strips, street lighting, and landscaping on both sides. The applicant is not required to dedicate any additional right-of-way to meet this standard. Refer to the Site Plan Review section of this report at Criterion C for findings in regards to traffic.

[Pedestrian Circulation]
An existing sidewalk is located along NW Lake Road and a pedestrian walkway is proposed immediately adjacent to sections of the building. The applicant has provided a safe pedestrian access from the building entrance to the sidewalk.

[Density, Building and Site Design]
The R-10 Single-Family Residential zone has a maximum density of 4.3 dwelling units per acre. The project meets this requirement at 1 unit per 2.23 acres. The proposed building's design is influenced by the existing character of the nearby residential neighborhoods to include a single-story gabled roof with exterior architectural features and materials consistent with that of a residential use (Exhibits 9 and 10).

To mitigate the size and scale differences of the assisted living facility with nearby residential uses, the structure includes multiple articulations and roof forms to break up the building into smaller components including the use of landscaping to help soften not only the appearance of the building but the parking area as well.

Due to the steep slopes at the northern half of the site, site improvements are limited to the southern half of the property with the parking stalls located adjacent to and buffered with landscaping from NW Lake Road. Based on existing topography, the building's northern foundation wall may be 20 to 30-feet high from grade to the bottom of the first floor with a building length of approximately 300-feet. To mitigate for a potentially large blank wall facing the residences downhill, differing building materials or building modulation should be provided.

> **FINDING:** Staff finds a pedestrian walkway that traverses the driveway aisle should be of a concrete or other distinct material that clearly defines the pedestrian connection. The north side of the building shall include varied building materials or modulation to avoid a potentially blank wall.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

The applicant has completed environmental and archaeological studies and investigations. The subject property is impacted with steep slopes, which are defined as critical areas. The majority of the site improvements will be located outside of the steep slope area with the exception of a portion of the building which will need to comply with final geotechnical recommendations. The trees located within the steep slope on the north side of the building proposed for removal should be consistent with the recommendations in the Arborist Report (Exhibit 12), discussed in the Site Plan Review section of this report at Criterion B.

Perimeter landscape buffers are provided at the project site's property lines and street frontage to buffer the proposed use from existing adjacent residential uses and vehicular/pedestrian traffic (Exhibit 8). The entrance only (ingress) and exit only (egress) for the one-way onsite vehicular circulation will not negatively impact roadway operations per the applicant's Traffic Analysis (Exhibit 13) and as discussed in further detail below.

> **FINDING:** Staff has proposed conditions of approval to minimize potential adverse project impacts to the area.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

The assisted living facility proposal is consistent with the following comprehensive plan policies:

- Land Use Policy 1.3: Maintain compatible use and design with the surrounding built and natural environments when considering new development or redevelopment.
- Employment Policy LU-2.5: Ensure industrial development and other employment lands are compatible with adjacent neighborhoods through development and landscaping regulations and design review.
- Neighborhood Policy LU-3.2: Develop areas appropriate for senior housing, considering proximity to services and transportation options.
- Housing Goal H-1: Maintain the strength, vitality, and stability of all neighborhoods and promote the development of a variety of housing choices that meet the needs of all members of the community.

- Housing Policy H-1.6: Encourage in-fill development on vacant or underutilized sites, subject to design review guidelines, that had adequate urban services, and ensure that the development is compatible with the surrounding neighborhood.
- Senior and Special Needs Housing Goal H-3: Encourage and support a variety of housing opportunities for those with special needs, particularly those with challenges relating to age, health or disability.

FINDING: The proposed assisted living facility contributes to a variety of housing needs and compatibility in site design and architecture with the surrounding area. As such, staff finds that the proposed project is compatible with and complements the Comprehensive Plan.

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan;

FINDING: After conducting a public hearing and deliberating over the evidence, the Hearings Examiner may include any additional conditions or criteria necessary to carry out the intent of the CMC and the Comprehensive Plan.

SITE PLAN REVIEW (SPRV18-07) CMC CHAPTER 18.18

A. Compatibility with the city's comprehensive plan;

FINDING: The proposed development is in compliance with the several comprehensive plan goals and policies referenced at Criteria E under the Conditional Use Permit section above.

B. Compliance with all applicable design and development standards contained in this title and other applicable regulations;

The applicant provided a site plan, utility plan, landscape plan and building elevations/floor plans that are adequate for Site Plan Review. The density and dimensions are discussed in further detail at Criterion B under the Conditional Use Permit section of this staff report.

Parking

New and expanded commercial uses must provide adequate off-street parking pursuant to CMC Chapter 18.11.130 *Standards*. An "assisted living facility" use requires one parking space per 2 beds plus 1 parking space per day shift employee, in accordance with CMC Table 18.11-1. The applicant indicates a staff of approximately 3 people, which would require 3 parking stalls. The proposal includes 36 beds, which requires 18 parking stalls for a total of 21 parking spaces for residents and staff. The preliminary site plan indicates 20 parking spaces plus 2 ADA spaces and therefore meets this requirement.

Landscaping

The proposal must comply with the applicable landscaping standards in CMC Chapter 18.13. The applicant has focused the planting areas to those around the perimeter of the site, the building and within the parking areas. The preliminary landscape plan (Exhibit 8) indicates most of the landscaping consists of native vegetation and evergreen shrubs in compliance with CMC 18.13.050(C)(1). Many of the proposed shrubs are less than the required minimum five-gallon pot size per CMC 18.13.050.I and the tall evergreen shrubs are less than the required minimum two-gallon pot size per the City's approved tree list and will be conditioned for compliance.

[Street Trees]:
The street tree species proposed along the site's frontage within the NW Lake Road right-of-way is the Columnar Sargent Cherry, which is listed as a tree species type on the City's approved tree list.

[Landscape buffers]:
Per CMC 18.13.055(A) Table 1 – Landscape Buffers, a 10-foot (L3) High Screen landscape buffer is required for commercial uses abutting residentially zoned property. Residential zoned properties abut the site to the east and west. The preliminary landscape plan (Exhibit 8) provides a L3 landscape buffer along the east and west boundary lines of the developed portion of the site. Staff finds one additional evergreen tree will be required at the eastern buffer for compliance with this requirement and as shown on Exhibit 31.

[Tree Density/Tree Survey]:
Per CMC 18.13.051(A) Table 1- Required Tree Density, a minimum of 20 tree units (TU) per net (developable) acre is required to be incorporated into the overall landscape plan. The northern half of the property is a critical area (i.e. steep slopes) and therefore the majority of the existing trees in this area will be retained. Per the arborist report prepared by Teragan & Associates (Exhibit 12), the developable portion of the site has a total of 48 existing trees with a tree unit (TU) value of 296. Based on the 1.09 net acreage, 21.8 TU is required. The development proposes a final TU value post construction of 87 tree units, which exceeds the minimum TU per net acre requirement. Per the arborist report, all surveyed trees within the developed portion of the site will be removed (with the exception of tree numbers 1, 22, 31, 36, 40, 41, 42, 43, 44, 44.1 and 45) as shown on the Preliminary Tree Removal plan sheet L1.0, (Exhibit 12) due to a number of factors including tree health, if the tree is hazardous, wind throw potential or to accommodate on-site improvements. Any trees identified for preservation should comply with the tree protection recommendations of the arborist report. Trees proposed for removal should also comply with the recommendations of the arborist's report.

A final landscape plan consistent with the landscaping standards in CMC Chapter 18.13 and the Camas Design Manual planting specifications and landscape notes should be submitted to the City for review and approval prior to engineering plan approval. Irrigation and landscaping should be installed or bonded for prior to final acceptance. Street trees should be installed or bonded for prior to final occupancy.

Signage
Signage has not been proposed with this application. However, CMC 18.15.060.A.2 states, *"If plans submitted for Design Review include construction plans in sufficient detail to determine compliance with the provisions of this chapter, then issuance of such design review may constitute approval of the placement of sign or signs (other structural/mechanical permits may be required)."* Detailed construction plans for signage was not provided and should be required if proposed prior to receiving occupancy permits for any of the proposed buildings.

> **FINDING:** As identified in this staff report, the applicant's narrative, on the submitted preliminary plans and as conditioned, staff concurs that this project can or will comply will all applicable design and development standards of the code.

C. Availability and accessibility of adequate public services such as roads, sanitary and storm sewer, and water to serve the site at the time development is to occur, unless otherwise provided for by the applicable regulations;

Roads
The development is located on the northeast side of NW Lake Road, which is a fully improved 3-lane arterial with bike lanes, curb & gutter, sidewalks, landscaping, and street illumination. Therefore, the

applicant will not be required to dedicate any additional rights-of-way or frontage improvements with the exception of removal of the existing driveway that is to be replaced with 6-inch curb and sidewalk that will meet the City's ADA standards. Additionally, new driveway access locations and surface restoration on NW Lake Road are to be per the City's Design Standards.

There are existing street light poles located approximately 163-feet apart along the frontage of the parcel with alternating poles on the opposite side of the road. The nearest street lights to the proposed egress driveway location are located approximately 100-feet and 63-feet either side. The nearest street light to the proposed ingress driveway location is located approximately 33-feet to the southeast. The applicant did not provide an illumination analysis of the existing street lights, nor has the applicant proposed to install additional street lighting along NW Lake Road. However, the applicant is proposing onsite pole mounted illumination in the parking lot and exterior wall mounted illumination on the building. This proposed lighting will be directional so that the light is not directed off site. Based on the location of existing street lighting along NW Lake Road to both the ingress and egress driveways, staff finds that an additional analysis of the street lighting is not warranted.

Traffic and Transportation

A Transportation Impact Analysis (TIA) was prepared by Clemow Associates, LLC dated October 19, 2018. A revised TIA was submitted on February 8, 2019 (Exhibit 13). The TIA addresses the following:

Trip Generation:

The development is removing an existing single family residence (1 trip) and constructing a 36-bed facility. Trip generation was based on the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th edition*. Based on the manual, the development is anticipated to generate 66 ADTs, 1 AM peak hour trip, and 6 PM peak hour trips. The current single family residence counts as one existing PM Peak Hour Trip, therefore the development is generating 5 Net New PM Peak Hour Trips.

Access:

The proposed development is located on the north side of NW Lake Road. The only access to the property is from NW Lake Road. NW Lake road is classified as a 3-lane arterial with a center left-turn median and east and westbound lanes. The eastern driveway location will be approximately 130-feet from the intersection of NW Lake Road & NW Jackson Street. The applicant has proposed an ingress (entrance only) driveway at this location, due to the location not meeting the minimum access spacing requirement of 660-feet on an arterial. A deviation from the minimum access spacing requirements is requested, by the applicant, as the eastbound and westbound left-turn movements are offset and separated by the center turn lane therefore; the left-turns for the applicants proposed access and NW Jackson Street are not in conflict.

The west driveway location is proposed to be as close as possible to the adjacent property line to the west which will locate it approximately 575-feet from the intersection of NW Lake Road & NW Parker Street. The applicant has proposed an egress (exit only) driveway at this location, due to the location not meeting the minimum access spacing requirement of 660-feet on an arterial. A deviation from the minimum access spacing requirements is requested for this location since it is an exit-only operation it will not cause any roadway queuing on NW Lake Road.

On-site Circulation:

"The proposed development will have two one-way accesses consisting of entrance and exit only, which will allow for a one-way westbound on-site circulation movement" for pick-up and drop-off of residents, visitors, deliveries, garbage, and emergency services.

Intersection Site Distance Analysis:
"Intersection site distance is evaluated based on requirements identified in the current American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets*. Per AASHTO recommendations, intersection sight distance is measured from the driver's eye height of 3.5 feet and 14.5 feet from the edge of the nearest travel lane to an object height of 3.5 feet above the roadway surface and the posted speed limit. The posted speed limit on NW Lake Road is 35 MPH."

"The TIA noted that there is no vertical roadway curvature in the vicinity of the project and sight distance is only potentially limited by the horizontal curvature. Additionally, as the proposed access locations are located on the outside of the horizontal curve, the sight distances tend to not be limited." All the intersection sight distance turning movements, at a speed of 35 MPH (85th percentile), require a sight distance that ranges from 285-feet to 390-feet depending on the movement. The available sight distances, at the two accesses as noted in the TIA, range from 375-feet to 520-feet depending on the turning movement assuming vegetation management within the sight-distance triangle.

SUMMARY:
The applicant is requesting a deviation from the 660-foot minimum access spacing standard on an arterial based on the following:

1. "Proposed development trip generation is very low and is not anticipated to have any measurable transportation system impacts regardless of access configuration or location.
2. On-site traffic circulation is safe and efficient, and the one-way operation reduces movement conflicts.
3. The eastern (entrance-only) access offset direction from the NW Lake Road / NW Jackson Street intersection separates eastbound and westbound left-turn movements, thereby reducing conflicts.
4. The western (exit-only) access is outside the existing intersections functional areas and will not cause any roadway queuing or unnecessary movement conflicts.
5. Intersection sight distance is available for all turning movements at all access locations with vegetation management in the sight distance triangle.
6. Overall, the two, one-way accesses, in the proposed locations do not negatively impact public roadway operations and the proposed on-site traffic circulation is safe and efficient."

The deviation request for the access locations, as summarized in the TIA, is found to be reasonable and recommended by the City Engineer.

Sanitary Sewage Disposal
There is an existing sewer 24-inch STEP sanitary sewer force main located in NW Lake Road. The applicant is proposing to provide a sewer lateral to the property. Additionally, the applicant will be required to install an adequately sized STEP tank per Camas Design Standards. The applicant will remove the existing septic system and tanks in accordance with Clark County Dept. of Health requirements. Ownership and maintenance of the new STEP tank will be the responsibility of the property owner and conditioned as such.

Stormwater
There is an existing 18-inch and 24-inch storm sewer main, including manholes, located in NW Lake Road. This storm sewer main flows to the stormwater facility located west of NW Payne Road. A Preliminary Technical Information Report (TIR) was submitted on October 26, 2018, with a revised report submitted on May 13, 2019 (Exhibit 15). The report states that all stormwater from impervious surfaces, both pollution generating and non-pollution generating, will undergo treatment and detention,

prior to release to the existing storm sewer main. Treatment of pollution generating impervious surface is proposed via an 8'x4' Modular Wetland system with detention for pollution generating and non-pollution generating surfaces proposed via a 1,300 linear feet of 54-inch diameter underground Contech system. The preliminary TIR does not address discharge of stormwater, after detention, into the existing storm sewer main in NW Lake Road. Prior to engineering approval, the applicant will be conditioned to provide a final TIR and plans that address stormwater discharge to the existing storm sewer main.

The stormwater system should be owned and maintained by the property owner and the City should have right-of-entry for inspection purposes. A condition of approval to this effect is warranted.

The Applicant is subject to the requirements of the latest edition of the Washington State Department of Ecology's Stormwater Management Manual for Western Washington (SWMMWW) for Redevelopment and the Camas Stormwater Design Standards.

The preliminary TIR references that the *"Operation and Maintenance guidance is based on Section L of the Clark County General Requirements and Details for the Design and Construction of Surface Water Systems Manual, Section 4, 2017, for the on-site BMP's."* The Final TIR is to reference the Camas Stormwater Operation & Maintenance Manual, the Camas Design Standards Manual (CDSM), and Ecology's latest edition of the SWMMWW for on-site BMP's and conditioned as such.

Water

There is an existing 14-inch ductile iron water main located in NW Lake Road. Additionally, there is an existing ¾-inch water service to the parcel that served the former single family residence. The site will require water services for domestic water, irrigation, and fire protection. The applicant has proposed to provide a new domestic water service and a new dedicated fire line. The Applicant will be required to extend these services to the right-of-way and install water meters and a double detector check valve for irrigation. All water lines beyond the meters will be privately owned and maintained by the Applicant and conditioned as such.

Erosion Control

The Applicant will be required to provide adequate erosion control measures during the site improvements in accordance with adopted City standards and submit erosion and sediment control plans to the City for review and approval prior to any ground disturbance.

Staff finds that CMC 17.21.030 requires submittal of an erosion control bond for ground disturbances of one acre or more. The Washington State Department of Ecology also requires site operators disturbing over one acre of land to file for and obtain an NPDES General Construction Stormwater Permit. CMC 14.06.030 (C) requires submittal of the Stormwater Pollution Prevention Plan (SWPPP) prior to commencement of ground disturbance activities.

> **FINDING:** Staff finds that adequate provisions can be made for public roads, sanitary sewer, stormwater, water and erosion control improvements that will be consistent with City requirements.

D. Adequate provisions are made for other public and private services and utilities, parks and trails;

Public and Private Utilities

[Public Utilities]:

Street lighting currently exists along NW Lake Road. The applicant is not proposing to install additional street lighting along NW Lake Road. However, the applicant is proposing to install pole mounted lights within the parking lot and wall mounted lights on the building. The proposed lighting will not impact the roadway.

[Private Services and Utilities]:
The applicant will be responsible for the operation and maintenance of the on-site private storm water collection and conveyance system. The applicant will also be responsible for maintenance of all other on site improvements, including but not limited to the parking areas, pedestrian pathway and landscaping.

Parks and Trails
There are no city requirements for parks, trails or other public improvements associated with the development of this property.

> **FINDING:** Staff finds that the applicant can or will make provisions for adequate maintenance of the private improvements as conditioned.

E. Adequate provisions are made for maintenance of public utilities;

The applicant will be required to maintain improvements on the subject property that are not public improvements, such as the stormwater treatment and detention facility, parking areas, associated landscaping, and other private improvements. The applicant will be required to obtain fire and building permits and perform to the standards of Title 15 CMC. There are no public utilities that will require maintenance by the applicant.

> **FINDING:** Staff concurs that adequate provisions will or can be made for maintenance of public utilities.

F. All relevant statutory codes, regulations, ordinances and compliance with the same. The review and decision of the city shall be in accordance with the provisions of CMC Chapter 18.55;

> **FINDING:** As discussed throughout this staff report, and as conditioned, this proposal can or will meet all relevant codes, regulations, ordinances and other requirements as identified herein.

DESIGN REVIEW (DR18-11) CMC CHAPTER 18.19

Design Review Committee member attendees: Whitney Henion, Dawn Redmond, Melissa Smith, Casey Wycoff and Kevin Breuner. Jim Short absent.

Design Review is required for new developments within commercial zones per CMC 18.19.020 and therefore the assisted living building proposal is subject to the applicable design review standards in CMC 18.19.050.A Standard Principles and B.2 Specific Principles for Commercial and Mixed Uses and the guidelines in the Camas Design Review Manual "DRM". As such, a Design Review Committee public meeting was held March 27, 2019 to review the proposal and recommend conditions or other actions necessary for compliance with the Design Review Manual.

Standard Principles:

Landscaping and screening, integration or natural features of the property, building design, and integration of historic elements-
Landscaping is provided along the site's perimeter to provide a visual screen and buffer with the existing uses and the street right-of-way. Further, the existing trees on site proposed for removal are to accommodate the development with the exception of the existing trees located within the steep slopes area will be retained. Landscaping and existing trees are discussed in further detail under criteria B of the Site Plan Review section of this report.

The Lacamas View assisted living building is a one-story gabled gray building articulated by stone veneer wainscoting, horizontal hardie lap siding, hardie shingle siding on sections of the building with a peaked roof, craftsman style decorative wood framing and multiple windows (Exhibit 10). Materials selected are

consistent with the those seen on nearby residential structures. Any landscape, parking lot or building lighting should be directed, hooded or shielded away from surrounding properties. Lighting specifications and a lighting plan should be provided for city review and approval prior to engineering plan approval.

Specific Principles:

Commercial & Mixed Uses Principles: Architecture, landscaping & screening and streetscape-
Due to the steep slopes at the north side of the building, parking to the interior of the development is prohibitive. As such, the proposed building is separated from the street with the driveway and parking, which is located immediately adjacent to NW Lake Road and screened with a landscape hedge. The Design Review Committee expressed concern with the amount of paving at the front of the building and lack of a pedestrian connection between the building and the parking area. The Committee recommended the Applicant evaluate the possibility of reducing the proposed amount of pavement and provide a safe pedestrian connection from the building, to the proposed landscaping patch at the front of the building, and to the parking area. The applicant has revised their landscape plans to install a pedestrian connection from the building to the existing sidewalk at NW Lake Road.

> **FINDING**: The Design Review Committee and staff found the proposed Lacamas View Residential Care facility generally in compliance with the Design Review Manual, and applicable design principles and guidelines of CMC Chapter 18.19 as conditioned.

CONCLUSION

Based on the above findings and discussion provided in this staff report, staff concludes the consolidated application for the Lacamas View Residential Care Facility (Consolidated File # CUP18-02) should be approved, because it does or can comply with the applicable standards if all of the conditions of approval are met.

RECOMMENDATION

Staff recommends APPROVAL of the Lacamas View Care Facility (Consolidated File #CUP18-02) subject to the following conditions of approval in addition to the conditions of the SEPA permit (File No. SEPA18-26).

CONDITIONS OF APPROVAL

STANDARD CONDITIONS OF APPROVAL:

1. Site improvement plans for street, water, sanitary sewer, and stormwater shall be prepared in accordance with the Camas Design Standards Manual.
2. The civil site plans shall be prepared by a licensed civil engineer in Washington State and submitted to the City's Engineering Dept. for review and approval.
3. Regulations for installation of public improvements, improvement agreements, bonding, and final acceptance shall be found in CMC 17.21.
4. A 3% construction plan review and construction inspection fee shall be required for this development. The fee will be based on an engineer's estimate or construction bid. The site specific estimate will be submitted to the City's Engineering Dept. for review and approval. The fee will be paid prior to the construction plans being signed and released. Under no circumstances will the applicant be allowed to begin construction prior to approval of the construction plans.

5. Existing wells, septic tanks, and septic drain fields shall be abandoned in accordance with state and county guide lines regardless of lots or properties served by such utility, per CMC 17.19.020.
6. In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease and the applicant shall notify the Public Works Department and DAHP.
7. The applicant shall remove all temporary erosion prevention and sediment control measures from the site at completion of all site improvements, which includes stabilization of all disturbed soil, unless otherwise directed by the Community Development Director.
8. Final as-built construction drawing submittals shall meet the requirements of the Camas Design Standards Manual.
9. A separate new construction permit shall be required from the Fire Marshall's office. Two sets of plan specifications, and other information as may be necessary to determine compliance with fire and life safety code and standards.
10. Permit forms and submittal instructions are available online or can be picked up at the Fire Marshal's office at 605 NE 3rd.
11. Permit(s) and inspections are required by the Fire Marshal's Office for this project. Please contact the Fire Marshal's office at 360-834-6191, or rmiller@ci.camas.wa.us for submittal information.
12. A building permit shall be required prior to occupancy of any building. A building permit shall not be issued prior to completion of site improvements.
13. At the time of building permit issuance, the applicant shall pay the appropriate impact fees in accordance with the provisions of CMC 3.88.

SPECIAL CONDITIONS OF APPROVAL:

14. The applicant shall comply with the SEPA18-26 MDNS conditions, including DAHP and SWCCA's SEPA review comments.
15. Prior to building permit issuance, the applicant shall submit a revised geotechnical investigation report that includes final development recommendations and mitigation for the proposed building.
16. The pedestrian walkway that traverses the driveway aisle shall be of a concrete or other distinct material that clearly defines the pedestrian connection.
17. The north side of the building's facade shall include varied building materials or modulation to avoid a potentially large blank wall.
18. Prior to Engineering Plan approval, a final landscape plan consistent with the landscaping standards in CMC 18.13.050 shall be submitted to the city for review and approval to include the following but not limited to:
    a. The planting legend shall identify the 5-gallon container size for the shrubs consistent with CMC 18.13.050.I.
    b. The planting legend shall identify the minimum 2-gallon container size for the tall evergreen shrubs consistent with the City approved tree list.
    c. The tree planter areas shall include five hundred cubic feet of soil per CMC 18.13.060.E.
    d. Wheel stops shall be installed adjacent to planter areas per CMC 18.13.060.F.

e. A 10-foot (L3) landscape buffer shall be provided along the east and west boundary lines of the developed portion of the site. One additional evergreen tree will be required at the eastern buffer for compliance with this requirement as shown on exhibit 31.

f. Plants utilized shall be per the approved City's Tree list in the Camas Design Manual.

g. The planting specifications and landscape notes in the Camas Design Manual shall be included on the final landscape plan.

h. Irrigation shall be noted on the final landscape plan.

19. The applicant shall take appropriate measures to ensure landscaping success for a minimum of three years after issuance of Certificate of Occupancy. If plantings fail to survive, the property owner shall promptly replace them.
20. Landscaping and irrigation shall be installed or bonded for prior to final acceptance.
21. Street trees shall be installed or bonded for prior to final occupancy.
22. Any existing trees identified for preservation and removal shall comply with the tree protection/removal recommendations of the Arborist Report.
23. Detailed construction plans shall be provided for any proposed signage prior to receiving a building occupancy permit.
24. The Applicant shall remove the existing septic system and tanks in accordance with Clark County Dept. of Health requirements and install an adequately sized STEP tank per Camas Design Standards.
25. Ownership and maintenance of the new STEP tank shall be the responsibility of the property owner.
26. Prior to engineering approval, the applicant shall provide a final TIR and plans that address stormwater discharge to the existing storm sewer main.
27. The stormwater system shall be owned and maintained by the property owner. The City shall have right-of-entry for inspection purposes.
28. The Final TIR shall reference the Camas Stormwater Operation & Maintenance Manual, the Camas Design Standards Manual (CDSM), and Ecology's latest edition of the SWMMWW for on-site BMP's.
29. All water lines beyond the meters shall be privately owned and maintained by the Applicant.
30. Prior to engineering plan approval, a lighting plan and specifications shall be provided for city review and approval. Landscape, parking lot and/or building lighting shall be directed, hooded or shielded away from surrounding properties.
31. Building materials and colors shall be in conformance with the design review approval.
32. Unless construction of this site commences within two years of issuance of this decision, this permit will expire.

EXHIBIT 1

City of Camas WASHINGTON

Community Development Department | Planning
616 NE Fourth Avenue | Camas, WA 98607
(360) 817-1568
communitydevelopment@cityofcamas.us

General Application Form **Case Number:** CUP 18-02

Applicant Information

Applicant/Contact:: BAMA ARCHITECTURE Phone: (503) 253-4283

Address: MILDRED WHITE
7350 SE MILWAUKIE AVE. mildred@bamadesign.com
Street Address *E-mail Address*
PORTLAND, OREGON 97202
City *State* *ZIP Code*

Property Information

Property Address: 3401 NW LAKE ROAD 177666000
Street Address *County Assessor # / Parcel #*
CAMAS WA 98607
City *State* *ZIP Code*

Zoning District R-10 Site Size 2.23 ACRES

Description of Project

Brief description:
NEW 36-BED RESIDENTIAL CARE FACILITY WITH PARKING

Are you requesting a consolidated review per CMC 18.55.020(B)? YES ☒ NO ☐ CONDITIONAL USE SITE PLAN REVIEW DESIGN REVIEW

Permits Requested: ☐ Type I ☐ Type II ☒ Type III ☐ Type IV, BOA, Other

Property Owner or Contract Purchaser

Owner's Name: ANCA PETER Phone: (503) 351-3171
Last *First*

Address: P.O. BOX 87651
Street Address *Apartment/Unit #*

E mail Address: Vancouver WA 98687
City *State* *Zip*

Signature

I authorize the applicant to make this application. Further, I grant permission for city staff to conduct site inspections of the property.

Signature: Date: 11-1-18

Note: If multiple property owners are party to the application, an additional application form must be signed by each owner. If it is impractical to obtain a property owner signature, then a letter of authorization from the owner is required.

Date Submitted: 11/1/18 Pre-Application Date:

Staff: Related Cases # ☐ Electronic Copy Submitted

Pd ✓ 11/1/18
12,057.00
Validation of Fees

Revised: 11/30/17

EXHIBIT 2

BAMA Architecture and Design LLC

December 06, 2018

Project Narrative

Applicant: Mildred White
BAMA Architecture and Design
7350 SE Milwaukie Ave.
Portland, OR 97202

Below is a narrative for the proposed Assisted Living Facility at 3401 NW Lake Rd. Camas, OR 98607.

Description of Facility:

This is a new construction of a 36 bed Assisted Living Facility which will have 36 resident units, common dining room, common social and recreational area, interior open air courtyards, and facilities for housekeeping, sanitation, and personal hygiene.

This Assisted Living Facility will provide a homelike setting for seniors and adult individuals with disabilities. The facility will offer and coordinate a range of supportive services available on a 24-hour basis to meet the activities of daily living, health, and social needs of the residents.

Both staff and visitors will enter at the main doors of the building. Visitors will check in at the reception and are then directed to the patient they are visiting. There is a designated visitor and staff bathroom. Residents have private toilet facilities. There will be common bathing facilities. Staff will assist residents with using these facilities. General supplies are delivered during business hours. Trash will be removed via a side door and placed in an exterior trash enclosure.

Existing Site Conditions:

The site in question is located along the north side of NW Lake Rd.. The site is approx. 2.23 acres in size, with the street facing southern side of the property being relatively flat and currently populated with vacant buildings including; a single family residence, a detached garage, pump house, and the remains of a loft barn foundation. All current structures on site are proposed to be demolished. The northern portion of the site is steep grade, with densely populated trees. A vast majority of the northern portion and the existing trees located on this portion of the site is proposed to remain unaltered except as needed for site and public safety.

Public Facilities and Services:

There are no public facilities located on site.

Existing water, sewer, and electrical lines are located on NW Lake Rd. and we are proposing new connections to these existing services.

Storm water will be dealt with on-site through new storm water facilities meeting the guidelines of the City of Camas, and prepared and designed by a registered professional.

This proposal includes an automatic sprinkler system under separate permit through the fire marshal's office.

There currently is not any public transit, parks or trails, or other relevant services on or near the site.

Natural Site Features:

The site does currently present natural features.

The northern portion of the site has densely populated trees in a natural area which will be retained.

The building will have views to the north of the surrounding natural area as well as Lacamas Lake.

Design Criteria:

Definitions:

This proposal will meet the definitions of a *Residential Care Facility* pursuant to RCW 70.128.175 and will be licensed through the State of Washington.

This proposal will meet the definitions of the *Assisted Living* use as the facility will provide personal support and services to people who need help with daily living activities as a result of physical or cognitive disability. Meals, housekeeping, bathing, and dressing will be among the services provided. The facility will meet the definition of an assisted living facility pursuant to the IBC as a facility with more than 16 persons who receive custodial care.

Conditional Use Permit Standards:

Standard 'A'

"The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated."

Response:

This proposal is located on a site in a mostly residential neighborhood, surrounded on all sides by residential development. The structure will be designed in a fashion to maintain the residential and multi-family characteristics of the district and neighborhood. By proposing a single story, gabled building, this proposal will minimize the impacts of the commercial use. The proposed assisted living use will provide an opportunity for senior citizens in the area to be able to transition to a full time care facility consistent with the existing homes in the area. The small proposed parking area will not create a hindrance to the neighborhood, or to vehicular street traffic as it will be right in, right out only as to minimize adverse effects.

Standard 'B'

"The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated."

Response:

The proposed use is located on a vacant 2.23 acre site. This site size exceeds the 10,000 Square Foot required lot area allowing the district to maintain appropriate density. The proposed building height will be under the 35 foot maximum height allowed in the district, and a large portion of the structure will be under 20 feet in height. Lot coverage and rear building setbacks proposed are well under the requirements of the district. Overall, all reasonable actions have been taken to ensure the development exceeds the standards of the district.

Standard 'C'

"The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design."

Response:

The proposed use and structure will be compatible with the neighborhood as the circulation has been designed to minimize the effects of increased vehicular and pedestrian traffic. A traffic study has been completed and has been submitted under this review to state clear compliance with all related traffic effects. The pedestrian circulation system will be designed in a way so that pedestrians can easily access the right of way sidewalks adjacent to the main entrance of the structure. Residential care facilities are relatively low traffic structures as the residents do not drive. The building is designed to reflect a residential character typical of the neighborhood. It is single story, with gabled roofs, and proposing exterior materials consistent with residential use. The site is designed with large areas of vegetation and gardens for residents' use.

Standard 'D'

"Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located."

Response:

This proposal will actively pursue and partake in appropriate measures to the extent practical to avoid adverse impacts in the area. By demolishing decrepit vacant buildings, and clearing unmaintained landscaping, the site will become an attractive addition to the neighborhood. The proposed structure will be located at the current cleared area, minimizing the need to remove existing trees. The proposed building will have attractive outdoor areas and recreation spaces which will allow space for residents and their families to actively enjoy and appreciate the site and the neighborhood. This proposal will also include required improvements to the public right of way that will increase the pedestrian livability of the neighborhood. By thinning and pruning the existing trees on site, the overall attractiveness and openness of the neighborhood will be greatly increased. During construction all necessary steps will be taken to ensure all erosion control measures and other measures will be taken to ensure the construction process will not be a burden on the neighborhood.

Standard 'E'

"The proposed use is consistent with the goals and policies expressed in the comprehensive plan."

Response:

This proposal is located in the Single Family - Medium comprehensive plan. This proposal meets the goals and policies of the comprehensive plan as the development continues the residential character and intent of the comprehensive plan designation as well as creating a safe facility which utilizes the attractive views and encourages residents to feel a sense of ownership of the present natural elements in the area including Lacamas Lake, the surrounding dense tree canopies, and all the habitats and animals which inhabit such elements.

Standard 'F'

"Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan."

Response:

This proposal has incorporated all required conditions and criteria as laid out in the pre-application conference. This proposal also is submitting for Site Plan Review, Major

Design Review, SEPA requirements and all other required reviews which shows an ongoing compliance and respect with all intent in the Camas Municipal Code. As a part of this proposal we will submit as exhibit of compliance.

Site Plan Review Criteria:

Standard 'A'

"Compatibility with the city's comprehensive plan."

Response:

This proposal is located in the Single Family - Medium comprehensive plan. This proposal meets the goals and policies of the comprehensive plan as the development continues the residential character and intent of the comprehensive plan designation. It also creates a safe facility which utilizes the attractive views and encourages residents to feel a sense of ownership of the present natural elements in the area including Lacamas Lake, the surrounding dense tree canopies, and all the habitats and animals which inhabit such elements.

Standard 'B'

"Compliance with all applicable design and development standards contained in this title and other applicable regulations."

Response:

The site is located in the R-10 Zone. The following standards will be met pursuant to CMC 18.09.040;

Density and Dimensions for Single-family Residential Zones.

Max. density: 4.3 units per acre.	Actual density: One dwelling unit
Max. building coverage: 35%	Actual building coverage: 25.6%
Max. building height: 35'	Actual building height: 30'-6"

Building Setbacks for Single-Family Residential Zones.

Min. front yard: 30'	Actual front yard: 47'
Min. side yard: 15'	Actual side yard: 15'
Min. rear yard: 35'	Actual rear yard: 35'

In conclusion; this proposal meets all applicable design and developments standards and is committed to going above the intent of the requirements of the regulations to the extent practical.

Standard 'C'

"Availability and accessibility of adequate public services such as roads, sanitary and storm sewer, and water to serve the site at the time development is to occur, unless otherwise provided by the applicable regulations."

Response:

This proposal will meet all requirements of improvements to public facilities, streets, and utilities pursuant to the pre-application conference and the Camas Municipal Code. All required right of way improvements will be made in conjunction with new utility work as required. Proper steps have been made to ensure this, including the pre-application conference, the provided traffic study by a professional traffic engineer, and full civil engineering public improvements and utility drawings.

Standard 'D'

"Adequate provisions are made for other public and private services and utilities, parks and trails (e.g., provide copies of private covenant documents)."

Response:

No private or public covenants exist on site and none are proposed as a part of this land use review. No public parks or trails are proposed to be altered, effected, or created as part of this proposal. A small nature trail may be created as part of this development as to enhance the natural elements of the site,

Standard 'E'

"Adequate provisions are made for maintenance of public utilities."

Response:

All existing and proposed public utilities will be properly maintained as to not create strain or negative effects on the system. All appropriate measures will be taken to verify maintenance is performed as required by the local jurisdiction and to industry standards.

Standard 'F'

"All relevant statutory codes, regulations, ordinances and compliance with the same. The review and decision of the city shall be in accordance with the provisions of CMC Chapter 18.55 Administration and Procedures."

Response:

All applicable reviews are being applied for as a part of this proposal as provided by the pre-application conference. This proposal will meet all the guidelines for land use review completeness and issuance. All requirements for neighborhood notification and meetings shall be met.

Design Review Narrative Criteria:

Standard Principles:

Standard 1:

"*Landscaping shall be done with a purpose. It shall be used as a tool to integrate the proposed development into the surrounding environment."*

Response:

Landscape design is included as a part of this proposal. Landscape design has been provided by a licensed Landscape Architect. All required landscape plans are included as part of this proposal. All measures have been taken to ensure existing native vegetation is protected and retained to the extent practical. All new landscaping will meet the landscaping standards of the CMC and will be designed to integrate with the existing landscaping. New landscaping has been selected based on appropriate sizes, variety, and to create a residential feel.

Standard 2:

"All attempts shall be made at minimizing the removal of significant natural features. Significant natural features shall be integrated into the overall site plan."

Response:

An effort has been made to retain significant trees within the site that do no encroach on the new structure. The proposed project has been located on the already developed property to the extent possible. All vegetation to the north of the site past the area of development will be left unaltered as to retain the integrity of significant natural features.

Standard 3:

"Buildings shall have a "finished" look. Any use of panelized materials shall be integrated into the development in a manner that achieves a seamless appearance."

Response:

No panelized exterior building materials are proposed as a part of this proposal. The proposed facades are designed to integrate seamlessly with each other and with the neighboring properties appropriate with the building type. Materials were selected that are consistent with those seen on adjacent residential structures.

Standard 4:

"A proposed development shall attempt to incorporate or enhance historic/heritage elements related to the specific site or surrounding area."

Response:

No historic or heritage elements exist on site. An Archaeological Predetermination has been completed and included with our application. The new building will be designed as to create attractive views of the Lacamas Lake to enhance surrounding features.

Commercial and Mixed Uses.

Standard 'A':

"On-site parking areas shall be placed to the interior of the development unless site development proves prohibitive. All on-site parking areas along adjacent roadways shall be screened with landscaping. Downtown commercial and mixed-use area shall not be required to provide on-site parking."

Response:

The site has steep slopes along the majority of the property which would make parking to the north of the building prohibitive and impractical. All parking will be adequately screened from the street frontage. Parking screening will be provided per the CMC.

Standard 'B':

"Buildings shall be used to define the streetscape unless site conditions prove prohibitive."

Response:

The street facing facade will have a large amount of glazing to create an attractive frontage that defines the streetscape as well as varying roof heights and changes in elevation to create a variety in scale and materials to enhance the residential characteristics of the structure.

Standard 'C':

"Structures abutting, located in, or located near less intensive uses or zoned areas (such as commercial developments next to residential areas) shall be designed to mitigate size and scale differences."

Response:

The proposed structure is residential in nature, which is consistent with the uses of the neighboring residential buildings. By limiting the structure to a single story, and by utilizing building articulation and various roof forms, the structure will mitigate size and scale differences with the existing homes.

Standard 'D':

"Developments containing multiple uses/activities shall integrate each use/activity in a manner that achieves a seamless appearance, or creates a cohesive development."

Response:

This proposal is for only residential use only. No integration with different uses is needed therefore this guideline is met.

Standard 'E':

"Mixed-use developments that place uses throughout the site (horizontal development) shall organize elements in a manner that minimizes their impact on adjacent lower intensity uses."

Response:

No mixed-use development is proposed as a part of this review. The structure will be designed in a manner consistent with the neighboring uses.

Standard 'F':

"Walls shall be broken up to avoid a blank look and to provide a sense of scale."

Response:

The structure is designed with multiple articulations along the frontage as well as multiple roof forms to break up the facade. Multiple exterior materials will be utilized to create attractive elevations. A masonry wainscot and wood detailing will provide a sense of scale. No panelized siding will be used. Architectural detailing will be used to enhance the proposed covered drop off.

Standard 'G'

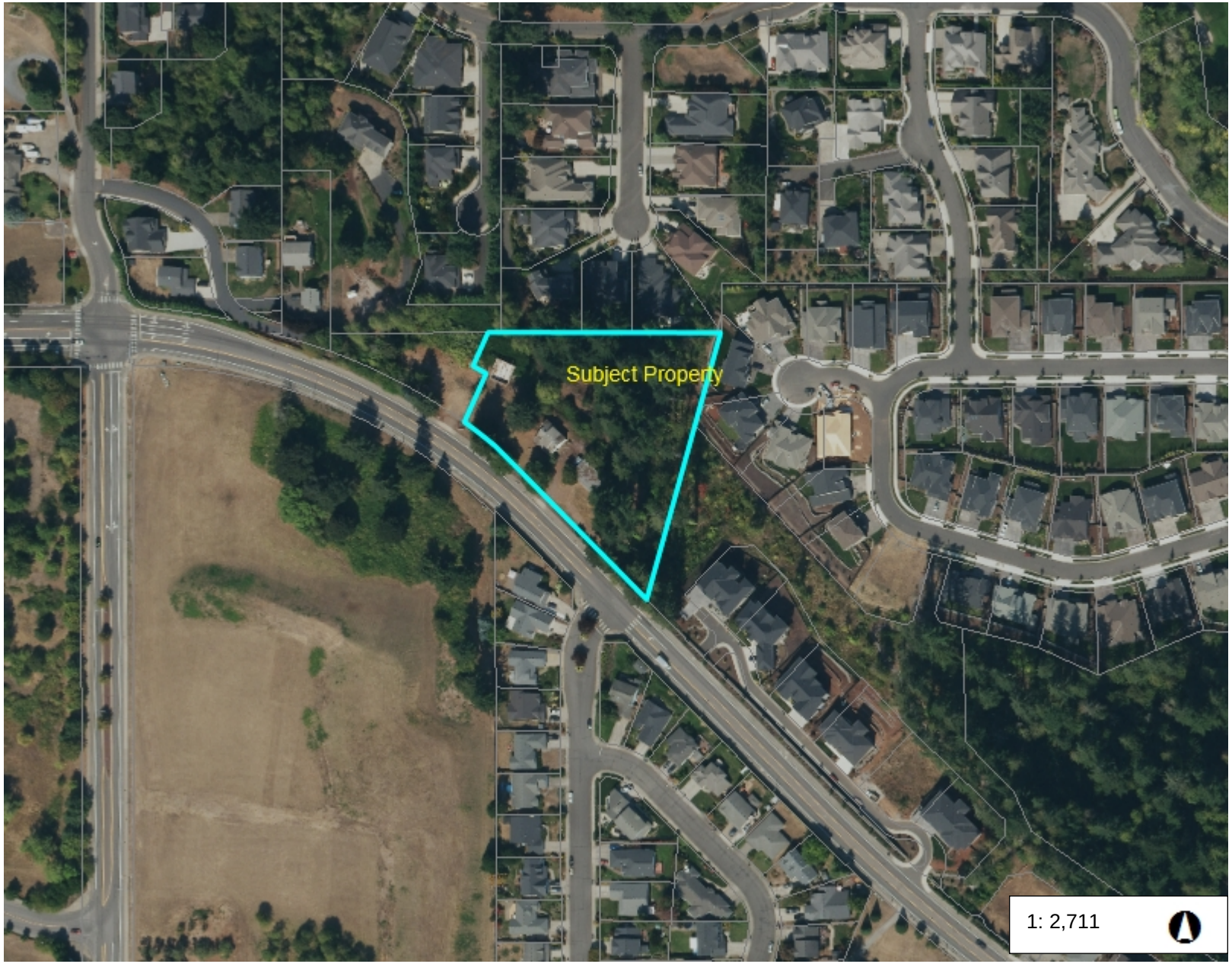
"Outdoor lighting shall not be directed off-site."

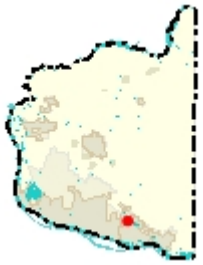
Response:

Lighting design will be supplied by a lighting professional as required as part of this land use review. All exterior building lighting and parking lighting will be directional so that light is not directed off site.

EXHIBIT 3

3401 NW Lake Road Vicinity Map





Legend

- Taxlots
- Cities Boundaries
- Urban Growth Boundaries

Notes:

451.9 0 225.95 451.9 Feet

WGS_1984_Web_Mercator_Auxiliary_Sphere
Clark County, WA. GIS - http://gis.clark.wa.gov

Pre-Application Meeting Notes
Anca Adult Care Facility
Parcel #177666000
File PA18-26

Thursday, April 19, 2018
3:30pm, Public Works Conference Rm
616 NE Fourth Avenue, Camas, WA 98607

Applicant / Contact:	**Applicant**: Peter Anca 2245 Brandon Place West Linn, OR 97068 503-351-3171 peteremmaanca@gmail.com
Representing City of Camas:	Lauren Hollenbeck, Senior Planner Robert Maul, Planning Manager Anita Ashton, Engineering Project Manager Randy Miller, Fire Marshall Bob Cunningham, Building Official
Location:	3401 NW Lake Road
Zoning:	R-10
Description:	The applicant proposed to construct an adult residential care facility

NOTICE: Notwithstanding any representation by City staff at a pre-application conference, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite to an applicant all relevant applicable code requirements shall not constitute a waiver by the City of any standard or requirement. [CMC 18.55.060 (C)] This pre-application conference shall be valid for a period of 180 days from the date it is held. If no application is filed within 180 days of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. [CMC 18.55.060 (D)] Any changes to the code or other applicable laws, which take effect between the pre-application conference and submittal of an application, shall be applicable. [CMC 18.55.060 (D)]**. A link to the Camas Municipal Code (CMC) can be found on the City of Camas website, http://www.cityofcamas.us/ on the main page under "Business and Development".**

PLANNING DIVISION **LAUREN HOLLENBECK (360) 817-7253**

Applicable codes for development include Title 16 Environment, Title 17 Land Development and Title 18 Zoning of the Camas Municipal Code ("CMC"), which can be found on the city website. Please note it remains the **applicant's responsibility** to review the CMC and address all applicable provisions. The following pre-application notes are based on the application materials and site plan submitted to the City April 3, 2018:

Application Requirements

Your proposal will need to comply with the general application requirements per **CMC Section 18.55.110** as follows:

A. A completed city application form and required fee(s);

Fees will be based on the adopted fees at the time of application submittal. The current fees include the following:

1.	Conditional Use Permit (if proposed)	$4,011.00
2.	Site Plan Review	$2,665 + $63 per 1000 sf of GFA
3.	Major Design Review	$2,200.00
4.	SEPA	$749.00
5.	Critical Areas Review	$718.00
6.	Archaeological Review	$127.00
7.	Fire Department Review	$390.00
8.	Building Permit and Plan Review	*based on the valuation of the project
9.	Engineering Review	3% of estimated construction costs

B. A complete list of the permit approvals sought by the applicant;

C. A current (within thirty days prior to application) mailing list and mailing labels of owners of real property within three hundred feet of the subject parcel, certified as based on the records of Clark County assessor;

D. A complete and detailed narrative description that describes the proposed development, existing site conditions, existing buildings, public facilities and services, and other natural features. The narrative shall also explain how the criteria are or can be met, and address any other information indicated by staff at the preapplication conference as being required;

E. Necessary drawings- three sets and an electronic copy (send as a PDF by email or on a disc). Each report must be a separate pdf.

F. Copy of the preapplication meeting notes (Type II and Type III);

Definitions

Residential Care Facility

Means a facility, licensed by the State of Washington, that cares for at least 5 but not more than 15 people with functional disabilities, and that has not been licensed as an adult family home pursuant to RCW 70.128.175.

Assisted Living

Means any group residential program that provides personal and support services to people who need help with daily living activities as a result of physical or cognitive disability. Assisted living communities usually offer help with bathing, dressing, meals and housekeeping. The amount of help provide depends on individual needs, however, full-time (twenty-four hours a day) care is not needed. Assisted living communities go by a variety of names: adult homes, personal care homes, retirement residences, etc.

Further, the IBC code defines assisted living **to more than 16 persons**, excluding staff, who reside on a 24-hr. basis in a supervised environment and receive custodial care.

Conditional Use Permit (CUP)
Per CMC Section 18.07.040 Table 2, Assisted living (if proposed) is permitted in the residential zoning districts subject to a CUP which is a Type III decision. Type III decisions are subject to a public hearing and city final decision by a hearings examiner. Specific information required for a complete CUP application includes a written response that supports the criteria of approval of CMC Section 18.43.050. All other required permit reviews may be consolidated and issued with the Type III decision.

Site Plan Review
The application for Site Plan Review shall contain information outlined in CMC 18.18.040 (A-J). The application shall address in a narrative the criteria for approval CMC 18.18.060 (A-F). Building height, setback and lot coverage can be found in **CMC 18.09.040 Table 1 and Table 2**:

Min. front yard	**30 feet**
Min. side yard	**15 feet**
Min. rear yard	**35 feet**
Max. building lot coverage	**35%**
Max. building height	**35 feet**

Design Review (major)
Per footnote 1 of CMC Section 18.07.040 Table 2 Authorized Uses in Residential and Multifamily Zones, Design Review is required and reviewed by the Design Review Committee. The standards applicable to this property for Design Review are found in the Design Review Manual to include the Standard Principles & Guidelines in addition to the Specific Principles & Guidelines for Commercial uses.

A submittal for Design Review should include a site plan drawings, a detailed landscape plan, exterior building materials and colors, elevation views and lighting specifications and plan.

Parking Regulations
The proposed use will need to meet the automobile parking requirements pursuant to CMC Chapter 18.11. According to CMC 18.11.130, one off-street parking space is required per 2 beds including one off-street parking space per day shift employee.

Landscaping Regulations
Landscaping standards apply to parking lots with greater than four spaces. A landscape plan must be submitted pursuant to CMC 18.13.050 and comply with the landscaping requirements for parking areas in CMC 18.13.060. A 10' L3 High Screen landscape buffer is required along the east and west property lines per CMC 18.13.055 Table 1 Landscape buffers.

Critical Areas Review
The subject property contains geologically hazardous areas (i.e. steep slopes), which are designated as critical areas per CMC Section 16.51.070. Per CMC Section 16.51.130, a critical areas report is required if a proposed development is within or adjacent to a critical area. The general requirements for a critical areas report is found in CMC Section 16.51.140. The City's code contains additional requirements for each type of critical area.

1. Geologically Hazardous Areas are addressed in CMC Section 16.59.060 and 16.59.070.

SEPA
Your proposal is not categorically exempt from the requirements of the State Environmental Policy Act (SEPA) per CMC Section 16.07.025 as the proposed property for development contains environmentally sensitive areas. Therefore, a SEPA environmental checklist is required.

Archeological Review
The site is located within a ¼ mile of an archaeological site, and as such an archaeological predetermination will be required as per CMC 16.31.070.C.

Tree retention
Per CMC Section 18.31.080, a tree survey is required for development; not for lands to be retained as undeveloped open space. CMC 18.31.080.B requires preservation of significant trees and integrate them into the land use design per CMC 17.19.030.A.2. An arborist should also address impacts to trees within the open space area if/when trees within the developed area will be removed. Significant trees are defined per CMC 18.03.050, "evergreen trees 8 inches dbh, and deciduous trees, other than red alder or cottonwood, 12 inches dbh."

ENGINEERING DIVISION **ANITA ASHTON (360) 817-7231**

General Requirements:

1. Construction plans shall be prepared by a licensed Washington State engineer in accordance with City of Camas Design Standards Manual (CSDM).
2. The applicant shall locate facilities per CMC 5.45.365.
3. The applicant will be responsible for all traffic control signs, street name signs, pavement markings and street lighting per CMC 17.19.030 (I) (J). LED street lighting is a requirement for all street lighting.
4. The applicant will be responsible for the design and submittal of the utility plan showing the locations for underground power, telephone, gas, CATV, street lights and associated appurtenances.
5. A 3% plan review and inspection fee will be required per resolution number 1023. The fee will be based on an engineer's estimate or construction bid. The fee is due prior to approved construction drawings being released by the City.
6. Regulations for installation of public improvements, improvement agreements, bonding, and final acceptance can be found at CMC 17.21.

Traffic/Transportation:

7. The Applicant will be required to have a traffic engineer analyze the following:
    - Site distance of the applicants proposed access (es).
    - A traffic circulation plan showing ingress and egress.
    - Access spacing, including reasoning for varying from the City's access spacing standards for arterial class roadways.
    - Address movement conflicts with nearby intersections and private driveways.
    - Provide trip distribution to and from the site.
8. The Applicant has proposed that the western most driveway be an egress only driveway.
    - This proposed western access driveway is to be located as close to the property line as possible.
    - The minimum access spacing on an arterial is 660-feet. The proposed location for the western most driveway is approximately 550-feet east of the intersection of NW Parker St. and NW Lake Road. Based on the location and topography of the Applicant's property, the City Engineer will support a deviation request from the 660-foot minimum access spacing standards for arterials.
9. The southeast driveway is proposed to be approximately 173-feet from the northwest driveway.
    - A spacing of less than the minimum access spacing for an arterial roadway will require approval for a deviation from this requirement from the City Engineer.
        - The Applicant is proposing to have the southeast driveway be an ingress only, from both directions.

- A circulation analysis from a traffic engineer will be required addressing this proposal.

10. Alternatively, the Applicant will either align the southeast driveway access with NW Jackson Loop or provide a right-in / right-out at this access driveway, with a raised median from the driveway access to NW Jackson Loop.

Streets:

11. NW Lake Road is fully improved with curb, gutter, sidewalks, and planter trips and is designated as an existing 3 lane arterial road.
12. An illumination analysis will be required, per the Camas Design Standards Manual (CDSM).
13. Existing driveways to be removed and replaced with a 6" curb and sidewalk that meet City and ADA standards.
14. Street restoration limits will consist of a minimum 3-inch grind and asphalt inlay along the length of the frontage and the full width of the west bound travel lane. Additionally, trench cuts that extend into the east bound lane will require a minimum 3-inch grind and asphalt inlay, a minimum of 12-feet either side of trench cuts.

Stormwater:

15. There is an existing 18-inch and 24-inch diameter storm line located in the west bound lane of NW Lake Road. They range in depth from approximately 7-9-feet deep. The transition in pipe diameter is at the existing manhole located at Sta 90+17 on the NW Lake Road Improvement plans. This stormwater flows to the stormwater pond located west of the intersection of NW Lake Road and NW Parker Street.
16. A new manhole will need to be installed to allow for connection from the proposed development.
17. Per CMC 14.02 Stormwater Control, stormwater treatment and detention shall be designed in accordance with the latest edition of Ecology's Stormwater Management Manual for Western Washington (2014 SWMMWW) and the City of Camas Stormwater Design Standards Manual.
18. To the extent feasible, above ground stormwater facilities are to meet the minimum 30-foot setback from the roadway, per CMC 17.19.030 (F.6).
19. Above ground stormwater facilities are to be in separate tracts, which are to include landscaping and fencing.
20. The Applicant is proposing to provide underground treatment and detention. These must be designed in accordance with the latest Ecology SWMMWW. All surface stormwater and roof drains are to be discharge to the stormwater system located in NW Lake Road.
21. Maintenance of stormwater facilities will be the responsibility of the Owner per CMC 17.19.040 (C3).
22. This development is subject to payment of stormwater utility fees in accordance with the provisions of CMC 13.89.
23. Storm easements, if required, will be shown on the construction drawings.

Erosion Control

24. An erosion control bond will be required for land-disturbing activities of an acre or more, prior to release of approved construction plans, per CMC 17.21.030.
25. The applicant shall provide a copy of their NPDES Construction Stormwater General Permit and their Stormwater Pollution Prevention Plan (SWPPP), prior to release of approved construction plans.
26. Due to the vicinity of steep slopes, any requests for clearing and grading between the months of October 1st thru May 1st, of any year, will not be approved.

Water:

27. There is an existing 14-inch ductile iron water main located adjacent to the proposed improvements.
28. There is an existing ¾" water meter to the parcel that served the demolished residence.

29. A separate irrigation line, with meter and backflow preventer assembly will be required.

Sanitary Sewer:

30. There is an existing 24-inch STEP sewer main in NW Lake Road.
31. Applicant will be responsible for installation of a new STEP tank. STEP tank is to be sized for the change in use.
32. The existing private septic tank is to be decommissioned in accordance with Clark County Dept. of Health requirements.

Parks/Trails:

33. Not applicable.

Impact Fees (collected at time of building permit):

34. This development is located in the South (Non-NUGA) District.
35. Residential:
    - Traffic Impact Fees – $34,870.00 based on 50 beds
    - Park/Open Space – To be determined. May be applicable.
    - Fire - $0.20 psf

System Development Charges (collected at time of building permit):

36. This development is located in the South District (Non-NUGA).
37. There was an existing residence on this parcel with a ¾" meter. There will be a credit in water SDC's for the ¾" meter.
38. The size of the new meter, based on the new use, will be determined by Building Dept.
39. The Applicant will be responsible for the difference in fees.
40. Water
    - ¾" meter - $4,778.00 + $380.00 connection fee
    - 1" meter - $7,963.00 + $422.00 connection fee
    - 1.5" meter - $15,925.00 + $808.00 connection fee
    - 2" meter - $25,480.00 + $1,969.00 connection fee
41. Sewer
    - There was an existing residence on this parcel. There will be a credit in sewer SDC's based on the existing ¾" water meter.
42. Residential –
    - $2,493.00.00 + $164.00 STEP/STEF Inspection

BUILDING DIVISION **BOB CUNNINGHAM (360) 817-1568**

1. The structures will be reviewed under the most current building codes as adopted by The State of Washington.
2. The proposed use classification would be a Group I1 occupancy.
3. A code analysis and plans shall be prepared by an architect licensed by the State of Washington. The code analysis shall address types of occupancy, type of construction, fire seperation distance, building height, allowable area, Fire Life Safety elements and the ADA requirements.
4. The structural drawings and calculations shall be prepared and stamped by a Professional Engineer licensed by the State of Washington.
5. Geotech report shall address the engineered foundation construction and vice versa
6. The new structure shall comply with the Washington Energy Code for building insulation, mechanical equipment, lighting, etc… All commercial energy forms shall be prepared by a licensed professional in accordance with section C103 of The Washington Energy Code.
7. The project shall be reviewed and approved by the Washington State Department of Health.
8. If applicable a set of detaled plans from a design professional are required for commercial kitchen equipment, ventilation equipment, the type 1 hood and suppression systems
9. If applicable a properly sized grease interceptor or trap is required.

10. If applicable a Health Department permit is required.
11. The fire suppression and or fire alarm systems shall be in accordance with IBC and other applicable code standards, all fire suppression and or fire alarm systems shall be reviewed by the Camas Fire Marshal's office.
12. Civil plans to be on separate 24" x 36" sheets with City of Camas Engineering Division signature block.
13. Project shall be subject to applicable fees; System Development Charge's, Traffic Impact Fees, Planning's Site Plan Review, Design Review (committee or minor), Engineering project & review fees, Fire Department review, Building plan review and permit fees.
14. Parking shall be in accordance with CMC 18.11

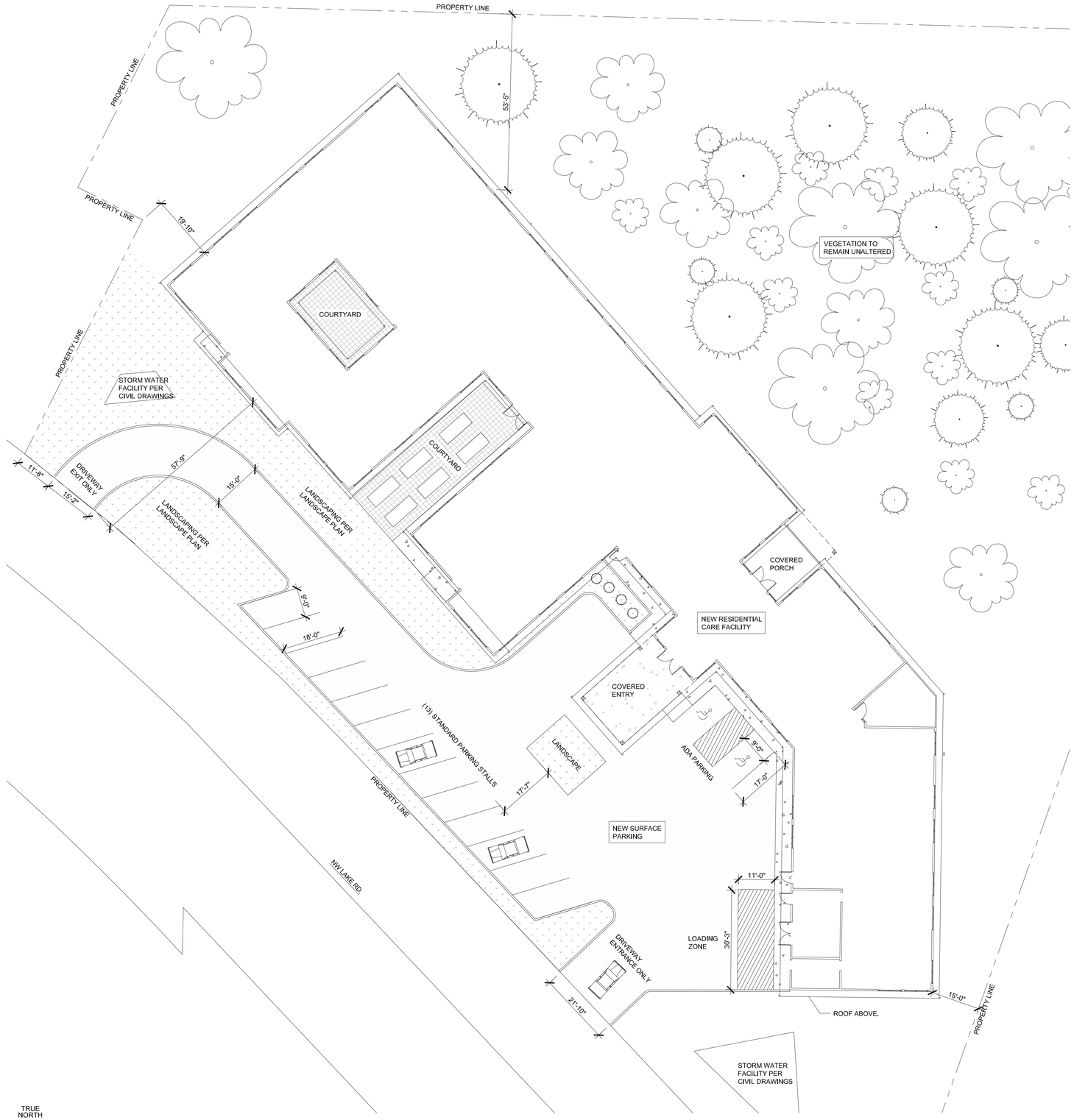
FIRE DEPARTMENT **RANDY MILLER (360) 834-6191**

No building or structure regulated by the building and/or fire code shall be erected, constructed, enlarged, altered, repaired, moved, converted or demolished unless a separate permit for each building or structure has first been obtained from the CWFMO Camas Municipal Code 15.04.030.D.12.a

Any inadvertent omission or failure to site or include any applicable codes or code language by the Fire Marshals office or the City shall not be considered a waiver by the applicant.

1. New Building Construction permit required with the Fire Marshal's Office. Office location at 605 NE 3rd Ave. Complete a FMO application form and provide two sets of drawings (1 full size and 1 half size) including any necessary explanatory information or paperwork that will facilitate a completed review. Contact the FMO at 360-834-6191 OR FMO@cityofcamas.us for further submittal information.
2. Separate Permit with the fire Marshals office required for the voice communication fire alarm system. Minimum requirements shall be NICET III for design and NICET II for acceptance testing.
3. Separate Permit with the Fire Marshal's office required for the NFPA 24 Underground Fire Sprinkler Main. (Washington State Licensed Level "U" required for onsite installation contractor). A third party review or sign off is NOT allowed.
    A. It is preferable to have the double check assembly for the fire line located inside the building.
    B. Please provide an exterior direct access door to the fire riser room.
    C. The FDC needs to be located within 75 feet of a fire hydrant.
    D. All private fire hydrants are to be ordered in the RED color.
4. Separate Permit with the Fire Marshal's office required for the NFPA 13 Fire Sprinkler System. WA State Licensed Fire Sprinkler Contractor with appropriate NICET Levels required.
5. Separate Permit with the Fire Marshal's office required for the NFPA 17A UL 300 Hood Suppression system.
6. Separate permit with the Fire Marshal's office Required for the Emergency Generator Installed per NFPA 110.
7. Separate Permit with the Fire Marshals office Required for Emergency Responder Radio Coverage 2009 IFC CH 5, Section 510. This code section applies to new construction and retroactively to existing structures. This permit may or may not apply depending on the effectiveness of emergency services
8. Additional review notes will be included with the Site plan and the FMO New Construction permit.

EXHIBIT 5



TRUE NORTH 1 SD1.1

ENLARGED SITE PLAN

SCALE: 1/64" = 1'-0"

SITE INFORMATION

PROPERTY ADDRESS: 3401 NW LAKE RD.
CAMAS, OR 98687
PROPERTY ID: 177666000
ABBREVIATED LEGAL DESCRIPTION: #4 SEC 33 T2N R3EWM
2.23A
TOTAL LOT AREA: 97,139 SF

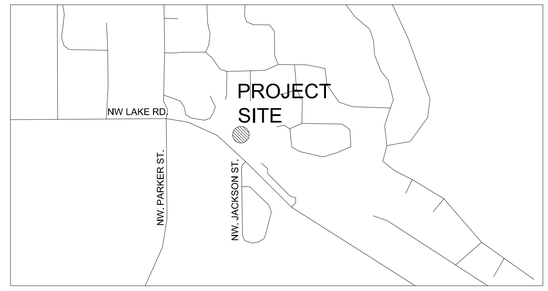
ZONING CODE INFORMATION

ZONING: R-10
PROPOSED USE: LICENSED RESIDENTIAL CARE FACILITY (ASSISTED LIVING)

SETBACKS:
SIDE: 15'
FRONT: 30'
REAR: 35'

MAX HEIGHT: 35'-0"

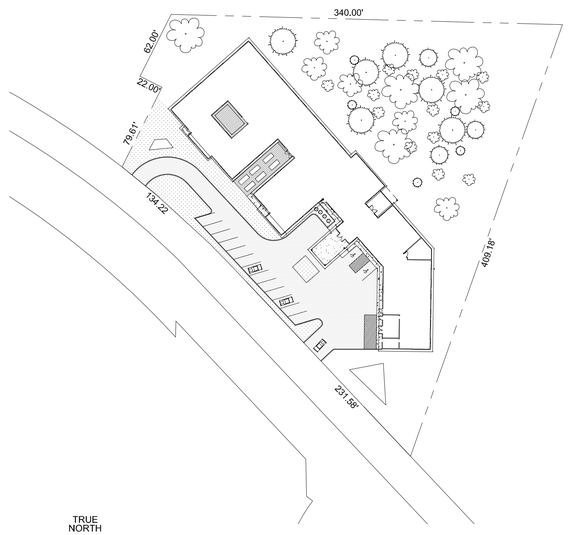
MAX BUILDING COVERAGE ALLOWED: 35%
BUILDING COVERAGE PROPOSED: 25.6%



TRUE NORTH 2 SD1.1

VICINITY MAP

NOT TO SCALE



TRUE NORTH 3 SD1.1

MASTER SITE PLAN

SCALE: 1/64" = 1'-0"

B A M A
Architecture and Design
1631 NE Broadway St. #754
Portland, Oregon 97232
Ph: 503.253.4283

2019 REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
RESIDENTIAL CARE FACILITY

3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

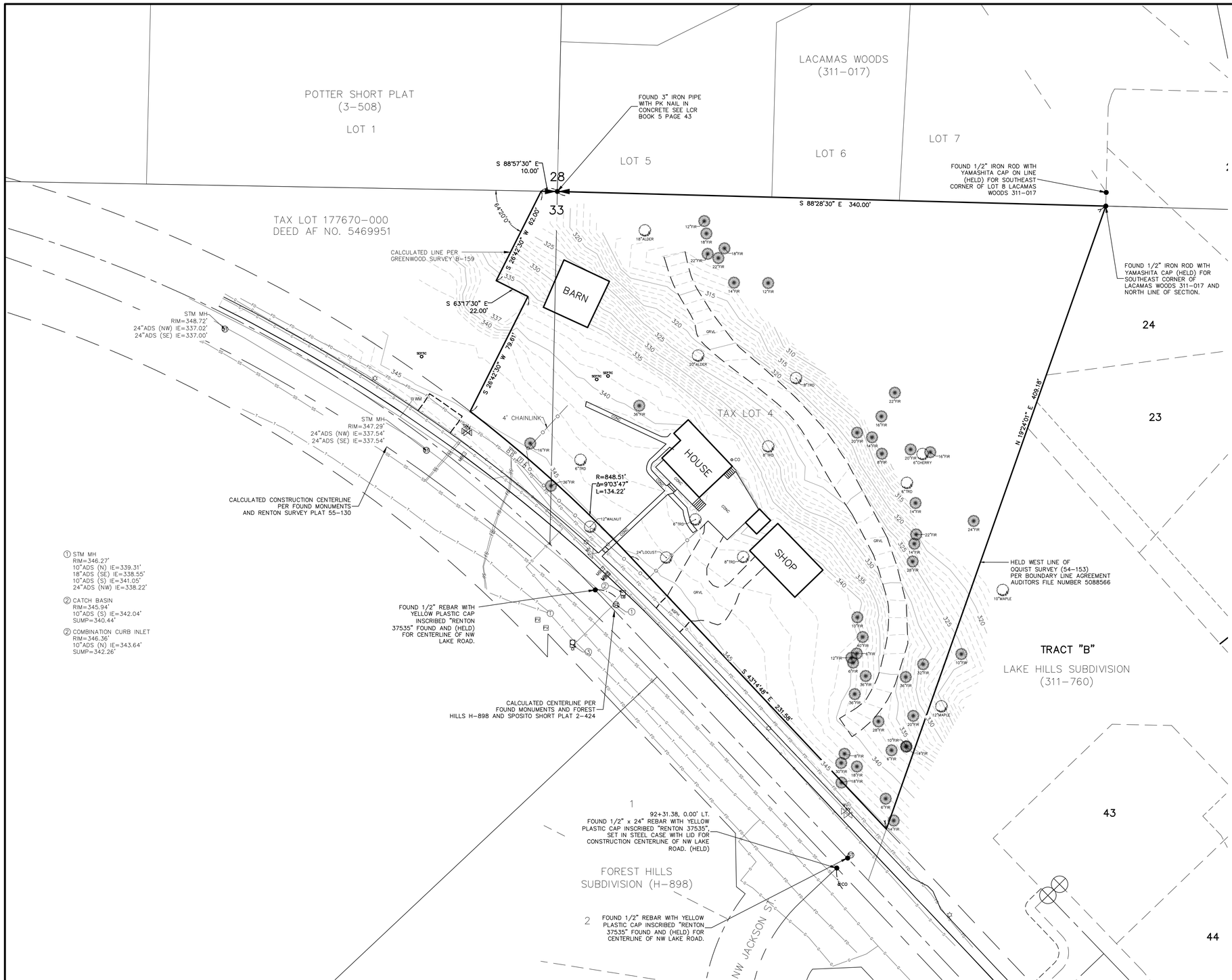
REVISIONS:

Land Use Review:
October 31, 2018

SHEET NO.
SD1.1
SITE PLAN

EXISTING CONDITIONS SURVEY

IN A PORTION OF THE
NE 1/4 AND NW 1/4 OF SECTION 33
T. 2 N., R. 3 E., W.M.
CITY OF CAMAS
CLARK COUNTY, WASHINGTON
SHEET 1 OF 1



LEGEND:

- INDICATES WATER VALVE
- INDICATES WATER METER
- INDICATES TELEPHONE PEDESTAL
- INDICATES ASPHALT
- INDICATES CONCRETE
- INDICATES GRAVEL
- INDICATES SANITARY SEWER MANHOLE
- INDICATES SANITARY VALVE
- INDICATES SEPTIC SYSTEM LID
- INDICATES LIGHT POLE
- INDICATES ELECTRIC PEDESTAL
- INDICATES TRANSFORMER
- INDICATES MAIL BOX
- INDICATES FIBER OPTIC VAULT
- INDICATES STORM SEWER MANHOLE
- INDICATES COMBINATION CURB INLET
- INDICATES CATCH BASIN
- INDICATES BOUNDARY
- INDICATES EDGE OF ASPHALT
- INDICATES EDGE OF CONCRETE
- INDICATES EDGE OF GRAVEL
- INDICATES 5 FOOT INTERVAL CONTOUR
- INDICATES 1 FOOT INTERVAL CONTOUR
- INDICATES CHAINLINK FENCE LINE
- INDICATES FIBER OPTIC LOCATE
- INDICATES GAS LOCATE
- INDICATES SANITARY LOCATE
- INDICATES TELEPHONE LOCATE

BASIS OF BEARING:
S08828'30"E, ALONG THE NORTH LINE OF THE NE 1/4 OF SECTION 33, PER LAKE HILLS SUBDIVISION 311-760

DAVID ALLAN DENNY
STATE OF WASHINGTON
35477
REGISTERED
PROFESSIONAL LAND SURVEYOR
9-5-18

30 15 0 30 45 60
SCALE 1 INCH = 30 FEET

VERTICAL DATUM:
NAVD 88 (GEOID 12A)

NOTE:
A UTILITY LOCATE WAS CALLED FOR ON 5-07-18 UNDER TICKET NUMBER 18183147. THE UNDERGROUND UTILITIES AS SHOWN HEREON ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

SCALE:	1"=30'
JOB NO.	18-166
DATE:	9-5-18
CALC BY:	DAD
DRAWN BY:	DED
CHECKED BY:	DAD
SHEET	1 OF 1

DRAWING FILE: 18166T1.DWG

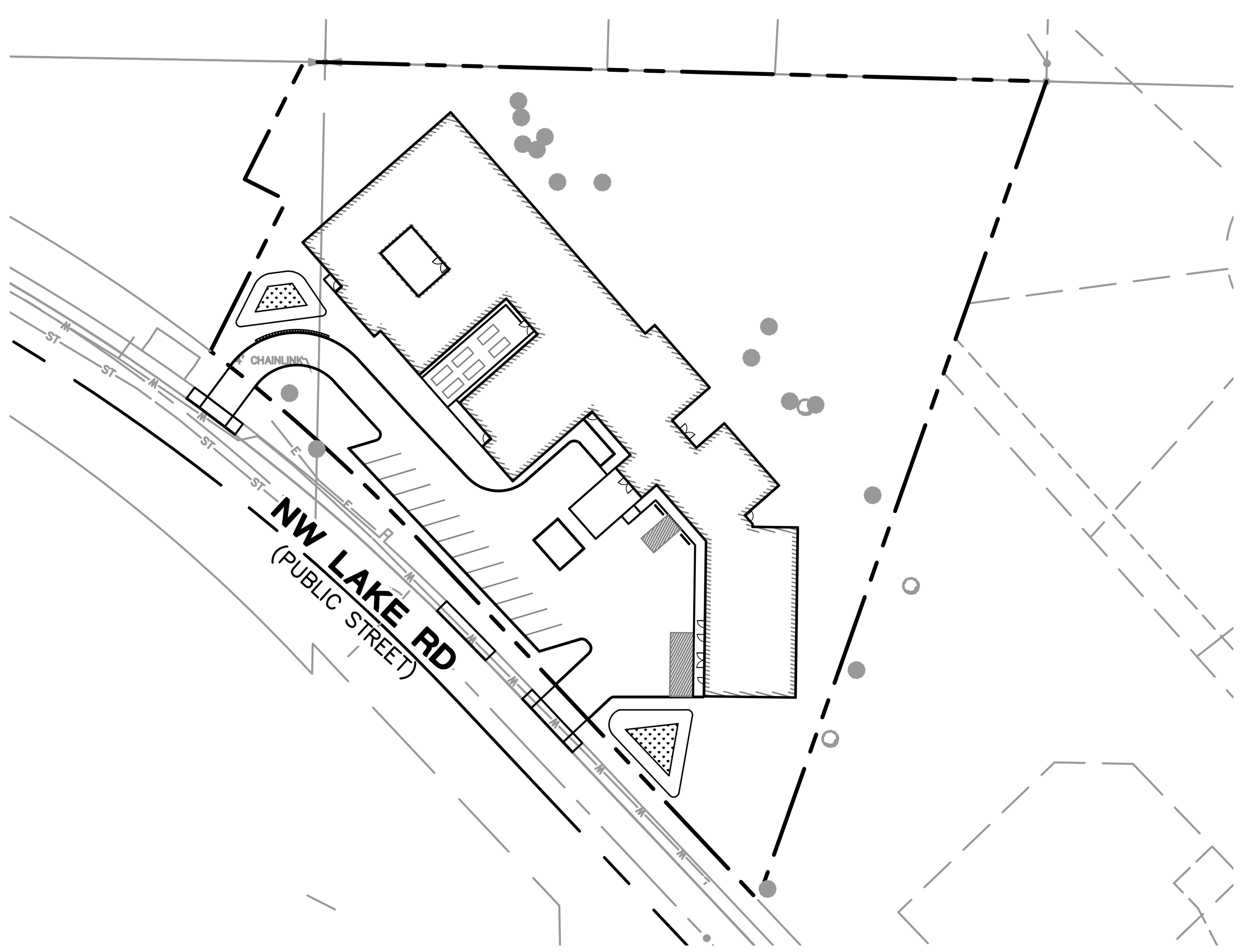
CAMAS RCF

3401 NW LAKE ROAD
CAMAS, WA 98607

LEGAL DESCRIPTION:

LOT 177666000
LOCATED IN THE NORTHEAST 1/4 OF SECTION 33,
TOWNSHIP 2 NORTH, RANGE 3 EAST, W.M.,
CITY OF CAMAS, CLARK COUNTY, WASHINGTON

NORTH
VICINITY MAP
SCALE: N.T.S.



NORTH
SITE MAP
SCALE: N.T.S.

APPLICANT

CONTACT: PETER ANCA
2245 BRANDON PLACE
WEST LINN, OR 97068
PH: 503-351-3171
EMAIL: PETEREMMAANCA@GMAIL.COM

BAMA ARCHITECTURE AND DESIGN, LLC — **ARCHITECT**

CONTACT: AURYN WHITE
7350 SE MILWAUKIE AVENUE
PORTLAND, OREGON 97213
PH: 503-334-9192
EMAIL: AURYN@BAMADESIGN.COM

AAI ENGINEERING — **CIVIL ENGINEER**

CONTACT: CRAIG HARRIS, PE
4875 SW GRIFFITH DRIVE, SUITE 300
BEAVERTON, OREGON 97005
PH: 503-352-7678
FAX: 503-620-5539
EMAIL: CRAIGH@AAIENG.COM

MINISTER-GLAESER SURVEYING INC. — **SURVEYOR**

CONTACT: X
2200 E. EVERGREEN BLVD
VANCOUVER, WASHINGTON 98661
PH: 360-694-3313

Sheet List Table

SHEET NUMBER	SHEET TITLE
C0.1	TITLE SHEET
C0.2	GENERAL NOTES
C0.3	EXISTING CONDITIONS PLAN
C0.4	DEMOLITION PLAN
C1.0	SITE PLAN
C2.0	GRADING PLAN
C3.0	UTILITY PLAN
C3.1	UTILITY PLAN – WEST
C3.2	UTILITY PLAN – EAST
C4.0	DETAILS
C4.1	DETAILS
C4.2	DETAILS
C4.3	DETAILS

ABBREVIATIONS

BLVD	BOULEVARD
CL	CENTERLINE
EG	EXISTING GRADE
EX	EXISTING
ELEV	ELEVATION
FG	FUTURE GRADE
GB	GRADE BREAK
IE	INVERT ELEVATION
LT	LEFT
MAX.	MAXIMUM
MIN.	MINIMUM
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NO.	NUMBER
NTS	NOT TO SCALE
PC	POINT OF CURVATURE
PT	POINT OF TANGENCY
ROW, R/W	RIGHT-OF-WAY
RT	RIGHT
STA	STATION
STD.	STANDARD
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TYP	TYPICAL

NOTICE TO EXCAVATORS:
ATTENTION: OREGON LAW REQUIRES YOU TO FOLLOW RULES ADOPTED BY THE OREGON UTILITY NOTIFICATION CENTER. THOSE RULES ARE SET FORTH IN OAR 952-001-0010 THROUGH OAR 952-001-0090. YOU MAY OBTAIN COPIES OF THE RULES BY CALLING THE CENTER.
(NOTE: THE TELEPHONE NUMBER FOR THE OREGON UTILITY NOTIFICATION CENTER IS (503)-232-1987).

POTENTIAL UNDERGROUND FACILITY OWNERS

DIG SAFELY

CALL THE OREGON ONE-CALL CENTER
1-800-332-2344

EMERGENCY TELEPHONE NUMBERS

NW NATURAL GAS	
M-F 7am-5pm	503-226-4211 EXT.4313
AFTER HOURS	503-226-4211
PGE	503-464-7777
QWEST	1-800-573-1311
VERIZON	1-800-483-1000

CRAIG N. HARRIS STATE OF WASHINGTON 40160 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

AAI afghan associates, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE
TITLE SHEET

DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER
C0.1

JOB NUMBER: A18139.10

10/30/18 – DESIGN REVIEW

F:\2018\A18139.10 – Camas RCF\Civil Cad\Sheets\Onsite\A18139.C01.COVER.dwg : Oct. 30, 18 – 9:19 AM delmore

PROPOSED BUILDING

NW LAKE RD
(PUBLIC STREET)

SEPTIC

WM

ST

SW

MW

MW

ST

PV

PV

T

WV

WV

SHEET NOTES

1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL SITE INFORMATION.
2. THE CONTRACTOR SHALL HAVE A FULL SET OF THE CURRENT APPROVED CONSTRUCTION DOCUMENTS INCLUDING ADDENDA ON THE PROJECT SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL KEEP THE ENGINEER AND JURISDICTION INFORMED OF CONSTRUCTION PROGRESS TO FACILITATE SITE OBSERVATIONS AT REQUIRED INTERVALS. 24-HOUR NOTICE IS REQUIRED.

(X) CONSTRUCTION NOTES

1 CONSTRUCT PRIVATE CURB

2 CONSTRUCT PRIVATE CONCRETE SIDEWALK

3 CONSTRUCT PRIVATE ASPHALT PAVEMENT

4 CONSTRUCT PUBLIC CURB

5 CONSTRUCT PUBLIC CONCRETE SIDEWALK

6 CONSTRUCT PUBLIC DRIVEWAY

7 CONSTRUCT CONCRETE PAVERS PER ARCHITECTURAL PLANS

8 INSTALL CONCRETE WALL, BY OTHERS

9 INSTALL BIORENTENTION SWALE, SEE SHEET C3.1 FOR MORE INFORMATION

LEGEND

PROPERTY LINE

CONCRETE SIDEWALK SURFACING

ASPHALT SURFACING

BIORETENTION SWALE

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

10/30/18 – DESIGN REVIEW

CRAIG R. HARRIS
STATE OF WASHINGTON
22160
REGISTERED
PROFESSIONAL ENGINEER

AAI aldian associates, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

SITE PLAN

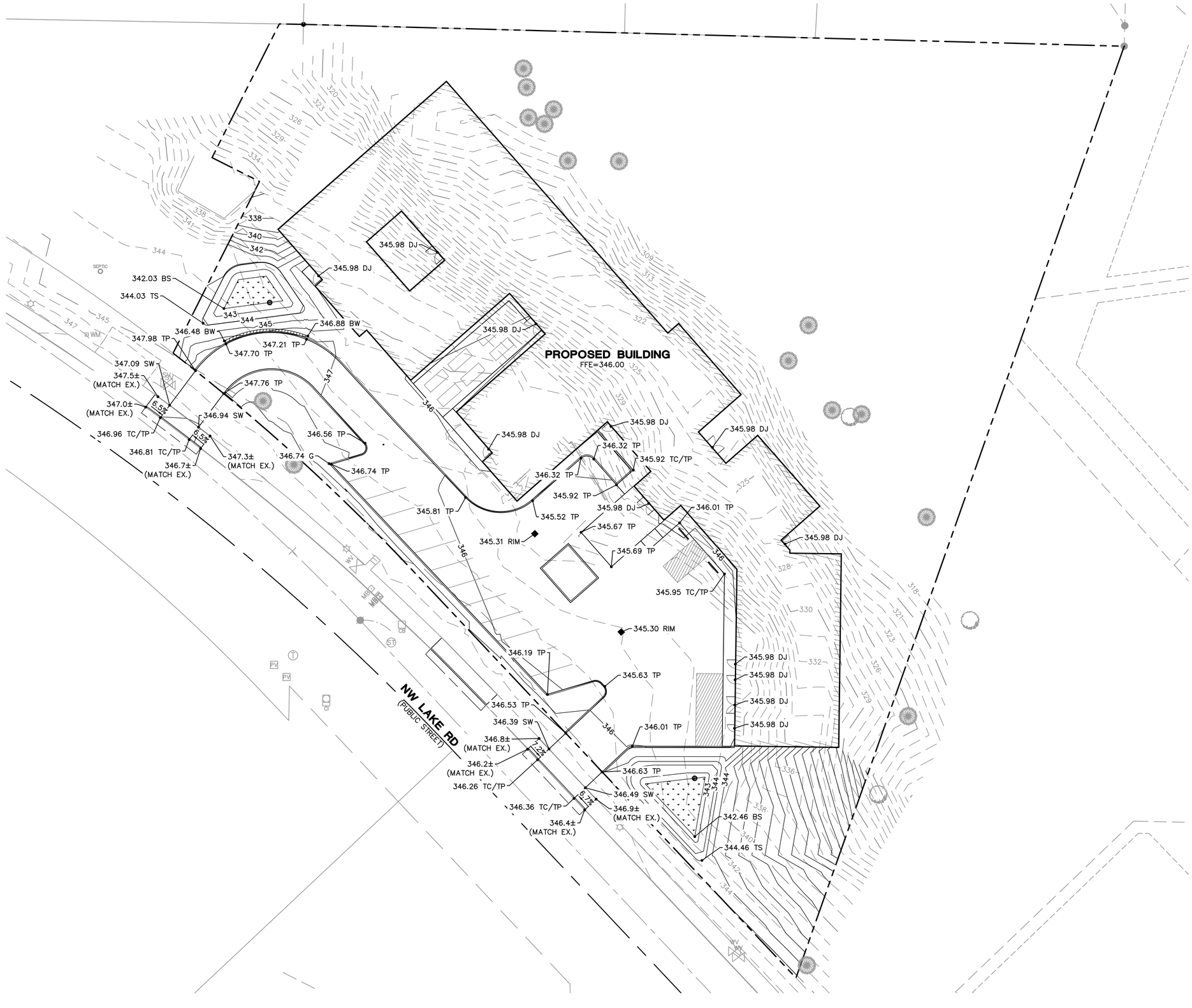
DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C1.0

JOB NUMBER: A18139.10



SHEET NOTES

1. CURB HEIGHTS ARE 6" UNLESS NOTED OTHERWISE.
2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
4. ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
5. FINISH GRADES ARE TO BE BROUGHT TO WITHIN 0.08 FT IN 10 FT OF THE GRADES SHOWN AT SUBGRADE AND TO WITHIN 0.03 FT IN 10 FT AT FINISH GRADE. CONTRACTOR TO ALLOW FOR PLACEMENT OF REQUIRED TOPSOIL IN ROUGH GRADING.
6. GRADING ELEVATIONS AS SHOWN ON SITE AND LANDSCAPE PLANS ARE FINISHED GRADE WHICH INCLUDES SUBGRADE SOIL, TOPSOIL, SOIL AMENDMENTS, ROCKERY AND RUNOFF PROTECTION CONTRACTOR IS RESPONSIBLE TO COORDINATE GRADING WITH BOTH EXCAVATOR AND LANDSCAPE CONTRACTOR.

GRADING LABEL LEGEND

CALLOUT — DESCRIPTION

XX.XX — SPOT ELEVATION

XX — DESCRIPTION LISTED BELOW.

BS	BOTTOM OF SWALE
EX	EXISTING GRADE
FF	FINISHED FLOOR ELEVATION
FG	FINISH GRADE
G	GROUND
TC	TOP OF CURB
TP	TOP OF PAVEMENT
TS	TOP OF SWALE
DJ	DOOR JAMB

LEGEND

EXISTING CONTOUR MINOR — 102

EXISTING CONTOUR MAJOR — 100

PROPOSED CONTOUR MINOR — 102

PROPOSED CONTOUR MAJOR — 100

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

10/30/18 – DESIGN REVIEW

CRAIG N. HARRIS — STATE OF WASHINGTON — 40160 — REGISTERED PROFESSIONAL ENGINEER

AAI aldan associates, inc. ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

GRADING PLAN

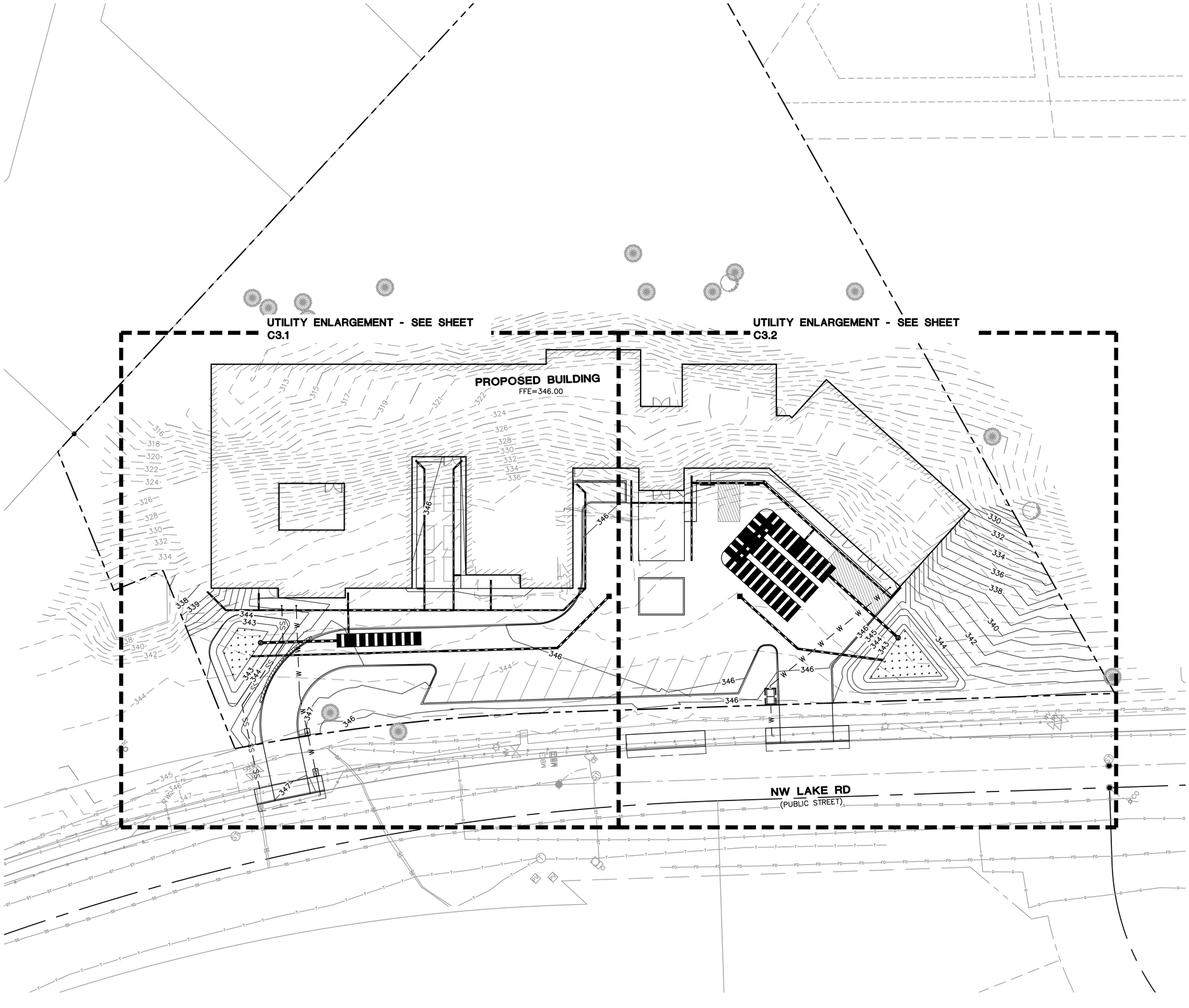
DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C2.0

JOB NUMBER: A18139.10



SHEET NOTES

1. STRUCTURES HORIZONTAL LOCATIONS AND PIPE INVERTS ARE BASED ON THE CENTER OF THE STRUCTURE.
2. INSTALL THRUST BLOCKS ON FIRE AND WATER LINES.
3. ALL SANITARY AND STORM PIPING SHALL BE PVC 3034 OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
4. THIS PLAN IS GENERALLY DIAGRAMMATIC. IT DOES NOT SHOW EVERY JOINT, BEND, FITTING, OR ACCESSORY REQUIRED FOR CONSTRUCTION.
5. CLEAN OUTS SHALL BE INSTALLED IN CONFORMANCE WITH UPC CHAPTER SEVEN, SECTION 707 AND SECTION 719. NOT ALL REQUIRED CLEAN OUTS ARE SHOWN.
6. DOMESTIC WATER AND FIRE LINES AND ACCESSORIES BETWEEN THE WATER METER AND THE BUILDING SHALL BE INSTALLED BY A LICENSED PLUMBER EMPLOYED BY A LICENSED PLUMBING CONTRACTOR.
7. UTILITIES WITHIN FIVE FEET OF A BUILDING SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR INTERIOR USE AS DESCRIBED IN THE CURRENT EDITION OF THE UPC.
8. INLETS AND OUTLETS TO ON-SITE MANHOLES SHALL HAVE FLEXIBLE CONNECTION NO CLOSER THAN 12" AND NO FARTHER THAN 36" FROM THE MANHOLE.

LEGEND

SANITARY SEWER LINE	SS SS
WATER LINE	W W W
FIRE LINE	FP FP FP FP
FDC LINE	FDC FDC FDC
STORM LINE	

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

10/30/18 – DESIGN REVIEW

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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

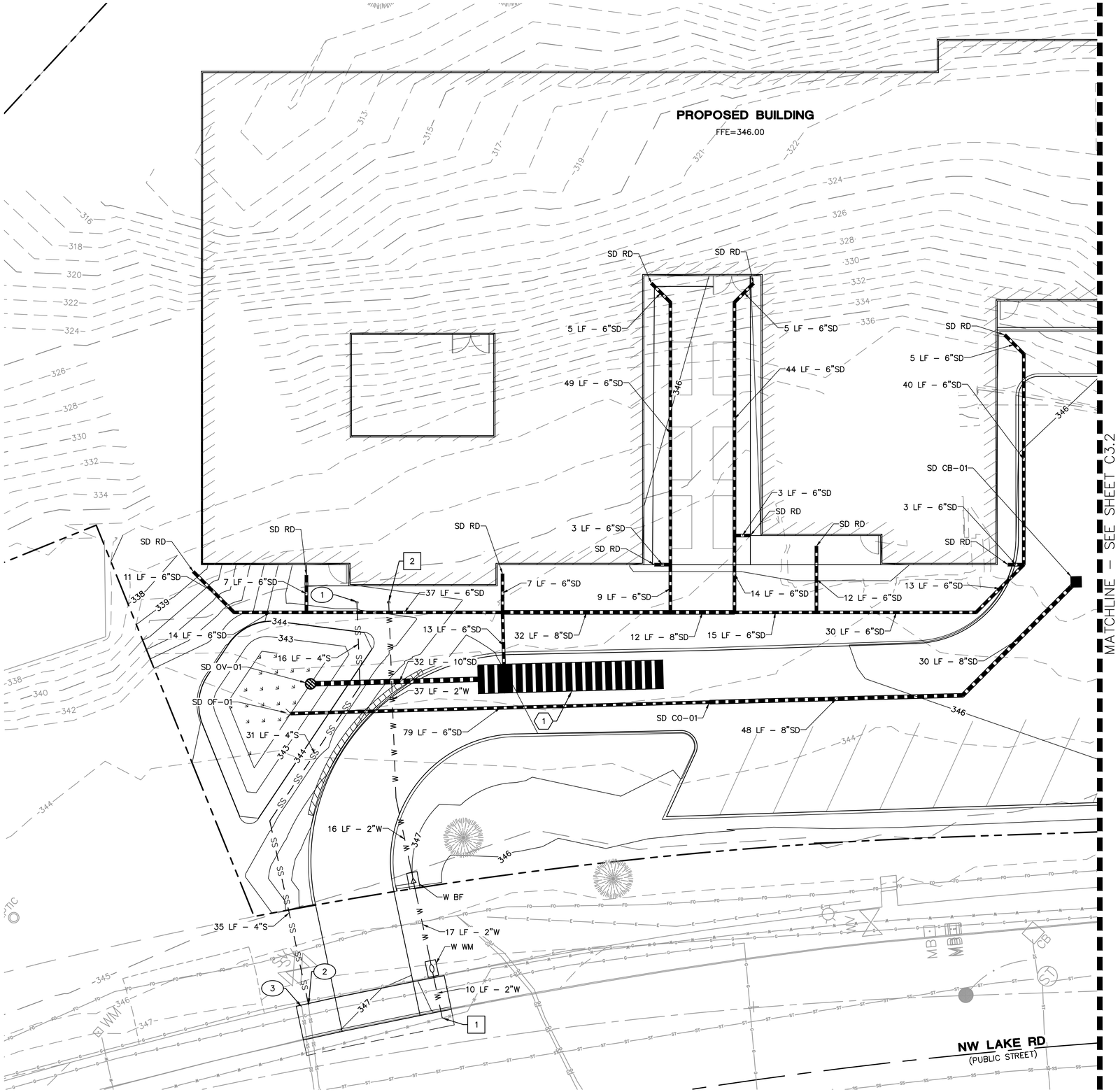
UTILITY PLAN

DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER

C3.0

JOB NUMBER: A18139.10



SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

(X) CONSTRUCTION NOTES

1 INSTALL 35LF OF 60"ø PERFORATED CMP CONTECH DETENTION PIPING

2 INSTALL 125LF OF 96"ø PERFORATED CMP CONTECH DETENTION PIPING

(X) SANITARY NOTES

1 BUILDING POINT OF CONNECTION
2 CONNECT TO EXISTING SANITARY LINE
3 ABANDON EXISTING SANITARY LINE

[X] WATER NOTES

1 CONNECT TO EXISTING WATER LINE
2 DOMESTIC BUILDING POINT OF CONNECTION
3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

XXLF – XX" XX
- UTILITY LENGTH
- UTILITY SIZE
- UTILITY TYPE

S=X.XX%
- SLOPE (WHERE APPLICABLE)

STRUCTURE LABELS

XX XX–XX
- UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER)
- STRUCTURE TYPE CALLOUT (SEE BELOW)
- ID NUMBER (WHERE APPLICABLE)

RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X
- STRUCTURE INFO (WHERE APPLICABLE)

STRUCTURE TYPES

CALLOUT	DESCRIPTION
CB	CATCH BASIN
OF	OUTFALL
OV	OVERFLOW
CO	CLEANOUT
RD	ROOF DRAIN CONNECTION
WM	WATER METER
FV	FIRE VAULT
BF	DOMESTIC BACKFLOW ASSEMBLY

NORTH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 feet

10/30/18 – DESIGN REVIEW

CRAIG R. HARRIS — STATE OF WASHINGTON — 40160 — REGISTERED PROFESSIONAL ENGINEER

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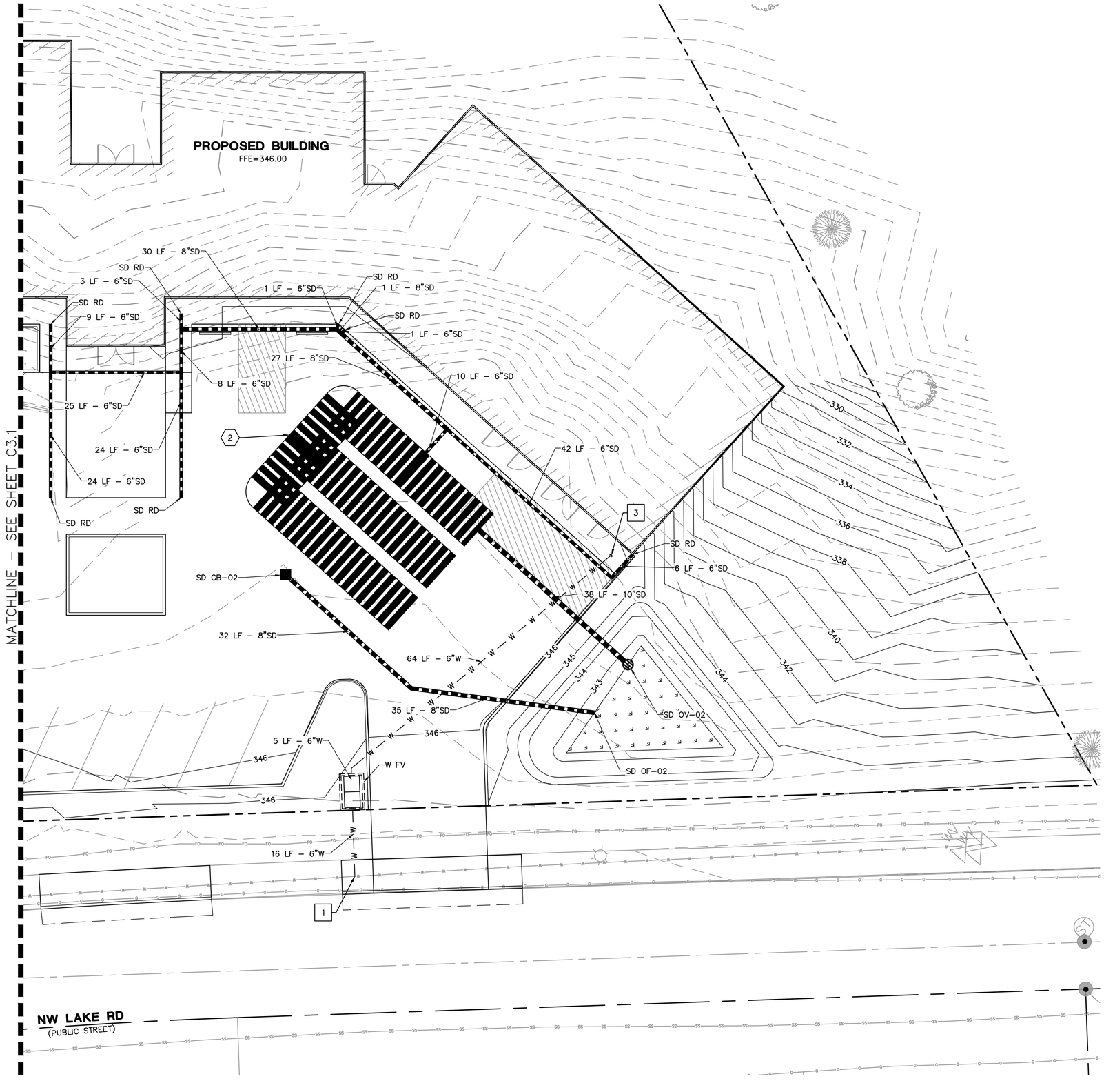
CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE
UTILITY PLAN – WEST

DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER
C3.1

JOB NUMBER: A18139.10



SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

(X) CONSTRUCTION NOTES

1 INSTALL 35LF OF 60"ø PERFORATED CMP CONTECH DETENTION PIPING

2 INSTALL 125LF OF 96"ø PERFORATED CMP CONTECH DETENTION PIPING

(X) SANITARY NOTES

1 BUILDING POINT OF CONNECTION
2 CONNECT TO EXISTING SANITARY LINE
3 ABANDON EXISTING SANITARY LINE

[X] WATER NOTES

1 CONNECT TO EXISTING WATER LINE
2 DOMESTIC BUILDING POINT OF CONNECTION
3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

XXLF – XX" XX
(UTILITY LENGTH, UTILITY SIZE, UTILITY TYPE)

S=X.XX%
(SLOPE (WHERE APPLICABLE))

STRUCTURE LABELS

XX XX–XX
RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X
(STRUCTURE INFO (WHERE APPLICABLE))

(UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER); STRUCTURE TYPE CALLOUT (SEE BELOW); ID NUMBER (WHERE APPLICABLE))

STRUCTURE TYPES

CALLOUT	DESCRIPTION
CB	CATCH BASIN
OF	OUTFALL
OV	OVERFLOW
CO	CLEANOUT
RD	ROOF DRAIN CONNECTION
WM	WATER METER
FV	FIRE VAULT
BF	DOMESTIC BACKFLOW ASSEMBLY

NORTH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 feet

10/30/18 – DESIGN REVIEW

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CAMAS, WASHINGTON

SHEET TITLE
UTILITY PLAN – EAST

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER
C3.2

JOB NUMBER: A18139.10

TREE SUMMARY

EXISTING TREES ONSITE	= 50
EXISTING TREES TO BE REMOVED	= 35
SITE AREA	= 47,718 SF
REQUIRED TREE UNITS	= 22
PROPOSED TREE UNITS	= 115

NEW TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE	TREE UNITS
1N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
2N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
3N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
4N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
5N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
6N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
7N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
8N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
9N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
10N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
11N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
12N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
13N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
14N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
15N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
16N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
17N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
18N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
19N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
20N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
21N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
22N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
				44

EXISTING TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	EXISTING DBH	CANOPY SPREAD	TREE UNITS	REMOVE
1	ALNUS RUBRA	RED ALDER	18" DBH	18'		YES
2	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'	2	
3	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	
4	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	
5	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'	7	
6	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'	7	
7	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'	3	
8	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'	2	
9	ALNUS RUBRA	RED ALDER	20" DBH	20'		YES
10		DECIDUOUS	8" DBH	8'		YES
11		DECIDUOUS	8" DBH	8'		YES
12	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'	7	
13	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'	4	
14	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
15	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
16	PSEUDOTSUGA MENZIESII	DOUG FIR	8" DBH	8'	2	
17	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'	6	
18		CHERRY	6" DBH	6'	2	
19	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'	4	
20		DECIDUOUS	6" DBH	6'		YES
21	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
22	PSEUDOTSUGA MENZIESII	DOUG FIR	24" DBH	24'	8	
23	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
24	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
25	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
26	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'		YES
27	PSEUDOTSUGA MENZIESII	DOUG FIR	40" DBH	40'		YES
28	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
29	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
30	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
31	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'		YES
32	PSEUDOTSUGA MENZIESII	DOUG FIR	32" DBH	32'		YES
33	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
34	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
35	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
36	ACER	MAPLE	12" DBH	12'	OFF SITE	
37	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
38	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
38	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
39	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
40	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
41	PSEUDOTSUGA MENZIESII	DOUG FIR	30" DBH	30'		YES
42	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
43	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
44	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
45	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'	3	
46		DECIDUOUS	8" DBH	8'		YES
47		LOCUST	24" DBH	24'		YES
48		DECIDUOUS	6" DBH	6'		YES
49		LOCUST	12" DBH	12'	OFF SITE	
50	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'	OFF SITE	
51		DECIDUOUS	6" DBH	6'		YES
52	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'	4	
53	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
TOTAL TREE UNITS EXISTING TO REMAIN					71	

STREET TREES ARE NOT INCLUDED IN TREE DENSITY CALCULATIONS.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	AF	7	ACER RUBRUM 'FRANKSRED' TM DROUGHT TOLERANT	RED SUNSET MAPLE	2" CAL.
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	CD	8	CALOCEDRUS DECURRENS NATIVE	INCENSE CEDAR	6` HT.
	TP	7	THUJA PLICATA NATIVE	WESTERN RED CEDAR	6` HT.
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	UC	6	ULMUS X 'FRONTIER' DROUGHT TOLERANT	AMERICAN ELM	2" CAL.

NORTH

TREE REMOVAL, PROTECTION & DENSITY PLAN

SCALE 1" = 20'

20 0 10 20 40 80 FEET

LEGEND

EXISTING TREES TO BE REMOVED

EXISTING TREES TO REMAIN
ROOT ZONE AREA

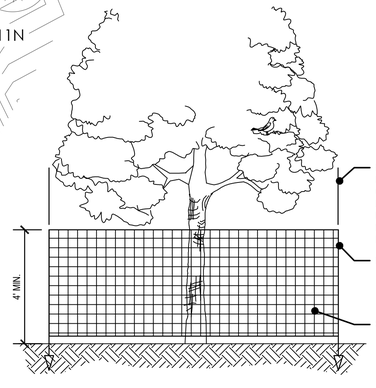
TREE PROTECTION FENCE

1 / L1.0

TREE PROTECTION FENCE

TREE PROTECTION NOTES:

1. BEFORE WORK IS STARTED, INSTALL TREE PROTECTION FENCING. CONTACT THE PROJECT ARBORIST FOR ASSISTANCE.
2. NO ENCROACHMENT OF ANY KIND IS ALLOWED WITHIN THE TREE PROTECTION FENCE ZONE DURING CONSTRUCTION. WHERE PLANTINGS & IRRIGATION ARE REQUIRED, INSTALL BY HAND DIGGING, NO MACHINERY ALLOWED.
3. INSTALL FENCE AS SHOWN ON PLAN, ROOT PROTECTION ZONE IS AN AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE CANOPY AND BETWEEN EXISTING CURB AND PROPOSED SIDEWALK . NO MORE THAN 25% OF THE ROOT ZONE MAY BE IMPACTED.
4. FENCING SHALL BE 4-FOOT HIGH ORANGE CONSTRUCTION FENCE WITH METAL POSTS AND BE SECURED TO THE GROUND WITH 6-FOOT METAL POSTS. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
5. FENCE SHALL BE INSTALLED PRIOR TO LAND CLEARING, FILLING OR ANY LAND ALTERATION AND SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE.
6. NO EXCAVATION OR COMPACTION OF EARTH OR OTHER POTENTIALLY DAMAGING ACTIVITIES ALLOWED WITHIN THE PROTECTION FENCING.
7. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMITS OF THE FENCING.
8. WITHIN CLEARING/GRADING LIMITS OR AT THE EDGE OF THE CLEARING/GRADING LIMITS, TREE PROTECTION MAY BE INSTALLED AROUND GROUPS OF TREES.
9. DURING WORK, ANY ROOTS GREATER THAN TWO INCHES FOUND DURING EXCAVATION SHALL BE CLEANLY CUT. MULTIPLE ROOT PRUNING EVENTS FOR SINGLE TREES SHALL BE MANAGED & MONITORED BY THE PROJECT ARBORIST.
10. AFTER CONSTRUCTION IS COMPLETE, PROJECT ARBORIST SHALL VERIFY TREE PROTECTION FENCEING CAN BE REMOVED.



1 TREE PROTECTION FENCING DETAIL

N.T.S.

REGISTERED 552 Teresa Katherine Long OREGON 5-14-04 LANDSCAPE ARCHITECT

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CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE

TREE REMOVAL, PROTECTION & DENSITY PLAN

DATE:	10/25/18
DRAWN:	TKL
CHECKED:	TKL

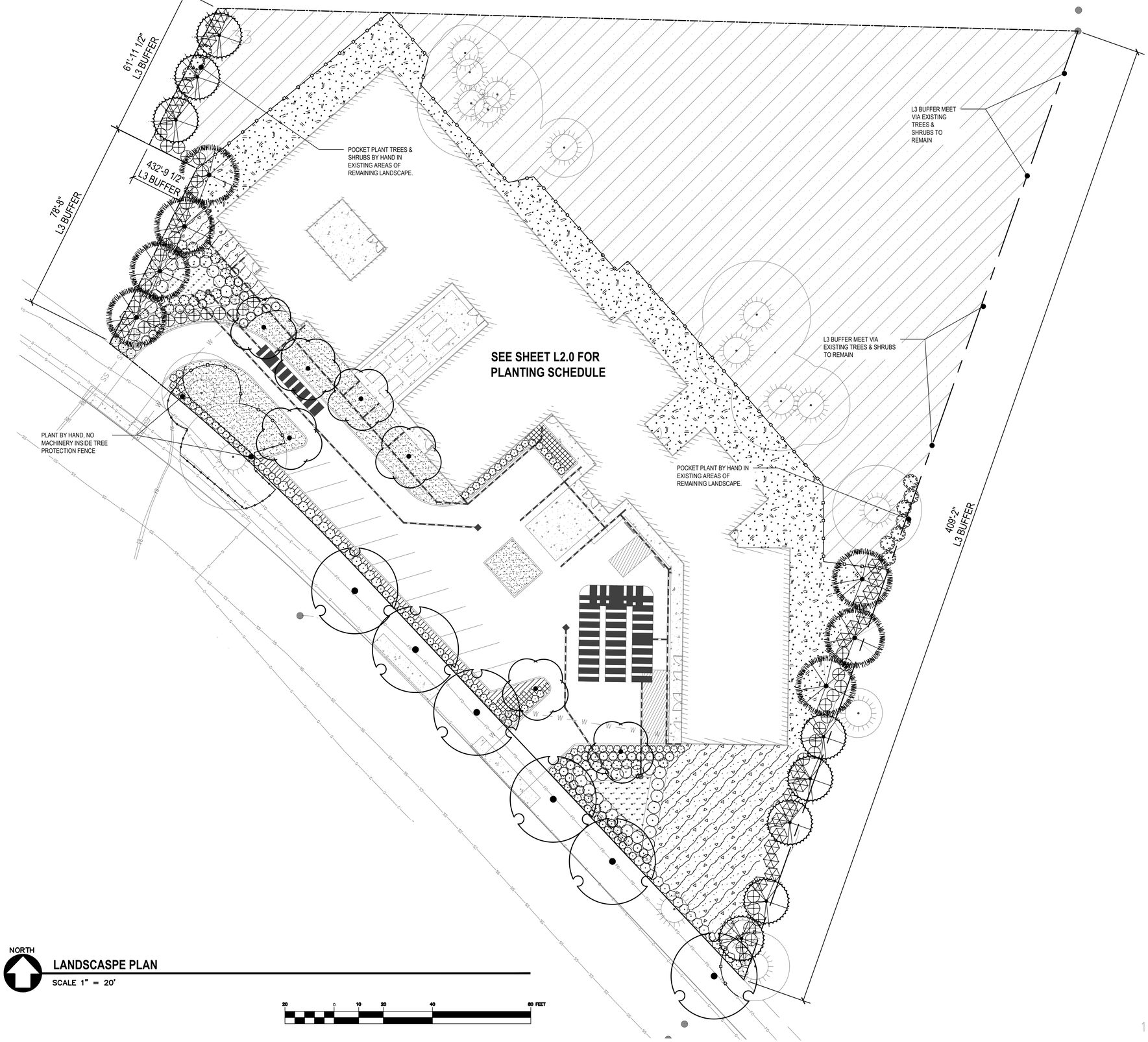
REVISIONS:

SHEET NUMBER

L1.0

JOB NUMBER: A18139.20

10/29/2018 – DESIGN REVIEW SUBMITTAL



NORTH

LANDSCASPE PLAN

SCALE 1" = 20'

20 0 10 20 40 80 FEET

LEGEND

EXISTING TREES TO REMAIN
ROOT ZONE AREA

EXISTING LANDSCAPE TO REMAIN

TREE PROTECTION FENCE

1 / L1.0

TREE PROTECTION FENCE

LANDSCAPE REQUIREMENTS

TOTAL SITE AREA	= 47,718 SF
LANDSCAPE AREA REQUIRED 15% OF SITE	= 7,158 SF
LANDSCAPE ARE PROPOSED 30% OF SITE	= 14,306 SF
PKG. LOT TREES REQ. 1 / 6 SPACES (15/6 =2.5)	= 3 PKG. LOT TREES
PERCENTAGE OF EVERGREEN SHRUBS & GROUNDCOVER PLANTINGS	= 100%
PERCENTAGE OF NATIVE PLANTINGS	= 86%

GENERAL NOTES

1. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT AT LEAST TWO WEEKS PRIOR TO START OF LANDSCAPE WORK TO REVIEW PLANT SUBSTITUTIONS & JURISDICTIONAL REQUIREMENTS.

PLANTING NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF CAMAS, WASHINGTON STANDARDS AND THE OREGON STRUCTURAL SPECIALTY CODE.
2. VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION OF PROPERTY LINES, PRIOR TO BEGINNING ANY WORK. REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
3. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION WHEN UNKNOWN OBSTRUCTIONS AND/OR DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE OF UNKNOWN OBSTRUCTIONS AND/OR DIFFERENCES. PRIOR TO REMOVING ANY EXISTING FEATURES, REVIEW AND CONFIRM EXTENT OF DEMOLITION WITH OWNER'S REPRESENTATIVE.
4. PROTECT EXISTING ITEMS TO REMAIN DURING CONSTRUCTION. ANY DAMAGE TO EXISTING ITEMS DESIGNATED TO REMAIN I E. CURBS, WALKS, PLANT MATERIAL, LAWN OR FENCES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES, LINES, PIPES, VAULTS, OR BOXES PRIOR TO EXCAVATION. 2. MARK AND PROTECT ALL UTILITIES. SITE FEATURES AND VEGETATION TO REMAIN IN PLACE. ANY DAMAGE TO ANY KNOWN EXISTING UTILITY ELEMENTS SHALL BE REPAIRED PROPERLY AND IMMEDIATELY.
6. REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL DEBRIS AND EXCAVATED MATERIAL NOT REQUIRED FOR FILL. NO RUBBISH OR DEBRIS SHALL BE BURIED ON THE SITE.
7. MAINTAIN ALL ROADWAYS AND PAVED PATHWAYS CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, PROVIDING NECESSARY DUST CONTROL WHERE REQUIRED.
8. COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER'S REPRESENTATIVE.
9. INSTALL EROSION CONTROL SYSTEMS IN ACCORDANCE WITH CITY OF CAMAS, WASHINGTON STANDARDS PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
10. CONTRACTOR SHALL PROVIDE TOPSOIL, SOIL AMENDMENTS, AND EROSION CONTROL. SEE SPECS.
11. CONTRACTOR SHALL SUBMIT CERTIFIED TOPSOIL ANALYSIS REPORT FOR OWNER'S APPROVAL PRIOR TO PLANT INSTALLATION. SEE SPECS.
12. CONTRACTOR IS RESPONSIBLE FOR ANY AMENDMENTS TO SOIL PH FERTILITY AND/OR DRAINAGE CONDITIONS NECESSARY TO ENSURE PROPER GROWING CONDITIONS FOR PROPOSED PLANTINGS. SEE SPECS.
13. CONTRACTOR SHALL FOLLOW PROVIDER'S INSTRUCTIONS AND RECOMMENDATIONS FOR SEEDING.
14. ALL PLANTS SHALL BE INSTALLED ACCORDING TO AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) AS WELL AS DETAIL DRAWINGS AND SPECIFICATIONS.
15. ALL PLANTS SHALL BE IRRIGATED BY A FULLY AUTOMATED, PERMANENT IRRIGATION SYSTEM UNLESS OTHERWISE NOTED. SEE SPECS.
16. PRIOR TO FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE OWNER WITH AS-BUILT PLANS OF THE INSTALLATION, COPIES OF ALL OPERATION MANUALS AND WARRANTY DOCUMENTS.
17. ALL NEW PLANTS IN LANDSCAPE AREAS SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.

REGISTERED
552
Teresa Katherine Long
OREGON
5-14-04
LANDSCAPE ARCHITECT

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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

LANDSCAPE PLAN

DATE: 10/25/18
DRAWN: TKL
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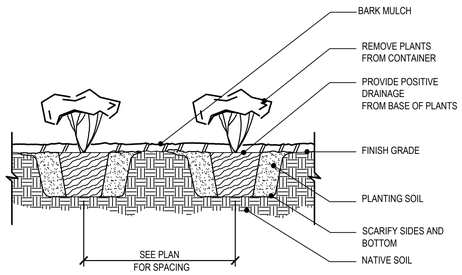
L1.1

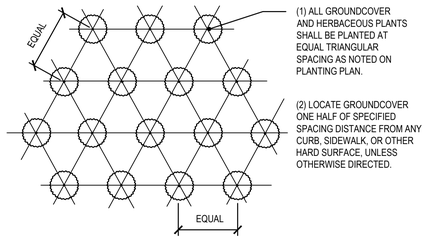
JOB NUMBER: A18139.20

10/29/2018 – DESIGN REVIEW SUBMITTAL



1 L2.0 GROUNDCOVER & HERBACEOUS PLANT PLANTING DETAIL

SCALE: NTS

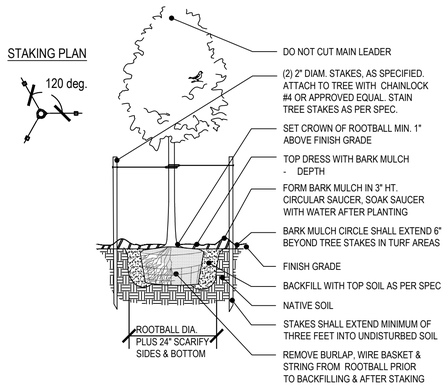


(1) ALL GROUNDCOVER AND HERBACEOUS PLANTS SHALL BE PLANTED AT EQUAL TRIANGULAR SPACING AS NOTED ON PLANTING PLAN.

(2) LOCATE GROUNDCOVER ONE HALF OF SPECIFIED SPACING DISTANCE FROM ANY CURB, SIDEWALK, OR OTHER HARD SURFACE, UNLESS OTHERWISE DIRECTED.

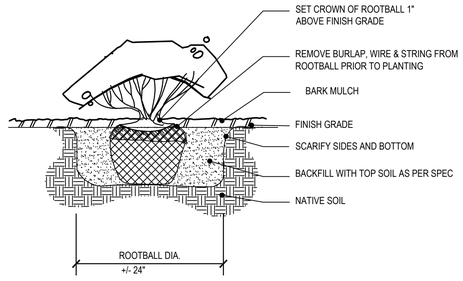
2 L2.0 GROUNDCOVER & HERBACEOUS PLANT PLANTING PLAN

SCALE: NTS



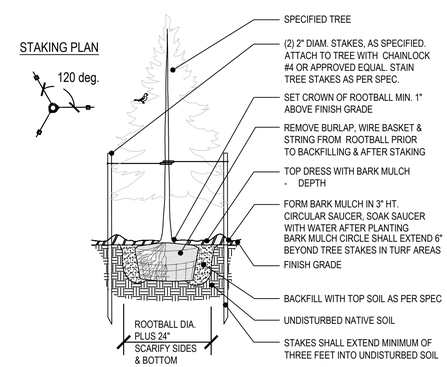
3 L2.0 DECIDUOUS TREE PLANTING DETAIL

SCALE: NTS



4 L2.0 SHRUB PLANTING

SCALE: NTS



5 L2.0 CONIFER TREE PLANTING DETAIL

SCALE: NTS

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	AF	7	ACER RUBRUM `FRANKSRED` TM DROUGHT TOLERANT	RED SUNSET MAPLE	2" CAL.	
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	CD	8	CALOCEDRUS DECURRENS NATIVE	INCENSE CEDAR	6` HT.	
	TP	7	THUJA PLICATA NATIVE	WESTERN RED CEDAR	6` HT.	
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	UC	6	ULMUS X `FRONTIER` DROUGHT TOLERANT	AMERICAN ELM	2" CAL.	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	CR	32	CORNUS SERICEA NATIVE	RED TWIG DOGWOOD	1 GAL.	
	RP	41	ROSA PISOCARPA NATIVE	CLUSTERED WILD ROSE	1 GAL.	
	SD	31	SPIRAEA DOUGLASII NATIVE	WESTERN SPIREA	1 GAL.	
3`-0" - 4`-0" HEDGE	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	LR	32	LONICERA NITIDA `RED TIPS` EVERGREEN	RED TIPS BOX HONEYSUCKLE	3 GAL.	
	NC	76	NANDINA DOMESTICA `COMPACTA` EVERGREEN DROUGHT TOLERANT	DWARF HEAVENLY BAMBOO	3 GAL.	
	RE	38	RHAPHIOLEPIS INDICA `CONOR` EVERGREEN DROUGHT TOLERANT	ELEANOR TABOR INDIAN HAWTHORN	3 GAL.	
TALL (MINL 6`-0") EVERGREEN SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	AC	27	ARCTOSTAPHYLOS COLUMBIANA EVERGREEN NATIVE	HAIRY MANZANITA	1 GAL.	
	BP	10	BACCHARIS PILULARIS EVERGREEN NATIVE	DWARF COYOTE BRUSH	1 GAL.	
	CT	45	CEANOTHUS THYRSIFLORUS EVERGREEN NATIVE	BLUE BLOSSOM	1 GAL.	
	MA	7	MAHONIA AQUIFOLIUM EVERGREEN NATIVE	OREGON GRAPE	1 GAL.	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	FC	181	FRAGARIA CHILOENSIS	BEACH STRAWBERRY	---	18" o.c.
	MR	62	MAHONIA REPENS	CREEPING MAHONIA	---	24" o.c.
	2,905 SF		LAWN			
	3,513 SF		PROTIME (PT) 665 POLLINATOR GARDEN & URBAN RECLAMATION APPLICATION RATE: 1 LB/2,000 SF			
	7,754 SF		PROTIME (PT) 460 NATIVE UPLAND MIX FOR SHADE APPLICATION RATE: 1 LB/1,000 SF			
	652 SF		PROTIME (PT) 499 CWS NATIVE WET AREA MIX APPLICATION RATE: 4 OZ PER 1,000 SF			

REGISTERED
552
Teresa Katherine Long
OREGON
5-14-04
LANDSCAPE ARCHITECT

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503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE

LANDSCAPE DETAILS

DATE: 10/25/18
DRAWN: TKL
CHECKED: TKL

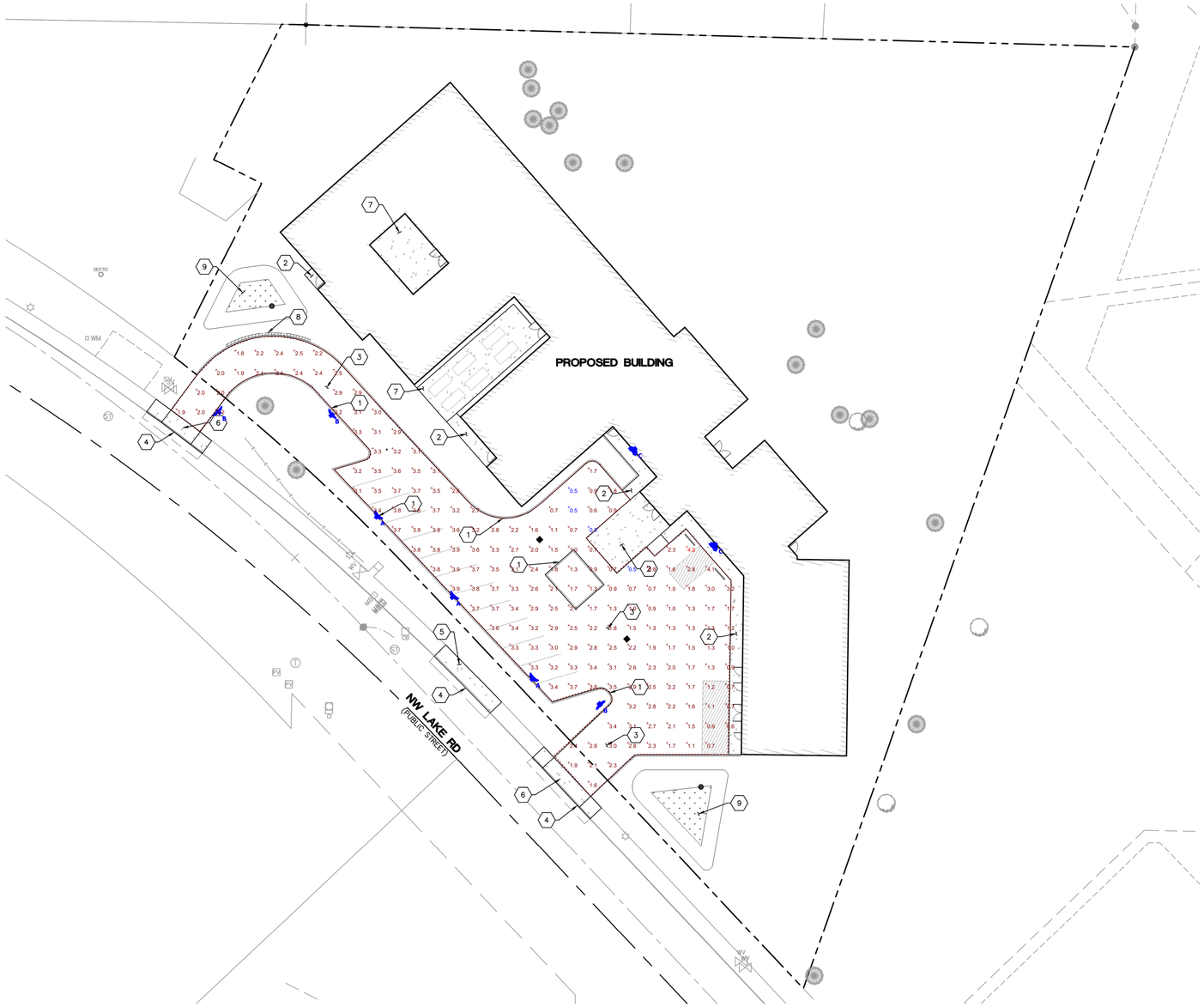
REVISIONS:

SHEET NUMBER

L2.0

JOB NUMBER: A18139.20

10/29/2018 – DESIGN REVIEW SUBMITTAL



Plan View
Scale - 1" = 25'

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	3	U.S. ARCHITECTURAL LIGHTING	RZR-M-PLED-III-M-48LED-525mA-NW	CAST BLACK PAINTED FINNED METAL HOUSING, CAST BLACK PAINTED METAL DRIVER COVER, 4 CIRCUIT BOARDS EACH WITH 12 LEDS, 1 CLEAR PLASTIC OPTIC BELOW EACH LED, 1 FORMED SEMI-SPECULAR METAL OPTIC MOUNTING PLATE BELOW EACH CIRCUIT BOARD.	FORTY-EIGHT WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION. PRORATED BASED ON RZRG-120LED ITL & WORSE CASE RZRM-48PLED ITL. (120VAC, 60Hz) TO THE DRIVERS.	48	RZRM-PLED-III-M-48LED-525mA-NW.IES	215	0.95	79
	B	3	U.S. ARCHITECTURAL LIGHTING	RZR-M-PLED-II-48LED-525mA-NW	CAST BLACK PAINTED FINNED METAL HOUSING, CAST BLACK PAINTED METAL DRIVER COVER, 4 CIRCUIT BOARDS EACH WITH 12 LEDS, 1 CLEAR PLASTIC OPTIC BELOW EACH LED, 1 FORMED SEMI-SPECULAR METAL OPTIC MOUNTING PLATE BELOW EACH CIRCUIT BOARD.	FORTY-EIGHT WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION. PRORATED BASED ON RZRG-120LED ITL & WORSE CASE RZRM-48PLED ITL. VOLTAGE (120VAC, 60Hz) TO THE DRIVERS.	48	RZRM-PLED-II-48LED-525mA-NW.IES	211	0.95	79
	C	2	U.S. ARCHITECTURAL LIGHTING	RZR-WM1-PLED-IV-20LED-525mA-NW	CAST BLACK PAINTED FINNED METAL HOUSING, CAST BLACK PAINTED METAL DRIVER COVER, 1 CIRCUIT BOARD WITH 20 LEDS, 1 CLEAR PLASTIC OPTIC BELOW EACH LED, 1 FORMED SEMI-SPECULAR METAL OPTIC MOUNTING PLATE BELOW EACH CIRCUIT BOARD.	TWENTY WHITE LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION. PRORATED BASED ON RZRG-120LED ITL & WORSE CASE RZR-80PLED ITL. PRORATED FOR (1) 20PLED PANEL. (120VAC, 60Hz) TO THE DRIVERS.	20	RZR-WM1-PLED-IV-20LED-525mA-NW.ies	214	0.95	32.4

Statistics

Description	Symbol	Avg	Max	Min	Max / Min	Avg / Min
PARKING & DRIVE	+	2.4 fc	4.2 fc	0.5 fc	8.4:1	4.8:1

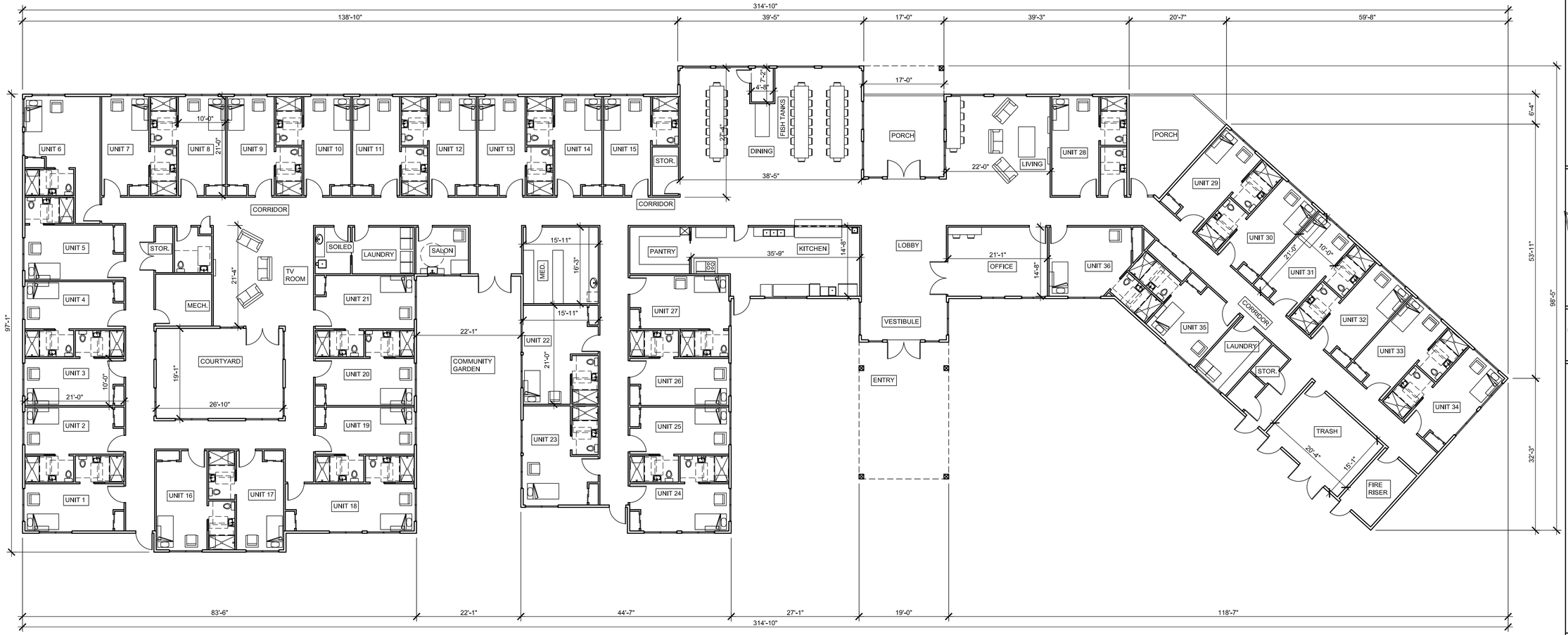
VISUAL

Camas Residential Care

Designer

Date
10/30/2018
Scale
Not to Scale
Drawing No.

Summary



NORTH

1 / A1.1 MASTER FLOOR PLAN

SCALE: 3/32" = 1'-0"

B A M A
Architecture and Design
1631 NE Broadway St. #754
Portland, Oregon 97232
Ph: 503.253.4283

2019 REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
RESIDENTIAL CARE FACILITY

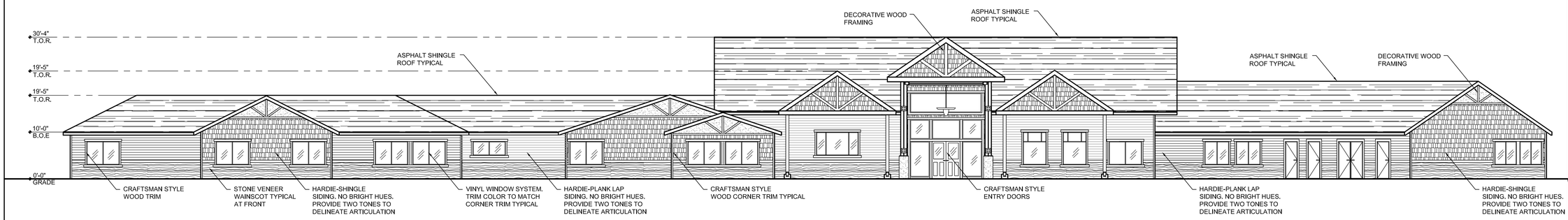
3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

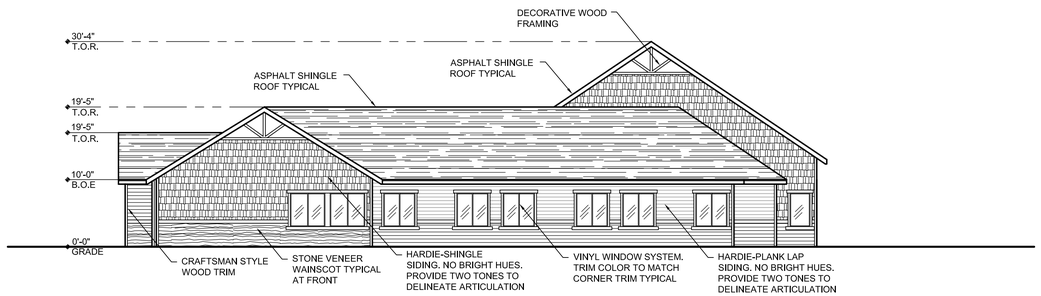
Land Use Review:
October 31, 2018

SHEET NO.
A1.1
MASTER FLOOR PLAN



1 A2.1 SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



2 A2.1 EAST ELEVATION

SCALE: 3/32" = 1'-0"

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2019
REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
RESIDENTIAL CARE FACILITY

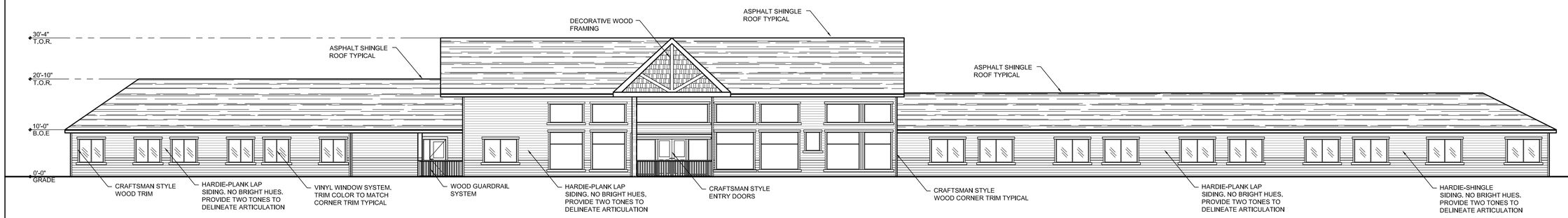
3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

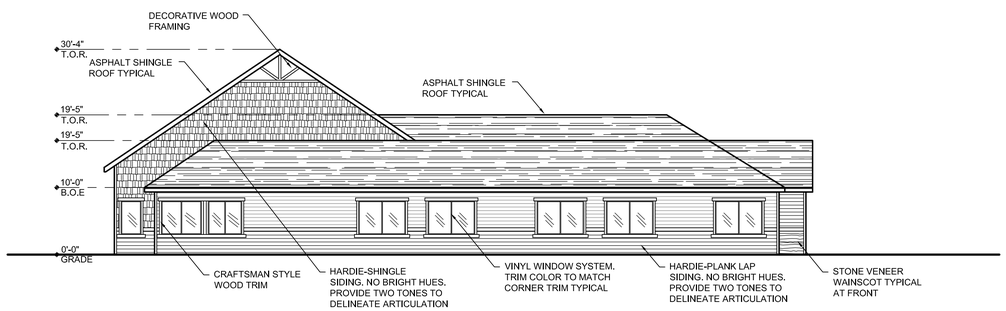
Land Use Review:
October 31, 2018

SHEET NO.
A2.1
EXTERIOR ELEVATIONS



1 / A2.2 NORTH ELEVATION

SCALE: 1/8" = 1'-0"



2 / A2.2 WEST ELEVATION

SCALE: 1/8" = 1'-0"

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2019 REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
RESIDENTIAL CARE FACILITY

3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

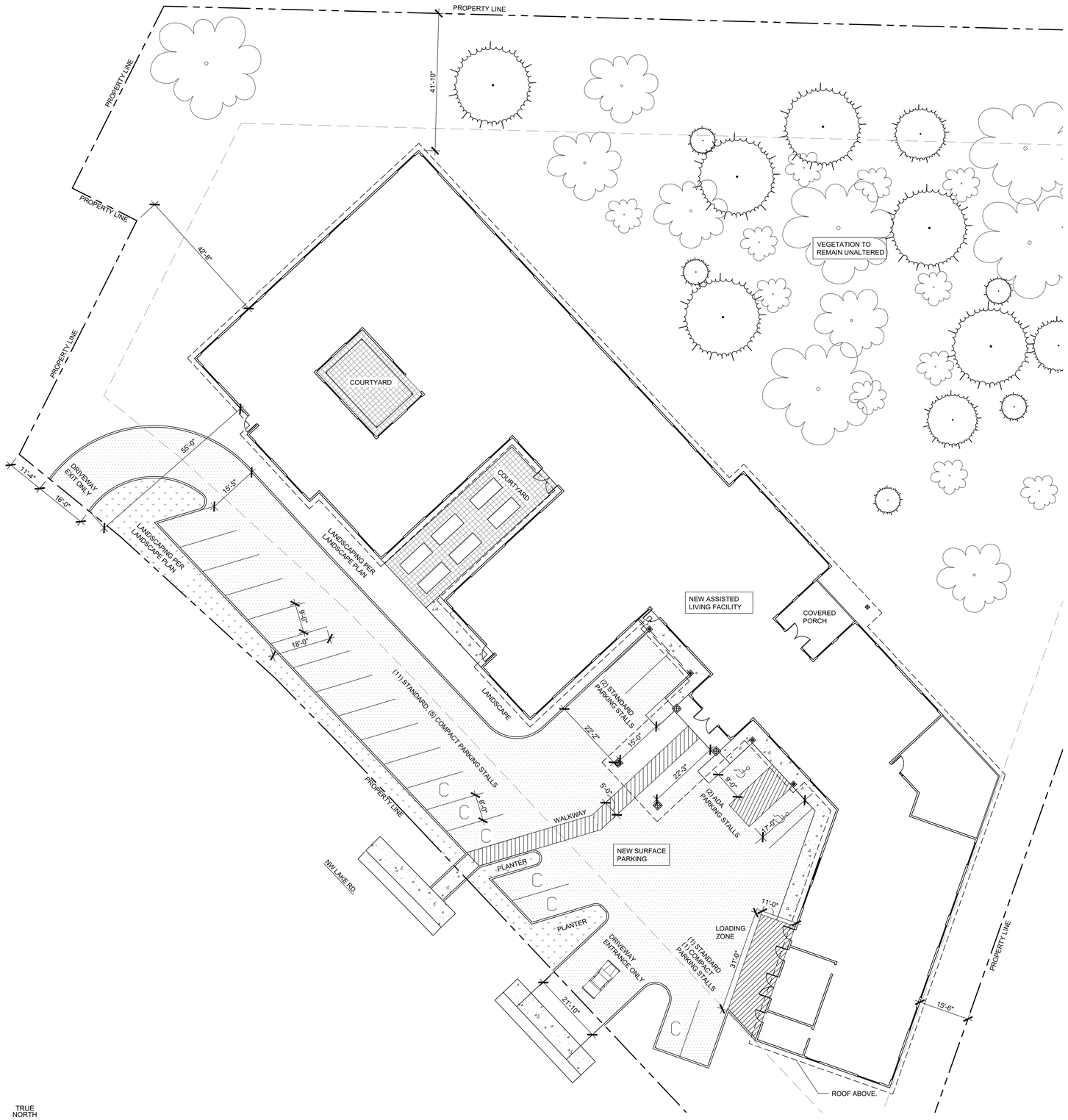
REVISIONS:

Land Use Review:
October 31, 2018

SHEET NO.
A2.2

EXTERIOR ELEVATIONS

EXHIBIT 6



TRUE NORTH

1 SD1.1

ENLARGED SITE PLAN

SCALE: 1/64" = 1'-0"

SITE INFORMATION

PROPERTY ADDRESS: 3401 NW LAKE RD.
CAMAS, OR 98687
PROPERTY ID: 177666000
ABBREVIATED LEGAL DESCRIPTION: #4 SEC 33 T2N R3EWM
2.23A
TOTAL LOT AREA: 97,139 SF

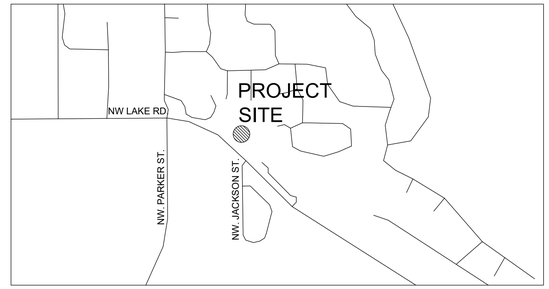
ZONING CODE INFORMATION

ZONING: R-10
PROPOSED USE: LICENSED RESIDENTIAL CARE FACILITY (ASSISTED LIVING)

SETBACKS:
SIDE: 15'
FRONT: 30'
REAR: 35'

MAX HEIGHT: 35'-0"

MAX BUILDING COVERAGE ALLOWED: 35%
BUILDING COVERAGE PROPOSED: 25.6%

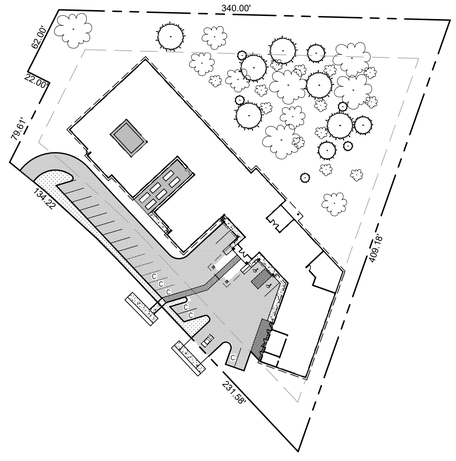


TRUE NORTH

2 SD1.1

VICINITY MAP

NOT TO SCALE



TRUE NORTH

3 SD1.1

MASTER SITE PLAN

SCALE: 1/64" = 1'-0"

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Portland, Oregon 97232
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2019
REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
ASSISTED LIVING FACILITY

3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

Land Use Review:
October 31, 2018

SHEET NO.
SD1.1
SITE PLAN

EXHIBIT 7

CORNER OF LOT 8 LACAMAS WOODS 311-017

S 88°28'30" E 340.00'

33

S 26°42'30" W 62.00'

CALCULATED LINE PER GREENWOOD SURVEY B-159

S 63°17'30" E 22.00'

S 26°42'30" W 79.61'

BARN

TAX LOT 4

HOUSE

SHOP

R=848.51'
Δ=9°03'47"
L=134.22'

S 43°14'48" E 231.58'

NW LAKE RD
(PUBLIC STREET)

FOUND 1/2" REBAR WITH YELLOW PLASTIC CAP INSCRIBED "RENTON 37535" FOUND AND (HELD) FOR CENTERLINE OF NW LAKE ROAD.

CALCULATED CENTERLINE PER FOUND MONUMENTS AND FOREST HILLS H-898 AND SPOSITO SHORT PLAT 2-424

1

92+31.38, 0.00' LT.
FOUND 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP INSCRIBED "RENTON 37535", SET IN STEEL CASE WITH LID FOR CONSTRUCTION CENTERLINE OF NW LAKE

FOUND 1/2" IRON
YAMASHITA CAP (
SOUTHEAST CORNE
LACAMAS WOODS
NORTH LINE OF SE

24

23

N 19°24'01" E 409.18'

HELD WEST LINE OF
OQUIST SURVEY (54-153)
PER BOUNDARY LINE AGREEMENT
AUDITORS FILE NUMBER 5088566

TRACT "B"
LAKE HILLS SUBDIVISION
(311-760)

SURVEY NOTES

A UTILITY LOCATE WAS CALLED FOR ON 5-07-18 UNDER TICKET NUMBER 18183147. THE UNDERGROUND UTILITIES AS SHOWN HEREON ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

VERTICAL DATUM:
NAVD 88 (GEOID 12A)

SURVEY NOTES

- WV — INDICATES WATER VALVE
- WM — INDICATES WATER METER
- INDICATES TELEPHONE PEDESTAL
- ASPH — INDICATES ASPHALT
- CONC — INDICATES CONCRETE
- GRVL — INDICATES GRAVEL
- S — INDICATES SANITARY SEWER MANHOLE
- SV — INDICATES SANITARY VALVE
- SEPTIC — INDICATES SEPTIC SYSTEM LID
- INDICATES LIGHT POLE
- INDICATES ELECTRIC PEDESTAL
- T — INDICATES TRANSFORMER
- MB — INDICATES MAIL BOX
- FV — INDICATES FIBER OPTIC VAULT
- ST — INDICATES STORM SEWER MANHOLE
- INDICATES COMBINATION CURB INLET
- CB — INDICATES CATCH BASIN
- INDICATES BOUNDARY
- INDICATES EDGE OF ASPHALT
- INDICATES EDGE OF CONCRETE
- INDICATES EDGE OF GRAVEL
- INDICATES 5 FOOT INTERVAL CONTOUR
- INDICATES 1 FOOT INTERVAL CONTOUR
- INDICATES CHAINLINK FENCE LINE
- FO — INDICATES FIBER OPTIC LOCATE
- INDICATES GAS LOCATE
- SS — INDICATES SANITARY LOCATE
- T — INDICATES TELEPHONE LOCATE

NORTH

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

05/13/19 - LAND USE RESUBMITTAL

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4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
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CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE
EXISTING CONDITIONS PLAN

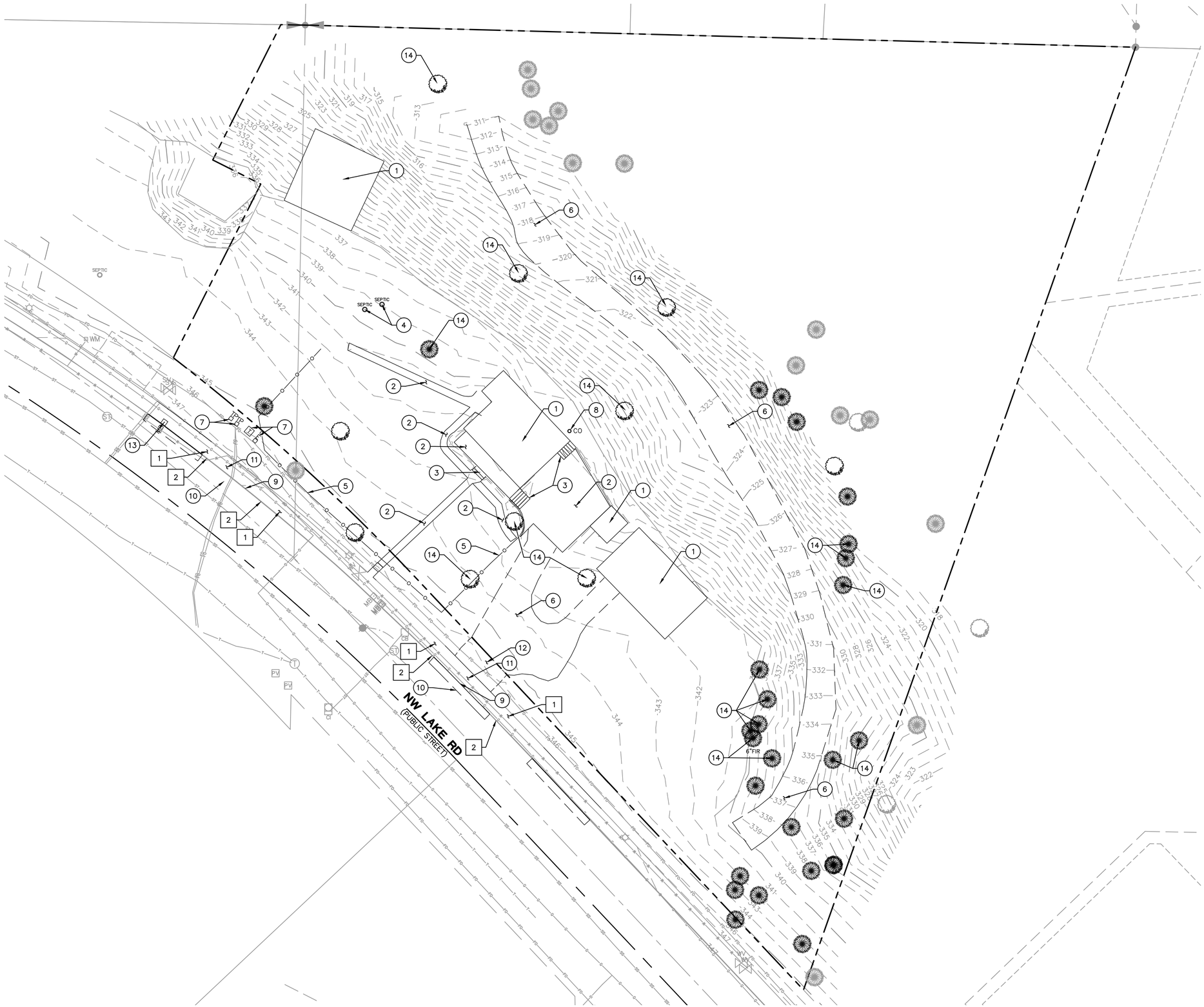
DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C0.3

JOB NUMBER: A18139.10



SHEET NOTES

1. SEE SHEET C0.2 FOR GENERAL SHEET NOTES.
2. CONTRACTOR MAY STAGE WITHIN LIMITS OF DEMOLITION.
3. REMOVE ALL SITE COMPONENTS AND RECYCLE COMPONENTS AS REQUIRED IN THE SPECIFICATIONS.
4. ALL TRADE LICENSES AND PERMITS NECESSARY FOR THE PROCUREMENT AND COMPLETION OF THE WORK SHALL BE SECURED BY THE CONTRACTOR PRIOR TO COMMENCING DEMOLITION.
5. THE CONTRACTOR SHALL PRESERVE AND PROTECT FROM DAMAGE ALL EXISTING RIGHT-OF-WAY SURVEY MONUMENTATION DURING DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND PAYING FOR THE REPLACEMENT BY A LICENSED SURVEYOR OF ANY DAMAGED OR REMOVED MONUMENTS.
6. PROTECT ALL ITEMS ON ADJACENT PROPERTIES AND IN THE RIGHT OF WAY INCLUDING BUT NOT LIMITED TO SIGNAL EQUIPMENT, PARKING METERS, SIDEWALKS, STREET TREES, STREET LIGHTS, CURBS, PAVEMENT AND SIGNS. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ANY DAMAGED ITEMS TO ORIGINAL CONDITION.
7. PROTECT STRUCTURES, UTILITIES, SIDEWALKS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
8. SAWCUT STRAIGHT LINES IN SIDEWALK, AS NECESSARY.
9. CONTRACTOR IS RESPONSIBLE TO CONTROL DUST AND MUD DURING THE DEMOLITION PERIOD, AND DURING TRANSPORTATION OF DEMOLITION DEBRIS. ALL STREET SURFACES OUTSIDE THE CONSTRUCTION ZONE MUST BE KEPT CLEAN.
10. PROTECT ALL EXISTING UTILITY STRUCTURES AND UNDERGROUND MAINS TO REMAIN.
11. PROTECT ALL EXISTING VEGETATION TO REMAIN.

[X] PROTECTION NOTES

1 PROTECT EXISTING SIDEWALK
2 PROTECT EXISTING CURB

(X) DEMOLITION NOTES

1 REMOVE EXISTING BUILDING
2 REMOVE EXISTING CONCRETE PAVEMENT
3 REMOVE EXISTING CONCRETE STAIR
4 REMOVE EXISTING SEPTIC SYSTEM
5 REMOVE EXISTING FENCE LINK
6 REMOVE EXISTING GRAVEL PAVEMENT
7 CONTRACTOR TO COORDINATE WITH UTILITY COMPANY TO RELOCATE EXISTING UTILITY STRUCTURES
8 REMOVE EXISTING CLEANOUT
9 REMOVE EXISTING PUBLIC CURB
10 SAWCUT EXISTING ASPHALT
11 REMOVE EXISTING SIDEWALK
12 REMOVE EXISTING DRIVEWAY
13 RELOCATE MAILBOX
14 REMOVE EXISTING TREE

LEGEND

PROPERTY LINE
SAWCUT
CENTERLINE

NORTH

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG D. YARRAS
STATE OF WASHINGTON
40160
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PROFESSIONAL ENGINEER

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CAMAS RCF

CAMAS, WASHINGTON

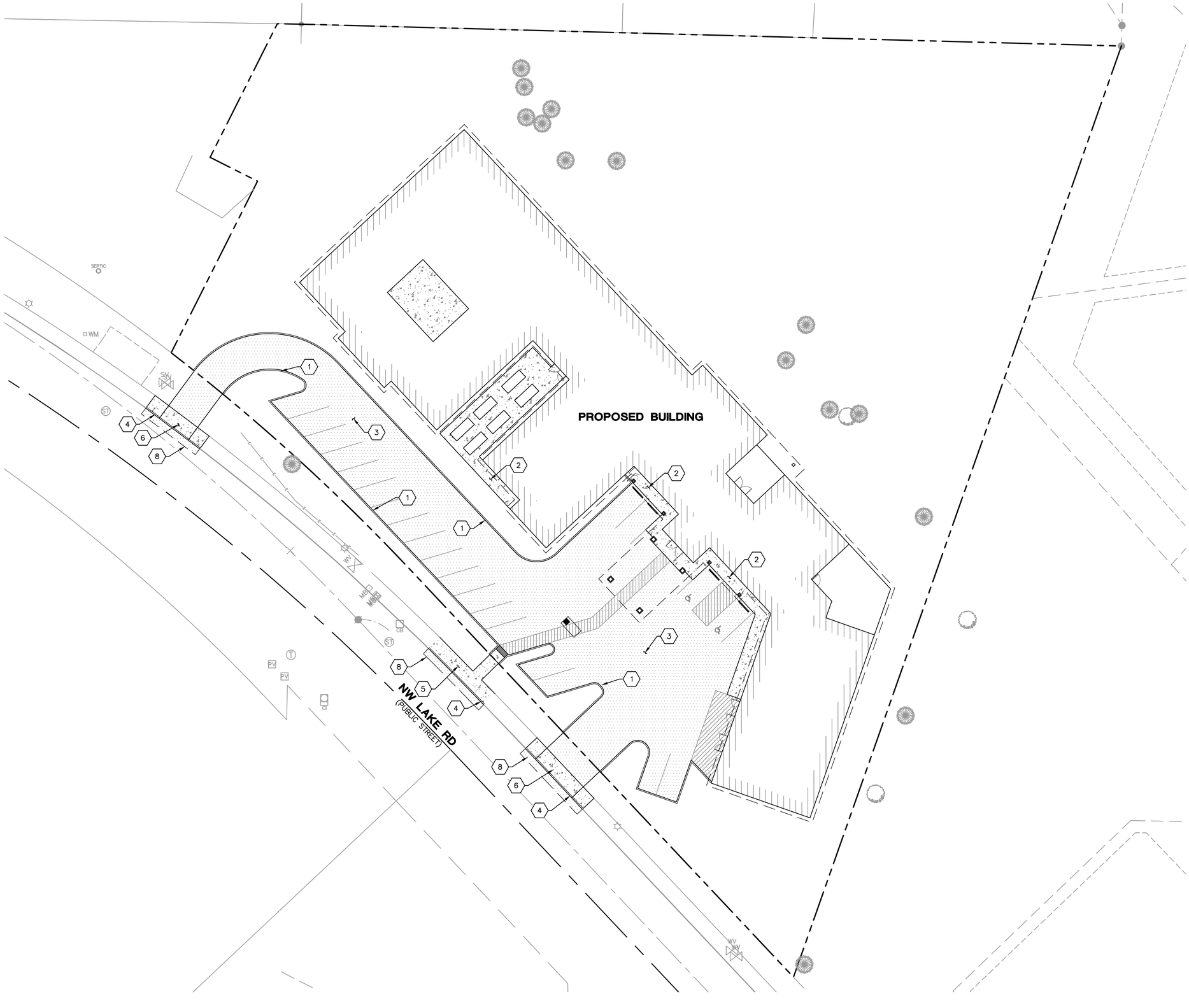
SHEET TITLE
DEMOLITION PLAN

DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER

C0.4

JOB NUMBER: A18139.10



SHEET NOTES

1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL SITE INFORMATION.
2. THE CONTRACTOR SHALL HAVE A FULL SET OF THE CURRENT APPROVED CONSTRUCTION DOCUMENTS INCLUDING ADDENDA ON THE PROJECT SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL KEEP THE ENGINEER AND JURISDICTION INFORMED OF CONSTRUCTION PROGRESS TO FACILITATE SITE OBSERVATIONS AT REQUIRED INTERVALS. 24-HOUR NOTICE IS REQUIRED.

(X) CONSTRUCTION NOTES

1 INSTALL PRIVATE CURB

2 INSTALL PRIVATE CONCRETE SIDEWALK

3 INSTALL PRIVATE ASPHALT PAVEMENT

4 INSTALL PUBLIC CURB

5 INSTALL PUBLIC CONCRETE SIDEWALK

6 INSTALL PUBLIC DRIVEWAY

7 INSTALL CONCRETE PAVERS PER ARCHITECTURAL PLANS

8 SAWCUT AND REPAIR ASPHALT

LEGEND

PROPERTY LINE

CONCRETE SIDEWALK SURFACING

ASPHALT SURFACING

BIORETENTION SWALE

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG DAVEY
STATE OF WASHINGTON
40160
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503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

SITE PLAN

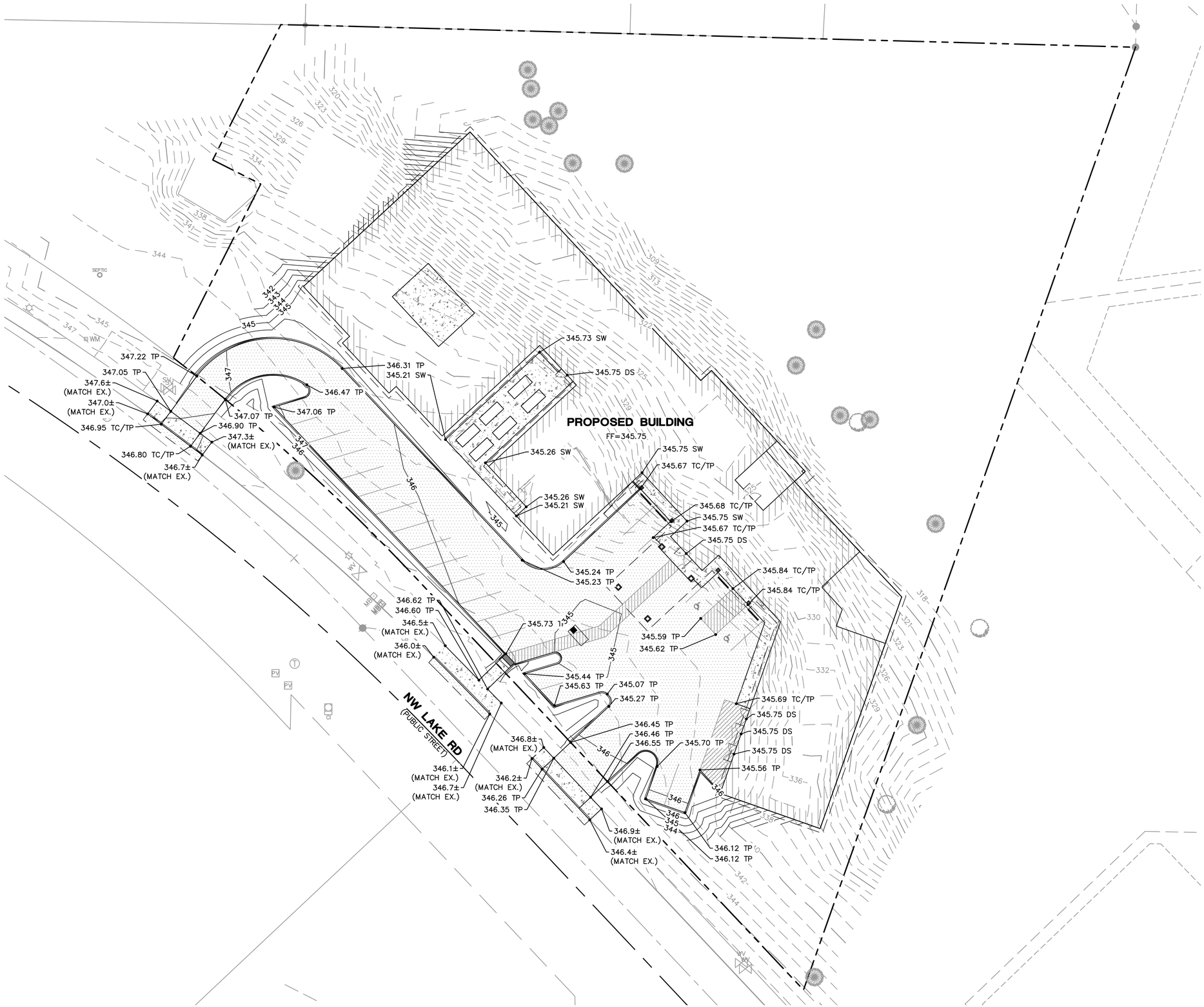
DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C1.0

JOB NUMBER: A18139.10



SHEET NOTES

1. CURB HEIGHTS ARE 6" UNLESS NOTED OTHERWISE.
2. LANDINGS ON ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
3. ALL ACCESSIBLE ROUTES SHALL COMPLY WITH CURRENT ADA ACCESSIBILITY GUIDELINES FOR BUILDING AND FACILITIES (ADAAG).
4. ALL WALKWAYS FROM ACCESSIBLE UNITS ARE DESIGNED TO NOT REQUIRE HANDRAILS. THEREFORE, RAMPS WITH SLOPES STEEPER THAN 5.0% AND LESS THAN 8.33% SHALL NOT EXCEED 0.5' RISE OR 6.0' LENGTH.
5. FINISH GRADES ARE TO BE BROUGHT TO WITHIN 0.08 FT IN 10 FT OF THE GRADES SHOWN AT SUBGRADE AND TO WITHIN 0.03 FT IN 10 FT AT FINISH GRADE. CONTRACTOR TO ALLOW FOR PLACEMENT OF REQUIRED TOPSOIL IN ROUGH GRADING.
6. GRADING ELEVATIONS AS SHOWN ON SITE AND LANDSCAPE PLANS ARE FINISHED GRADE WHICH INCLUDES SUBGRADE SOIL, TOPSOIL, SOIL AMENDMENTS, ROCKERY AND RUNOFF PROTECTION CONTRACTOR IS RESPONSIBLE TO COORDINATE GRADING WITH BOTH EXCAVATOR AND LANDSCAPE CONTRACTOR.

GRADING LABEL LEGEND

CALLOUT — DESCRIPTION

XX.XX — SPOT ELEVATION

XX — DESCRIPTION LISTED BELOW.

EX	EXISTING GRADE
FF	FINISHED FLOOR ELEVATION
TC	TOP OF CURB
TP	TOP OF PAVEMENT
DS	DOOR SILL

LEGEND

EXISTING CONTOUR MINOR — 102

EXISTING CONTOUR MAJOR — 100

PROPOSED CONTOUR MINOR — 102

PROPOSED CONTOUR MAJOR — 100

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG D. DAILEY — STATE OF WASHINGTON — 40160 — REGISTERED PROFESSIONAL ENGINEER

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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

GRADING PLAN

DATE: 10/30/18

DRAWN: RTN

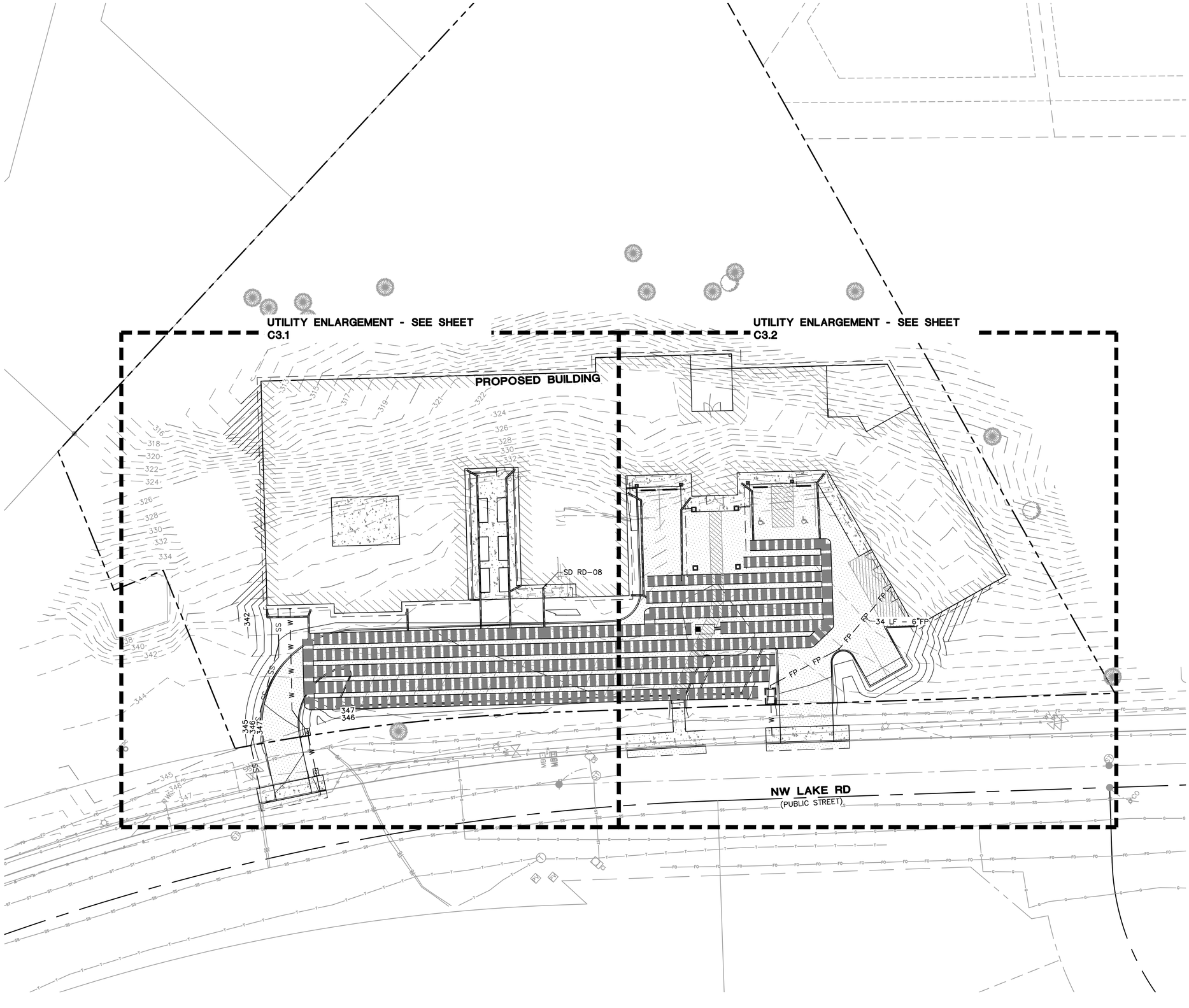
CHECKED: DSE

REVISIONS:

SHEET NUMBER

C2.0

JOB NUMBER: A18139.10



SHEET NOTES

1. STRUCTURES HORIZONTAL LOCATIONS AND PIPE INVERTS ARE BASED ON THE CENTER OF THE STRUCTURE.
2. INSTALL THRUST BLOCKS ON FIRE AND WATER LINES.
3. ALL SANITARY AND STORM PIPING SHALL BE PVC 3034 OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
4. THIS PLAN IS GENERALLY DIAGRAMMATIC. IT DOES NOT SHOW EVERY JOINT, BEND, FITTING, OR ACCESSORY REQUIRED FOR CONSTRUCTION.
5. CLEAN OUTS SHALL BE INSTALLED IN CONFORMANCE WITH UPC CHAPTER SEVEN, SECTION 707 AND SECTION 719. NOT ALL REQUIRED CLEAN OUTS ARE SHOWN.
6. DOMESTIC WATER AND FIRE LINES AND ACCESSORIES BETWEEN THE WATER METER AND THE BUILDING SHALL BE INSTALLED BY A LICENSED PLUMBER EMPLOYED BY A LICENSED PLUMBING CONTRACTOR.
7. UTILITIES WITHIN FIVE FEET OF A BUILDING SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR INTERIOR USE AS DESCRIBED IN THE CURRENT EDITION OF THE UPC.
8. INLETS AND OUTLETS TO ON-SITE MANHOLES SHALL HAVE FLEXIBLE CONNECTION NO CLOSER THAN 12" AND NO FARTHER THAN 36" FROM THE MANHOLE.

LEGEND

SANITARY SEWER LINE	SS SS
WATER LINE	W W W
FIRE LINE	FP FP FP FP
FDC LINE	FDC FDC FDC
STORM LINE	

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG D. JAMES — STATE OF WASHINGTON — 40160 — REGISTERED PROFESSIONAL ENGINEER

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4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C3.0

JOB NUMBER: A18139.10

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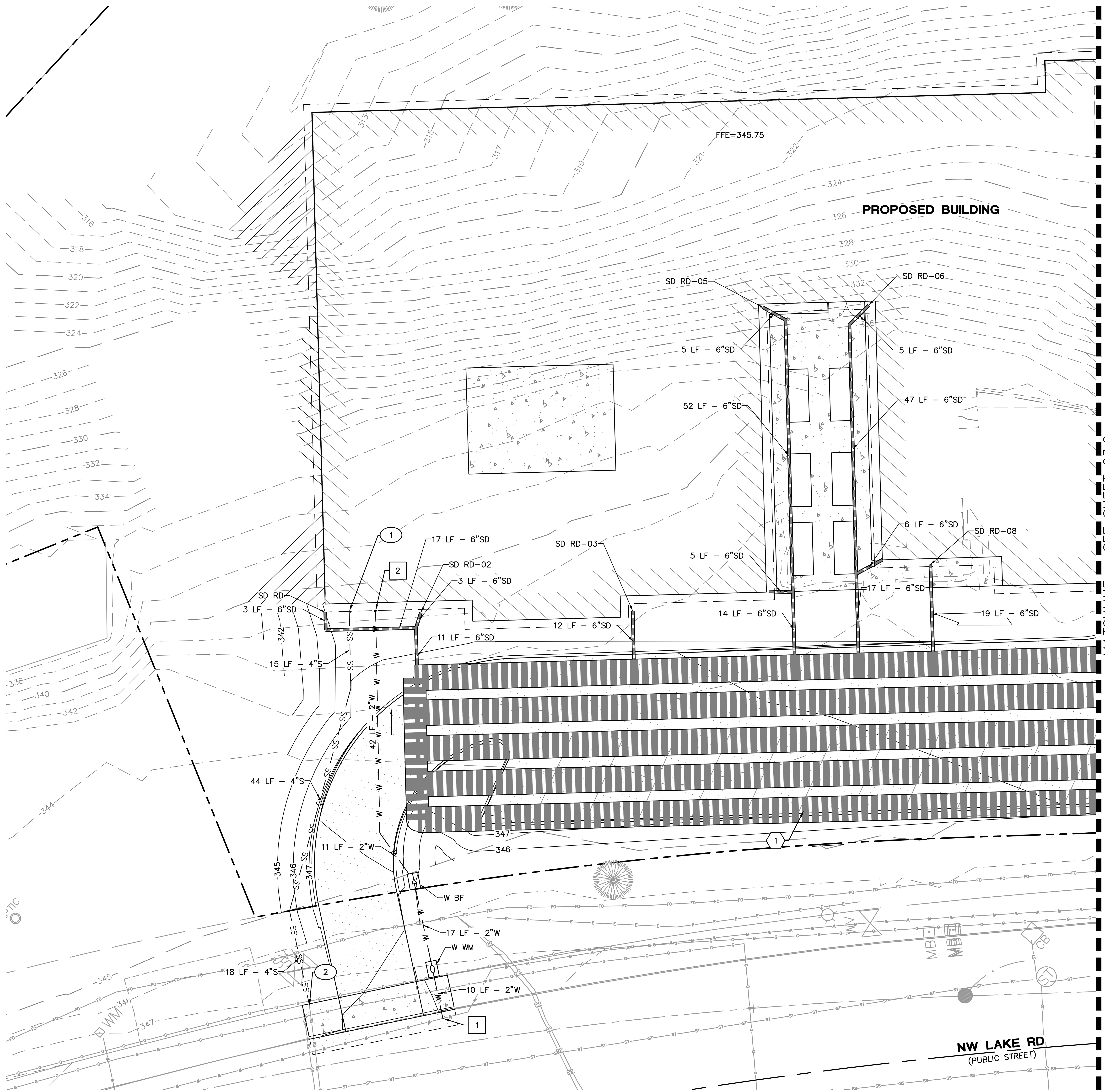

SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

CONSTRUCTION NOTES

1 INSTALL 1300LF OF 54"ø CONTECH CMP DETENTION PIPE

2 INSTALL 8X4 MODULAR WETLAND SYSTEM WITH GRATED INLET.

SANITARY NOTES

1 BUILDING POINT OF CONNECTION

2 CONNECT TO EXISTING SANITARY LINE

3 ABANDON EXISTING SANITARY LINE

WATER NOTES

1 CONNECT TO EXISTING WATER LINE

2 DOMESTIC BUILDING POINT OF CONNECTION

3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

UTILITY LENGTH
UTILITY SIZE
UTILITY TYPE

XXLF – XX" XX

S=X.XX%

SLOPE (WHERE APPLICABLE)

STRUCTURE LABELS

UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER)
STRUCTURE TYPE CALLOUT (SEE BELOW)
ID NUMBER (WHERE APPLICABLE)

XX XX–XX
RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X

STRUCTURE INFO (WHERE APPLICABLE)

STRUCTURE TYPES

CALLOUT	DESCRIPTION
BF	DOMESTIC BACKFLOW ASSEMBLY
CO	CLEANOUT
FCMH	FLOW CONTROL MANHOLE
FV	FIRE VAULT WITH DOUBLE CHECK DETECTOR ASSEMBLY
RD	ROOF DRAIN CONNECTION
WM	WATER METER

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG N. HARRIS
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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN – WEST

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE
REVISIONS:	

SHEET NUMBER

C3.1

JOB NUMBER: A18139.10

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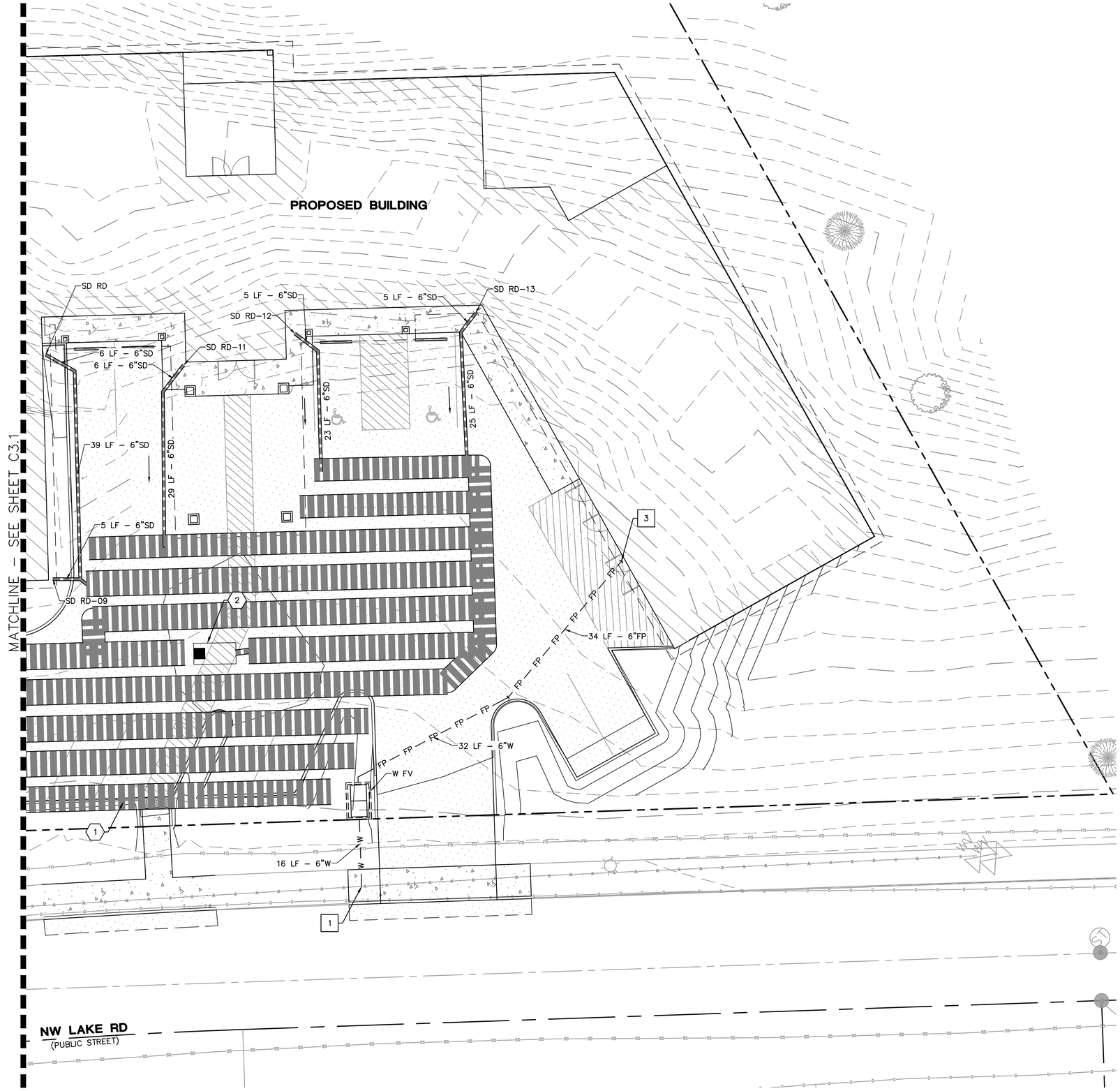

SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

(X) CONSTRUCTION NOTES

1 INSTALL 1300LF OF 54"ø CONTECH CMP DETENTION PIPE

2 INSTALL 8X4 MODULAR WETLAND SYSTEM WITH GRATED INLET.

(X) SANITARY NOTES

1 BUILDING POINT OF CONNECTION

2 CONNECT TO EXISTING SANITARY LINE

3 ABANDON EXISTING SANITARY LINE

[X] WATER NOTES

1 CONNECT TO EXISTING WATER LINE

2 DOMESTIC BUILDING POINT OF CONNECTION

3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

UTILITY LENGTH – UTILITY SIZE – UTILITY TYPE

XXLF – XX" XX

S=X.XX% – SLOPE (WHERE APPLICABLE)

STRUCTURE LABELS

UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER)
STRUCTURE TYPE CALLOUT (SEE BELOW)
ID NUMBER (WHERE APPLICABLE)

XX XX–XX
RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X
← STRUCTURE INFO (WHERE APPLICABLE)

STRUCTURE TYPES

CALLOUT	DESCRIPTION
BF	DOMESTIC BACKFLOW ASSEMBLY
CO	CLEANOUT
FCMH	FLOW CONTROL MANHOLE
FV	FIRE VAULT WITH DOUBLE CHECK DETECTOR ASSEMBLY
RD	ROOF DRAIN CONNECTION
WM	WATER METER

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN – EAST

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

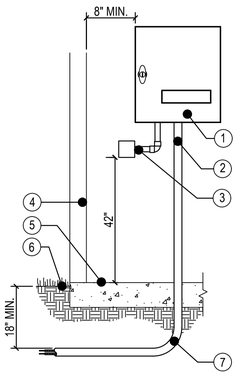
REVISIONS:

SHEET NUMBER

C3.2

JOB NUMBER: A18139.10

EXHIBIT 8



LEGEND

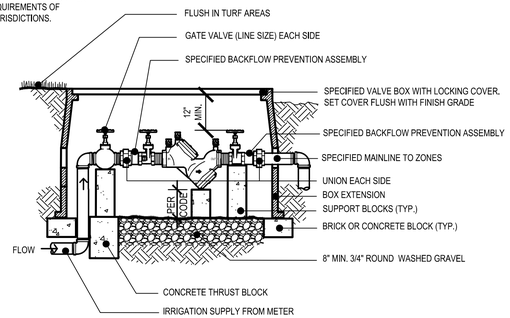
1. AUTOMATIC CONTROLLER WITH LOCKING ACCESS DOOR.
2. 2" DIA. P.V.C. CONDUIT FOR COMMON AND CONTROL WIRES TO 5' BEYOND EDGE OF BUILDING.
3. CONDUIT FOR 120 VOLT ELECTRICAL SERVICE WITH JUNCTION BOX.
4. BUILDING WALL.
5. BUILDING FLOOR.
6. FINISH GRADE.
7. SWEEP EL ON ALL ELECTRICAL CONDUIT.

NOTES

1. ALL WIRES TO BE INSTALLED AS PER LOCAL CODE.
2. VERIFY LOCATION PRIOR TO INSTALLATION.
3. INSTALL CONTROLLER PER MANUFATURER'S INSTRUCTIONS.

1 ## WALL MOUNTED CONTROLLER
SCALE: NTS

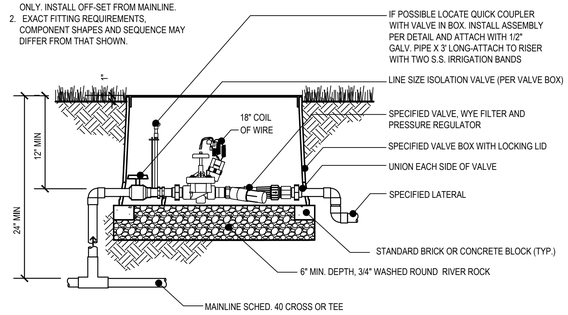
NOTE:
INSTALL BACKFLOW PREVENTOR PER CODE AND REQUIREMENTS OF PREVAILING JURISDICTIONS.



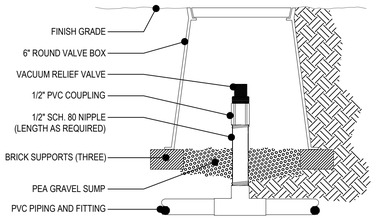
2 ## BACKFLOW PREVENTION DEVICE ASSEMBLY
SCALE: NTS

NOTES

1. LOCATION OF QUICK COUPLER WITHIN VALVE BOX IS SHOWN FOR CLARIFICATION ONLY. INSTALL OFF-SET FROM MAINLINE.
2. EXACT FITTING REQUIREMENTS, COMPONENT SHAPES AND SEQUENCE MAY DIFFER FROM THAT SHOWN.



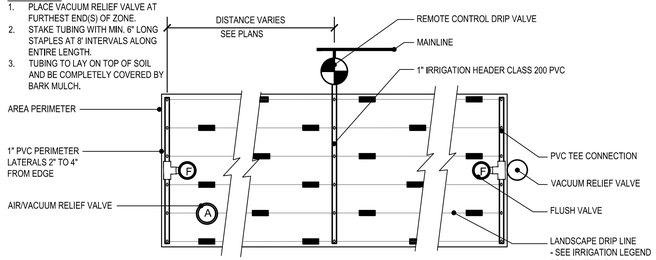
3 ## DRIP IR CONTROL VALVE ASSEMBLY
SCALE: NTS



4 ## VACUUM RELIEF VALVE
SCALE: NTS

NOTES

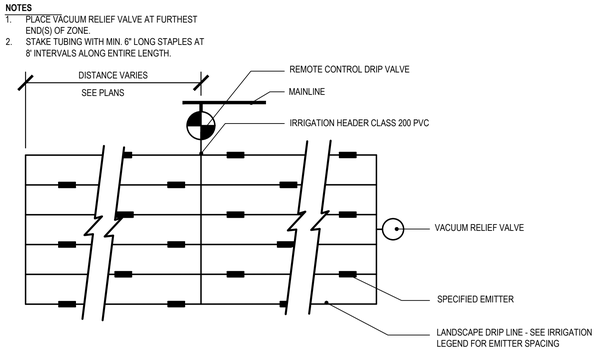
1. PLACE VACUUM RELIEF VALVE AT FURTHEST END(S) OF ZONE.
2. STAKE TUBING WITH MIN. 6" LONG STAPLES AT 8' INTERVALS ALONG ENTIRE LENGTH.
3. TUBING TO LAY ON TOP OF SOIL AND BE COMPLETELY COVERED BY BARK MULCH.



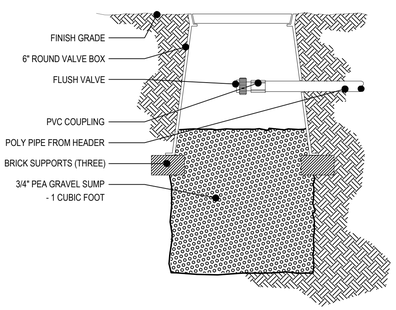
5 ## DRIPLINE LAYOUT DIAGRAM
SCALE: NTS

NOTES

1. PLACE VACUUM RELIEF VALVE AT FURTHEST END(S) OF ZONE.
2. STAKE TUBING WITH MIN. 6" LONG STAPLES AT 8' INTERVALS ALONG ENTIRE LENGTH.



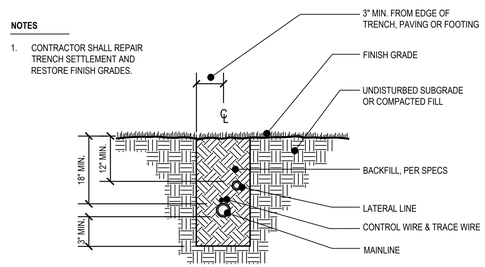
6 ## INLINE EMITTER TUBING INSTALLATION
SCALE: NTS



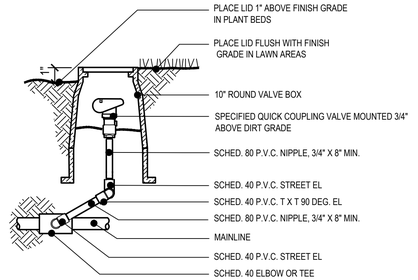
7 ## FLUSH VALVE
SCALE: NTS

NOTES

1. CONTRACTOR SHALL REPAIR TRENCH SETTLEMENT AND RESTORE FINISH GRADES.



8 ## IR TRENCHING DETAIL
SCALE: NTS



9 ## QUICK COUPLER VALVE DETAIL
SCALE: NTS

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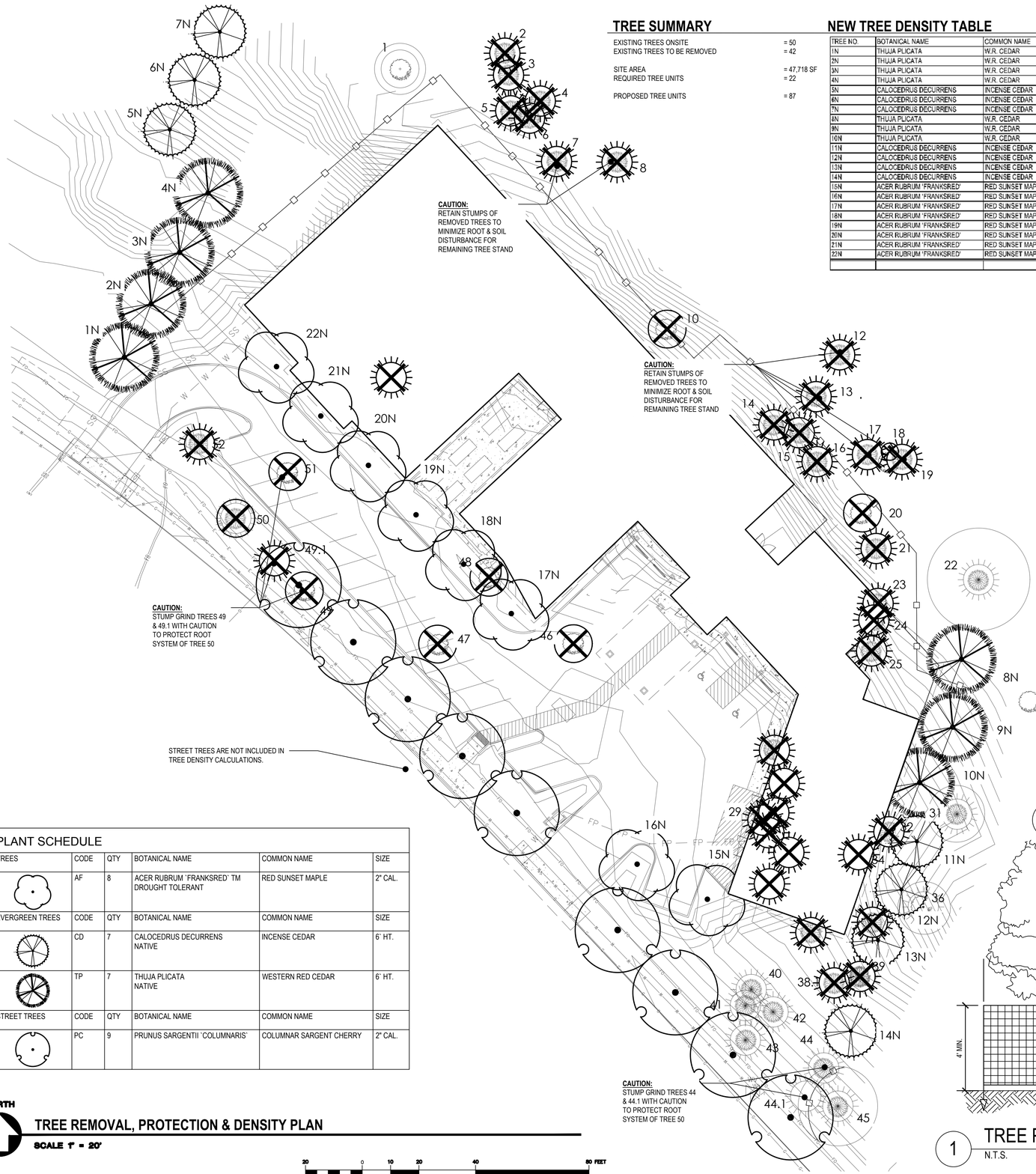
CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE
IRRIGATION DETAILS

DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER
L2.1
JOB NUMBER: A18139.10

05/13/19 – LAND USE RESUBMITTAL



TREE SUMMARY

EXISTING TREES ONSITE	= 50
EXISTING TREES TO BE REMOVED	= 42
SITE AREA	= 47,718 SF
REQUIRED TREE UNITS	= 22
PROPOSED TREE UNITS	= 87

NEW TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE	TREE UNITS
1N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
2N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
3N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
4N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
5N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
6N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
7N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
8N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
9N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
10N	THUJA PLICATA	W.R. CEDAR	8' HT.	2
11N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
12N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
13N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
14N	CALOCEDRUS DECURRENS	INCENSE CEDAR	8' HT.	2
15N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
16N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
17N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
18N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
19N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
20N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
21N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
22N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
				44

EXISTING TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	EXISTING DBH	CANOPY SPREAD	TREE UNITS	REMOVE
1	ALNUS RUBRA	RED ALDER	18" DBH	18'	5	NO
2	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
3	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
4	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
5	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
6	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
7	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
8	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
9	ALNUS RUBRA	RED ALDER	20" DBH	20'		YES
10	SAMBUCUS SPP.	ELDERBERRY	8" DBH	8'		YES
11	SAMBUCUS SPP.	ELDERBERRY	8" DBH	8'		YES
12	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
13	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
14	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
15	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
16	PSEUDOTSUGA MENZIESII	DOUG FIR	8" DBH	8'		YES
17	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
18		CHERRY	6" DBH	6'		YES
19	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'		YES
20	FRAXINUS LATIFOLIA	OREGON ASH	8" DBH	8'		YES
21	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
22	PSEUDOTSUGA MENZIESII	DOUG FIR	24" DBH	24'	8	NO
23	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
24	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
25	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
26	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'		YES
27	PSEUDOTSUGA MENZIESII	DOUG FIR	40" DBH	40'		YES
28	PSEUDOTSUGA MENZIESII	DOUG FIR	8" DBH	8'		YES
29	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
30	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
31	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'	OFF SITE	NO
32	PSEUDOTSUGA MENZIESII	DOUG FIR	32" DBH	32'		YES
33	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
34	PSEUDOTSUGA MENZIESII	DOUG FIR	38" DBH	38'		YES
35	PSEUDOTSUGA MENZIESII	DOUG FIR	35" DBH	35'		YES
36	ACER	MAPLE	12" DBH	12'	OFF SITE	NO
37	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
38	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
38.1	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
39	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
40	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
41	PSEUDOTSUGA MENZIESII	DOUG FIR	30" DBH	30'	11	NO
42	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
43	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
44	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'	2	NO
44.1	ALNUS RUBRA	RED ALDER	12" DBH	12'	2	NO
45	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'	OFF SITE	NO
48	CORNUS FLORIDA	FLOWERING DOGWOOD	8" DBH	8'		YES
47		LOCUST	24" DBH	24'		YES
48	MAGNOLIA X SOULANGEANA	SAUCER MAGNOLIA	6" DBH	6'		YES
49	JUGLANS REGIA	E. WALNUT	12" DBH	12'	OFF SITE	YES
49.1	CHAMAECYPARIS LAWSONIANA	PORT ORFORD CEDAR	38" DBH	38'		YES
50	PSEUDOTSUGA MENZIESII	DOUG FIR	45" DBH	36'	OFF SITE	YES
51		DECIDUOUS	6" DBH	6'		YES
52	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
53	PSEUDOTSUGA MENZIESII	DOUG FIR	35" DBH	36'		YES
TOTAL TREE UNITS EXISTING TO REMAIN					43	

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	AF	8	ACER RUBRUM `FRANKSRED` TM DROUGHT TOLERANT	RED SUNSET MAPLE	2" CAL.
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	CD	7	CALOCEDRUS DECURRENS NATIVE	INCENSE CEDAR	6` HT.
	TP	7	THUJA PLICATA NATIVE	WESTERN RED CEDAR	6` HT.
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	PC	9	PRUNUS SARGENTII `COLUMNARIS`	COLUMNAR SARGENT CHERRY	2" CAL.

NORTH

TREE REMOVAL, PROTECTION & DENSITY PLAN

SCALE 1" = 20'

20 0 10 20 40 80 FEET

TREE PROTECTION ZONE

DO NOT REMOVE OR ADJUST THE LOCATION OF THIS TREE PROTECTION FENCING
UNAUTHORIZED ENCROACHMENT MAY RESULT IN FINES

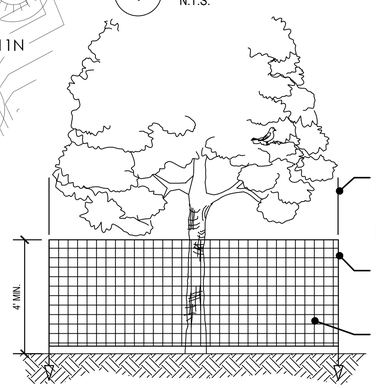
Please contact the project arborist if alterations to the location of the tree protection fencing are necessary.

Todd Prager, Project Arborist, Teragan & Associates, 971-295-4835

INSTALL SIGNAGE EVERY 75 FEET MAMIMUM

1 TREE PROTECTION FENCING SIGN

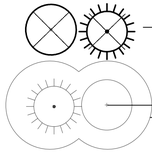
N.T.S.



1 TREE PROTECTION FENCING DETAIL

N.T.S.

LEGEND



TREE PROTECTION FENCE — 1 / L1.0

TREE PROTECTION FENCE

TREE PROTECTION NOTES:

1. BEFORE WORK IS STARTED, INSTALL TREE PROTECTION FENCING. CONTACT THE PROJECT ARBORIST FOR ASSISTANCE. CONSULT ARBORIST REPORT ATTACHMENT 3, TREE PROTECTION RECOMMENDATIONS.
2. NO ENCROACHMENT OF ANY KIND IS ALLOWED WITHIN THE TREE PROTECTION FENCE ZONE DURING CONSTRUCTION. WHERE PLANTINGS & IRRIGATION ARE REQUIRED, INSTALL BY HAND DIGGING, NO MACHINERY ALLOWED.
3. INSTALL FENCE AS SHOWN ON PLAN. ROOT PROTECTION ZONE IS AN AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE CANOPY AND BETWEEN EXISTING CURB AND PROPOSED SIDEWALK . NO MORE THAN 25% OF THE ROOT ZONE MAY BE IMPACTED.
4. FENCING SHALL BE 4-FOOT HIGH ORANGE CONSTRUCTION FENCE WITH METAL POSTS AND BE SECURED TO THE GROUND WITH 6-FOOT METAL POSTS. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
5. FENCE SHALL BE INSTALLED PRIOR TO LAND CLEARING, FILLING OR ANY LAND ALTERATION AND SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE.
6. NO EXCAVATION OR COMPACTION OF EARTH OR OTHER POTENTIALLY DAMAGING ACTIVITIES ALLOWED WITHIN THE PROTECTION FENCING.
7. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMITS OF THE FENCING.
8. WITHIN CLEARING/GRADING LIMITS OR AT THE EDGE OF THE CLEARING/GRADING LIMITS, TREE PROTECTION MAY BE INSTALLED AROUND GROUPS OF TREES.
9. DURING WORK, ANY ROOTS GREATER THAN TWO INCHES FOUND DURING EXCAVATION SHALL BE CLEANLY CUT. MULTIPLE ROOT PRUNING EVENTS FOR SINGLE TREES SHALL BE MANAGED & MONITORED BY THE PROJECT ARBORIST.
10. AFTER CONSTRUCTION IS COMPLETE, PROJECT ARBORIST SHALL VERIFY TREE PROTECTION FENCEING CAN BE REMOVED.

REGISTERED 552 Teresa Katherine Long OREGON 5-14-04 LANDSCAPE ARCHITECT

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CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE

TREE REMOVAL, PROTECTION & DENSITY PLAN

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

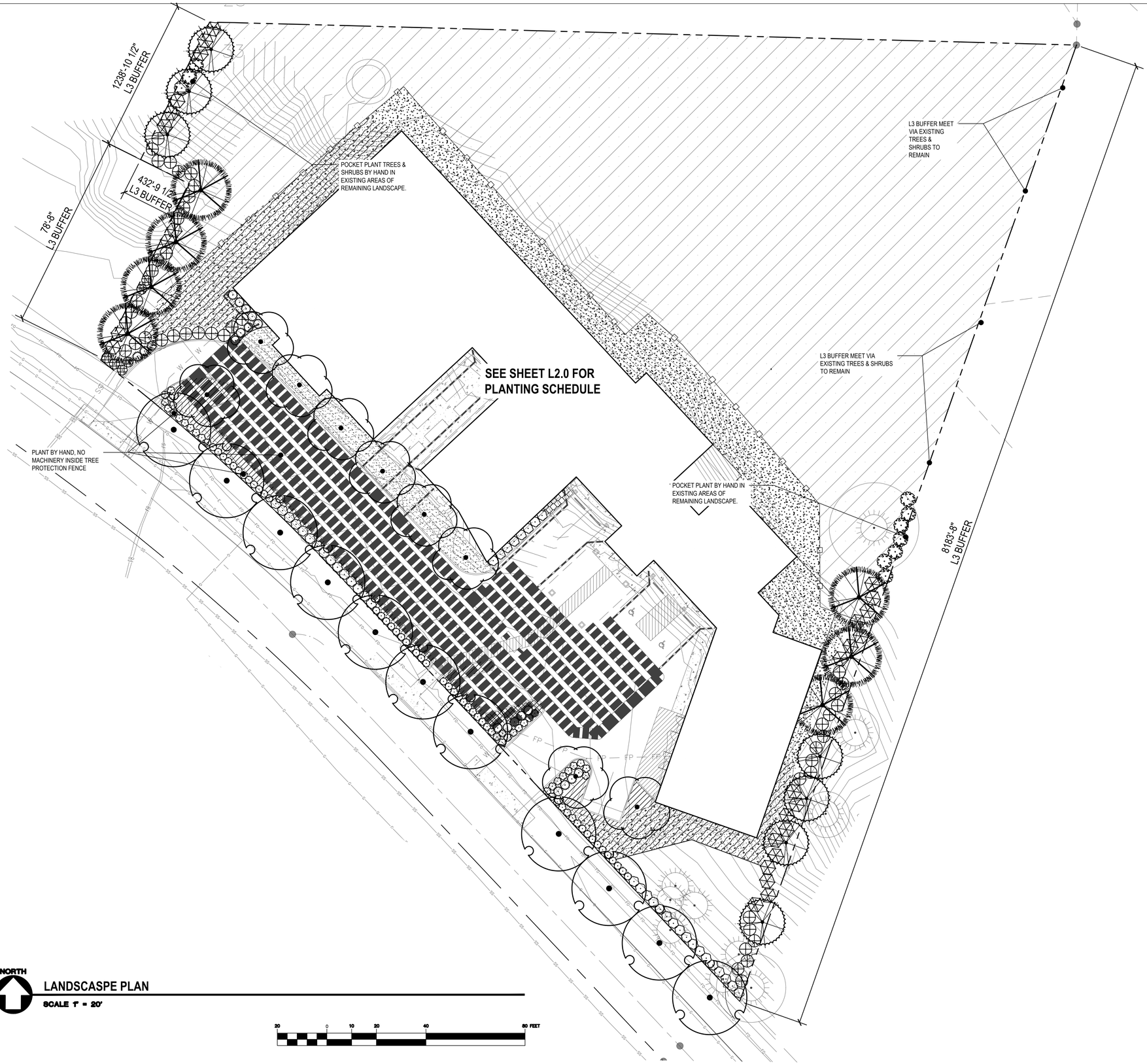
REVISIONS:

SHEET NUMBER

L1.0

JOB NUMBER: A18139.10

05/13/19 – LAND USE RESUBMITTAL



LANDSCASPE PLAN

SCALE 1" = 20'

20 0 10 20 40 80 FEET

LEGEND

EXISTING TREES TO REMAIN
ROOT ZONE AREA

EXISTING LANDSCAPE TO REMAIN

TREE PROTECTION FENCE

1 / L1.0

TREE PROTECTION FENCE

LANDSCAPE REQUIREMENTS

TOTAL SITE AREA	= 47,718 SF
LANDSCAPE AREA REQUIRED 15% OF SITE	= 7,158 SF
LANDSCAPE ARE PROPOSED 30% OF SITE	= 12,057 SF
PKG. LOT TREES REQ. 1 / 6 SPACES (18/6 = 3)	= 3 PKG. LOT TREES
PERCENTAGE OF EVERGREEN SHRUBS & GROUNDCOVER PLANTINGS	= 96%
PERCENTAGE OF NATIVE PLANTINGS	= 63%

GENERAL NOTES

1. CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT AT LEAST TWO WEEKS PRIOR TO START OF LANDSCAPE WORK TO REVIEW PLANT SUBSTITUTIONS & JURISDICTIONAL REQUIREMENTS.

PLANTING NOTES

1. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF CAMAS, WASHINGTON STANDARDS AND THE OREGON STRUCTURAL SPECIALTY CODE.
2. VERIFY ALL EXISTING CONDITIONS, INCLUDING LOCATION OF PROPERTY LINES, PRIOR TO BEGINNING ANY WORK. REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE IMMEDIATELY.
3. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION WHEN UNKNOWN OBSTRUCTIONS AND/OR DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE OF UNKNOWN OBSTRUCTIONS AND/OR DIFFERENCES. PRIOR TO REMOVING ANY EXISTING FEATURES, REVIEW AND CONFIRM EXTENT OF DEMOLITION WITH OWNER'S REPRESENTATIVE.
4. PROTECT EXISTING ITEMS TO REMAIN DURING CONSTRUCTION. ANY DAMAGE TO EXISTING ITEMS DESIGNATED TO REMAIN I.E. CURBS, WALKS, PLANT MATERIAL, LAWN OR FENCES SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER.
5. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES, LINES, PIPES, VAULTS, OR BOXES PRIOR TO EXCAVATION. 2. MARK AND PROTECT ALL UTILITIES. SITE FEATURES AND VEGETATION TO REMAIN IN PLACE. ANY DAMAGE TO ANY KNOWN EXISTING UTILITY ELEMENTS SHALL BE REPAIRED PROPERLY AND IMMEDIATELY.
6. REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL DEBRIS AND EXCAVATED MATERIAL NOT REQUIRED FOR FILL. NO RUBBISH OR DEBRIS SHALL BE BURIED ON THE SITE.
7. MAINTAIN ALL ROADWAYS AND PAVED PATHWAYS CLEAN AND FREE OF CONSTRUCTION MATERIALS AND DEBRIS, PROVIDING NECESSARY DUST CONTROL WHERE REQUIRED.
8. COORDINATE AND SCHEDULE ALL WORK WITH THE OWNER'S REPRESENTATIVE.
9. INSTALL EROSION CONTROL SYSTEMS IN ACCORDANCE WITH CITY OF CAMAS, WASHINGTON STANDARDS PRIOR TO SITE WORK AND LANDSCAPE INSTALLATION.
10. CONTRACTOR SHALL PROVIDE TOPSOIL, SOIL AMENDMENTS, AND EROSION CONTROL. SEE SPECS.
11. CONTRACTOR SHALL SUBMIT CERTIFIED TOPSOIL ANALYSIS REPORT FOR OWNER'S APPROVAL PRIOR TO PLANT INSTALLATION. SEE SPECS.
12. CONTRACTOR IS RESPONSIBLE FOR ANY AMENDMENTS TO SOIL PH FERTILITY AND/OR DRAINAGE CONDITIONS NECESSARY TO ENSURE PROPER GROWING CONDITIONS FOR PROPOSED PLANTINGS. SEE SPECS.
13. CONTRACTOR SHALL FOLLOW PROVIDER'S INSTRUCTIONS AND RECOMMENDATIONS FOR SEEDING.
14. ALL PLANTS SHALL BE INSTALLED ACCORDING TO AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1) AS WELL AS DETAIL DRAWINGS AND SPECIFICATIONS.
15. ALL PLANTS SHALL BE IRRIGATED BY A FULLY AUTOMATED, PERMANENT IRRIGATION SYSTEM UNLESS OTHERWISE NOTED. SEE SPECS.
16. PRIOR TO FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE OWNER WITH AS-BUILT PLANS OF THE INSTALLATION, COPIES OF ALL OPERATION MANUALS AND WARRANTY DOCUMENTS.
17. ALL NEW PLANTS IN LANDSCAPE AREAS SHALL BE WARRANTED FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE.

05/13/19 – LAND USE RESUBMITTAL

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LANDSCAPE PLAN

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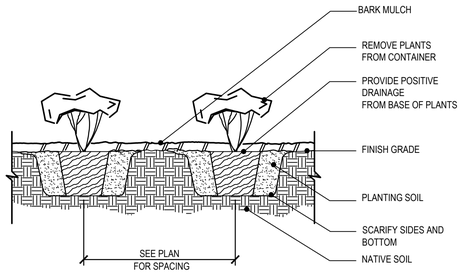
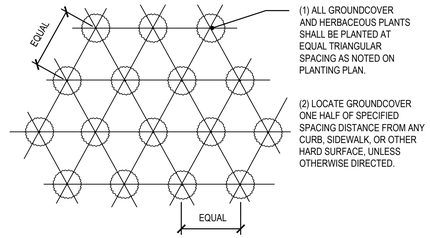


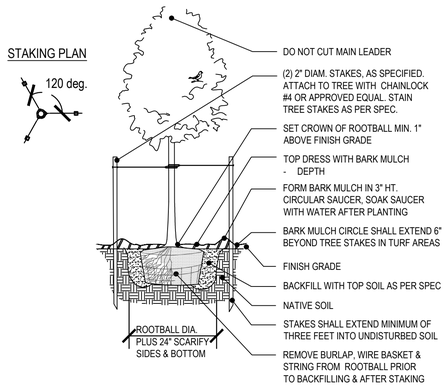
1 L2.0 GROUNDCOVER & HERBACEOUS PLANT PLANTING DETAIL

SCALE: NTS



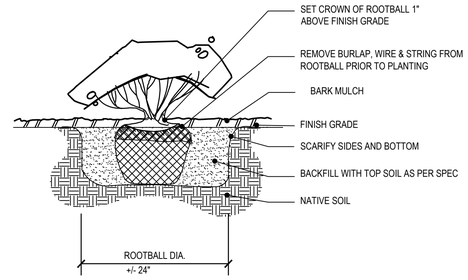
2 L2.0 GROUNDCOVER & HERBACEOUS PLANT PLANTING PLAN

SCALE: NTS



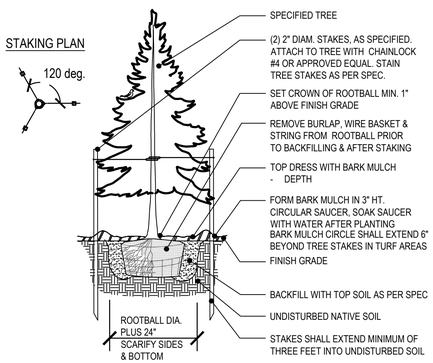
3 L2.0 DECIDUOUS TREE PLANTING DETAIL

SCALE: NTS



4 L2.0 SHRUB PLANTING

SCALE: NTS



5 L2.0 CONIFER TREE PLANTING DETAIL

SCALE: NTS

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	AF	8	ACER RUBRUM `FRANKSRED` TM DROUGHT TOLERANT	RED SUNSET MAPLE	2" CAL.	
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	CD	7	CALOCEDRUS DECURRENS NATIVE	INCENSE CEDAR	6` HT.	
	TP	7	THUJA PLICATA NATIVE	WESTERN RED CEDAR	6` HT.	
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	PC	9	PRUNUS SARGENTII `COLUMNARIS`	COLUMNAR SARGENT CHERRY	2" CAL.	
SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	RP	20	ROSA PISOCARPA NATIVE	CLUSTERED WILD ROSE	1 GAL.	
3`-0" - 4`-0" HEDGE	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	LR	40	LONICERA NITIDA `RED TIPS` EVERGREEN	RED TIPS BOX HONEYSUCKLE	3 GAL.	
	NC	46	NANDINA DOMESTICA `COMPACTA` EVERGREEN DROUGHT TOLERANT	DWARF HEAVENLY BAMBOO	3 GAL.	
	RE	35	RHAPHIOLEPIS INDICA `CONOR` EVERGREEN DROUGHT TOLERANT	ELEANOR TABOR INDIAN HAWTHORN	3 GAL.	
TALL (MINL 6`-0") EVERGREEN SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	
	AC	27	ARCTOSTAPHYLOS COLUMBIANA EVERGREEN NATIVE	HAIRY MANZANITA	1 GAL.	
	BP	10	BACCHARIS PILULARIS EVERGREEN NATIVE	DWARF COYOTE BRUSH	1 GAL.	
	CT	45	CEANOTHUS THYRSIFLORUS EVERGREEN NATIVE	BLUE BLOSSOM	1 GAL.	
	MA	6	MAHONIA AQUIFOLIUM EVERGREEN NATIVE	OREGON GRAPE	1 GAL.	
GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING
	AB	56	AJUGA REPTANS `BRONZE BEAUTY`	BRONZE BEAUTY BUGLEWEED	---	12" o.c.
	FC	270	FRAGARIA CHILOENSIS	BEACH STRAWBERRY	---	18" o.c.
	MR	26	MAHONIA REPENS	CREEPING MAHONIA	---	24" o.c.
	1,297 SF		LAWN			
	3,163 SF		PROTIME (PT) 665 POLLINATOR GARDEN & URBAN RECLAMATION APPLICATION RATE: 1 LB/2,000 SF			
	4,710 SF		PROTIME (PT) 460 NATIVE UPLAND MIX FOR SHADE APPLICATION RATE: 1 LB/1,000 SF			

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05/13/19 – LAND USE RESUBMITTAL

Landscape Construction Specifications

General

1. Municipal, County, State and Federal laws, regarding uses and regulations governing or relating to any portion of the work depicted on these plans are hereby incorporated into and made part of these specifications, and their provisions shall be carried out by the contractor.

2. The Contractor shall verify the locations of all existing utilities, structures, and services before commencing work. The location of utilities, structures, services shown on these plans are approximate only. Any discrepancies between these plans and the actual field conditions shall be reported to the Owner's representative.

3. The Contractor shall locate and protect all existing utilities, features and plants on and adjacent to the project site during construction. Contractor shall repair, at his own expense, all damage resulting from his operations or negligence.

4. The Contractor shall obtain all necessary valid licenses, permits, and insurance required to perform the work indicated herein before commencing work, and shall be responsible for coordinating work with all parties involved, including jurisdictional agencies.

5. The Contractor shall use all means necessary to protect the public at all times during the construction process.

6. In the event of conflict between pertinent codes, regulations, structural notes, and/or requirements, or the referenced standards of these Specifications, the provisions of the more stringent shall govern.

7. Weather Limitations: Soil work shall be performed only when the weather conditions do not detrimentally affect the quality of work.

Mandatory Site Inspection Schedule

1. Schedule for Mandatory site inspection procedures. The mandatory site inspections include but are not limited to the following:

   Pre-Construction Site Meeting
   Contractor shall be notified a minimum of 48 hours prior to meeting to review site conditions, proposed construction and construction schedule, and review construction specifications prior to commencement of construction operations.

   Rough Grading Inspection
   Contractor shall notify Owner's Representative a minimum 48 hours prior to request for inspection of rough soil grades. All rough grading operations shall be completed per specifications and prepared for inspection. No topsoil placement or backfilling in areas to be landscaped should occur until written approval by Owner's Representative has been issued.

   Open Trench Irrigation Inspection
   Contractor shall notify Owner's Representative 24 hours prior to inspection for written approval of irrigation trench depths, piping conditions, and pressure testing. (Refer to Irrigation Specification for inspection procedures)

   Plant Material Inspection
   Plant material quality and layout inspection and written approval shall occur with 24 hours notice to Owner's Representative prior to installation of any plant material. (Refer to Planting Specification for inspection procedures)

   Final Landscape Areas and Irrigation Performance Inspection
   Contractor shall notify Owner's Representative 48 hours prior to inspection for approval of landscape and irrigation work. Irrigation operations and coverage shall be inspected. Plant quality and layout shall be inspected. Written approval shall be issued upon inspection approval of specified construction. (Refer to relative specification sections)

Erosion Control

1. Provide and maintain positive drainage patterns throughout the construction process, and as directed by the Owner's Representative if weather or construction activity creates drainage conflicts detrimental to construction process or environmental conditions. Comply with jurisdictional requirements.

2. Maintain erosion measures throughout the landscaping process. Restore erosion control measures disturbed by landscaping operations. Remove only upon approval of Owner's Representative.

Invasive Weed Control Prior to Construction

1. Verify and identify conditions requiring eradication of invasive weeds and grasses prior to existing soil surface disturbance as directed by Owner's Representative. Stockpiled topsoil shall be treated to eradicate weeds prior to soil ripping and stockpiling. Weed eradication shall include herbicide and non-herbicide methods only administered by a currently licensed applicator. Eradication shall include and is not limited to elimination of the following invasive species from areas to be landscaped:

   Cirsium arvense (Canadian Thistle) Lotus corniculatus (Bird's foot Trefoil
   Convolvulus spp. (Morning Glory) Lythrium salicaria (Purple Loosestrife)
   Cytisus scoparus (Scotch Broom) Melilotus spp. (Sweet Clover)
   Dipsacus sylvestris (Common Teasel) Myriophyllum spicatum (Eurasian Milfoil)
   Equisetum spp. (Horsetail) Phalaris arundinaceae (Reed Canary Grass)
   Festuca arundinaceae (Tall Fescue) Rubus discolor (Himalayan Blackberry)
   Hedera helix (English Ivy) Solanum spp. (Nightshade)
   Holcus canatus (Velvet Grass) Trifolium spp. (Clovers)
   Lolium spp. (Rye Grasses)

Rough Grade Inspection

1. Conditions and quality of rough grade shall be inspected and approved by Owner's Representative prior to the commencement of specified work in areas to be landscaped. The contractor shall then be responsible for completion of activities specified herein, and defined on the plan.

2. In all plant bed areas the sub-grade shall be free of unsuitable material such as stumps, roots, rocks, concrete, asphalt, or metals, for a minimum depth of 24 inches, and in all lawn or seeded areas the sub-grade shall be free of unsuitable material for a minimum depth of 12 inches

3. The Owner's Representative, at their discretion, shall direct further rough grading or soil preparation if specified activities have not created a surface satisfactory for further work to commence. Compensation for additional surface work created by conditions unknown at the outset and as directed in writing by the Owner's Representative shall be negotiated at the time of the directive, and prior to the commencement of particular construction activities.

Finish Grading

1. Verify that rough grade in landscape areas is sufficiently below proposed final grade for planting beds and lawn areas to allow for placement of topsoil mix. Refer to grading plans for finish grade references. Verify that grades provide positive drainage at all landscape areas, and slope away from structures at a minimum of 2% slope. Final grades in all landscape areas shall be crowned at center to facilitate proposed drainage.

Installation Of Irrigation Sleeving

1. Sleeving conduit shall be installed at existing and proposed paved areas as per specifications, as directed by the Owner's Representative, or as irrigation installation requirements, prior to preparation for paving construction. Set piping to provide minimum covers of:

   18-inch for sleeving beneath walkways;
   24-inch for sleeving beneath vehicular traffic or structures.

   Mark each end of sleeving with a 2 x 4 stake with 24" exposed, clearly marked 'SLEEVE LOCATION'. Contractor shall maintain staking identification and location throughout construction process. Protect all existing paving when installing sleeving. Restore all paving damaged by sleeve installation.

2. Size of sleeving conduit pipe shall be a minimum of two times the diameter of the bell end of the pipe that is to be fed into the sleeve.

3. Set sleeving in a compacted bed of material that will not damage the pipe during compaction of surface backfill material.

Design / Build Irrigation Specification

1.1 DESIGN BUILD SUBMITTALS AND REQUIREMENTS

A. Design Criteria: Submitted plan shall meet the following criteria and shall be approved for construction only upon verification that all required criteria have been met.
   1. Drawings submitted for design approval:
      a. Must clearly illustrate irrigation heads, dripline, valve, controller and point of connection locations. Individual valves and controllers shall be numbered sequentially. The size and maximum flow through each valve and capacity of each controller shall be clearly noted.
      b. Must clearly illustrate pipe sizes from all laterals and mainline pipe.
      c. Drawings must be to a standard measurable engineering scale that is at a minimum of 1"=30'-0".
      d. Drawings must be CAD generated.
      e. Drawings must include a legend that describes all symbols and materials represented on the plan.
      f. Drawings must clearly illustrate that the proposed irrigation system meets all performance criteria described by these specifications.
      g. Must utilize graphics that clearly distinguish between lateral and mainline pipe and sleeves under pavement; dripline; manual or automatic control valves, isolation valves and drain valves; irrigation controllers and all other equipment located on the plan.

B. Irrigation system as designed and installed shall perform within the tolerances and specification of the specified manufacturers.

C. The system shall be fully adjustable to fine-tune the system performance for specific zones. Indicate water pressure and gallonage parameters at available water source on the required submittal.

D. Irrigation system shall be designed so that planting beds, sloped banks and lawn zones are on separate control valves to facilitate the different water requirements of each area.

E. System shall be designed to supply manufacturer's specified minimum operating pressure to furthest emitter from water meter. Water flow through piping shall not exceed a velocity of 5 feet per second.

F. System shall furnish components to allow operation within manufacturer's specified tolerances for optimum performance. Undersized components shall not be approved for installation.

5. Upon completion of the irrigation system installation and as a condition of it's acceptance, deliver to the Owner's representative the following 'As- built' drawings; Three prints and one reproducible sepia of all changes to the irrigation system including a Controller Zone Reference chart. Instruct owner of system components operation, system winterization, and controller adjustment processes. Instruct owner of precipitation requirements and schedule of anticipated controller adjustments as landscape matures.

6. Protect existing buildings, walls, pavements, reference points, monuments, and markers on this site. Verify location of and protect all utilities. Protect adjacent property. Protect work and materials of other trades. Protect irrigation system materials before, during, and after installation. In the event of damage, repair or replace items as necessary to the approval of the Owner's representative and at no additional cost to the Owner. Use all means necessary to protect the public from injury at all times.

7. Provide warranty for all installed materials and work for one year beyond the date of final acceptance of the irrigation system installation.

8. Verify gallonage, pressure, size, and location of service water line. The Contractor shall guarantee an irrigation system that functions to manufacturer's specifications with the source volume and pressure afforded to site. Make arrangements for water shut-off during construction if necessary, notify owner 24 hours prior to suspension of water service.

9. Irrigation trenches shall be a depth to provide a minimum cover of 18 inches for sleeving beneath walkways; 18 inches for all pressurized main lines; 36 inches for sleeving beneath asphalt paving, and 12 inches for all lateral lines. Backfill with clean fill void of material injurious to system components. All sleeving under vehicular traffic to be Class 200 PVC, all other sleeving shall be class 200 PVC Locate top of zone valves a minimum of 6" below finish grade.

10. Combine wire and piping where possible.

11. Contractor shall follow manufacturer's instructions for solvent welding of PVC pipe and fittings to achieve tight and inseparable joints. Utilize single wrap Teflon tape at all threaded joints.

12. Install all valves with fittings that facilitate maintenance removal and place valve boxes at location that are easily serviced but not in conspicuous locations. Locate in planting beds wherever possible, away from mower, edger, or de-thatcher operations.

13. Contractor shall install one manual drain valve at discharge side of each remote control valve and at all low points in mainline pipe so as to allow for complete drainage of all main lines. Mark with a painted sleeve cover and indicate locations on As-Built drawings.

14. Contractor shall provide backflow prevention as required per local and state codes, installed as per manufacturer's specifications.

15. Contractor shall install irrigation controller in accordance with manufacturer's specifications. Verify a 120 V.A.C. electrical source and a min. 1 1/2" conduit from controller location open to all electrical zone valves in field. Weatherproof any exterior wall penetrations.

16. Automatic Controller: Rainbird or Hunter capable of meeting Water Sense EPA Criteria or approved equal. Controller shall have ability for all zones to fully operate and meet both normal and specified low volume system requirements as specified herein, and as required by site conditions. Coordinate location in field with owner's representative.

17. Install all wire in accordance with manufacturer's specifications with a minimum of 18 inch looped inside valve box at each remote control valve and at the controller. All splices shall occur within valve boxes with water-proof connectors.

18. Contractor shall install all sprinkler heads with flexible risers, using flexible polyethylene pipe not to exceed 18 inches in length or PVC swing joints. Tee fittings shall extend horizontally from pipe .

19. Contractor shall thoroughly flush irrigation system after piping, risers, and valves are installed but prior to installing sprinkler heads. Thoroughly clean, adjust and balance the installed irrigation system. Adjust spray pattern of nozzles to minimize throw of water onto buildings, walls, roads and parking lots. Adjust controller for optimum performance and precipitation rates utilizing proper water conservation measures.

Topsoil Placement and Soil Preparation

1. Contractor shall submit certified topsoil analysis report for owner's approval prior to plant installation.

2. Contractor is responsible for any amendments to soil PH , fertility and/or drainage conditions necessary to ensure proper growing conditions for proposed planting.

3. Topsoil shall be friable soil from existing stockpiled material or imported, with added soil amendments as specified. It shall not be delivered while in a frozen or muddy condition. Protect from erosion at all times. Utilize existing stockpiled topsoil only under the direction of the Owner's Representative. Do not place topsoil in areas that have not been cleared of weeds listed herein. Topsoil shall meet the following requirements:

   a. Free of roots and rocks larger than 1/2 inch,
   b. Free of subsoil, debris, large weeds, foreign matter and any other material deleterious to plant material health.
   c. Acidity range (pH) of 5.5 to 7.5.
   d. Containing a minimum of 4 percent and a maximum of 25 percent inorganic matter with decaying matter of 25 percent content by volume or less.
   e. Textural gradations shall be sand: 45-75%, silt: 15-35%, clay: 05-20%.

4. Commercial fertilizer shall be an organic base, complete fertilizer containing in available form by within a minimum of 10N 10P 5K - with 50 percent of the available nitrogen in slow-release formula, Webfoot Organic Delux, or approved equal.a

5. Compost shall be yard debris compost meeting industry and jurisdictional standards.

6. Contractor shall remove all debris, rocks one inch in diameter or larger, sticks, mortar, concrete, asphalt, paper, contaminated soil and any material harmful to plant life, in all planting areas.

7. Contractor shall rototill subgrade six (6) inches deep before placing topsoil. Specified imported topsoil shall be placed at a minimum depth of **12"** in all planting areas. Do not place material during wet conditions. Do not work saturated soils in any manner. floated to a level, sloped or mounded grade between any existing or constructed point on the site, such as curbs, walls, walks, paving and the like. Final soil grades in planting beds shall be 2" below adjacent paving and curbs for mulch application.

8. Distribute following soil amendments to all landscape areas in even layers and power rototill or spade to a minimum depth of six (6) inches into topsoil, as follows;

   Planting Beds:
   a. Compost: Apply nine cubic yards per 1000 sq. ft.
   b. Commercial Fertilizer: Apply 50 pounds per 1000 sq. ft.

9. Preparation of backfill planting soil mix shall be as follows:

   Thoroughly blend and mix the following proportion of materials while in a moist condition:
   - Three cubic yards topsoil
   - 1 1/2 cubic yards compost
   - 1 1/2 cubic yards medium bark,
   - 10 pounds commercial fertilizer
   - Five pounds bonemeal

10. Keep project free from accumulation of debris, topsoil and other material. At completion of each area of work, remove debris, equipment and surplus materials. Any paved area or surfaces stained or soiled from landscaping materials shall be cleaned with a power sweeper using water under pressure. Building surfaces shall be washed with proper equipment and materials as approved by the Owner's representative.

Seed Installation

1. Seeding operations shall occur only between March 15 and October 15.

2. Seeding is not permitted during cold weather (less than 32 degrees F), hot weather (greater than 80 degrees F), when soil temperature is less than 55 degrees F, when ground is saturated, or when wind velocity is greater than 10 mph.

3. Contractor shall float rough graded seedbed. Do not disturb natural drainage patterns. Remove rocks, clumps, or debris at surface. Lightly scarify surface.

4. Contractor shall apply 10 pounds commercial fertilizer per 1,000 square feet of surface area before spreading seed.

5. Lawn Seed: Contractor shall manually broadcast or hydro-seed eight pounds of Sunmark "Northwest Supreme Lawn Mix" grass seed per 1,000 square feet.

6. Fieldgrass Seed: Contractor shall manually broadcast or hydro-seed eight pounds of Sunmark "Diamond Green" grass seed per 1,000 square feet.

7. The Contractor shall protect and maintain the seeded area by fencing, watering, feeding, reseeding, mowing and repairing as necessary to establish a thick, uniform stand of grass acceptable to the Owner's representative. Contractor to maintain lawn for a minimum of 3 mowings.

Trees, Shrubs, & Groundcover Installation

1. Contractor shall guarantee materials and workmanship in general landscape areas for one year from date of conditional acceptance. Plant material shall be in accordance with American Standard for Nursery Stock (ANSI Z60.1) , shall comply with State and Federal laws with respect to inspection for insect infestation and plant diseases and shall be free of insect pests and plant diseases.

2. Plant materials shall have a minimum of 6 inches of prepared soil under the root ball, and a minimum of 6 inches on each side of the root ball. Tree roots or root ball shall have a minimum of 12 inches of plant soil under the root ball and a minimum of 12 inches on each side of the root ball, or roots. Final grade should maintain root ball slightly above surrounding grade (not to exceed one inch) for bark mulch installation.

3. Root control barrier shall be installed in trenches, alongside hardscape structures and utility lines such as sidewalks, curbs, pavement, walls, and concrete located within 5 feet of new trees measured from the trunk. Root barrier is to be 40 - 60 mil HDPE, minimum 18" deep and extend 10' in either direction measured from the center of the trunk.

4. Mulch all planting beds after planting, final raking, grading and leveling of the planting beds with a layer of Hem/Fir medium screened bark mulch as specified on the plans.

5. Balled and burlapped trees, boxed trees or bare root trees shall be either guyed or staked as detailed on the plans.

6. Remove all dead or dying branches and criss-crossing branches from trees. Do not cut leader.

7. Keep project free from accumulation of debris, topsoil and other material. At completion of each area of work, remove debris, equipment and surplus material. All paved areas or surfaces stained or soiled from landscape material shall be cleaned with a water-pressure power sweeper. Building surfaces shall be washed with proper equipment and materials as approved by the Owner.

8. River Rock Mulch:
   River rock mulch shall be minimum 3/4" to maximum 1-1/2" diameter washed round river rock, uniform in size. All fines shall be screened from the aggregate within a one-quarter inch (1/4") tolerance. Color shall be white to light brown. Contractor shall provide the owner with samples of river rocks for approval prior to installation.

Maintenance

1. Contractor shall maintain general landscape areas for one year after accepted completion of project.

2. Maintenance shall include; all grade resettlement, weeding, policing and removal of plant material debris during maintenance period. Remove and replace dead plant material as needed at no cost to owner for maintenance period. Seasonal leaf fall removal is outside the scope of this maintenance specification.

3. Any unsatisfactory condition arising during this maintenance period shall be brought to the attention of the Owner's Representative immediately.

AAI aglan associates, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF
CAMAS, WASHINGTON

SHEET TITLE
LANDSCAPE & IR SPECS

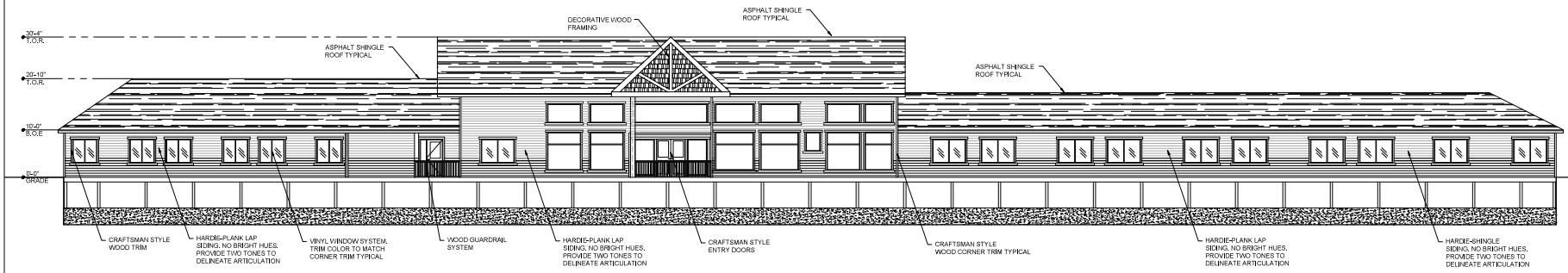
DATE: 10/30/18
DRAWN: RTN
CHECKED: DSE
REVISIONS:

SHEET NUMBER
L3.0

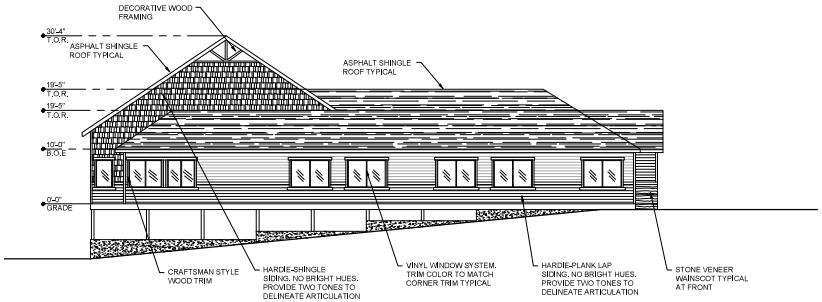
JOB NUMBER: A18139.10

05/13/19 – LAND USE RESUBMITTAL

EXHIBIT 9



1 A2.2 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



2 A2.2 WEST ELEVATION
SCALE: 1/8" = 1'-0"

B A M A
Architecture and Design
1631 NE Broadway St. #754
Portland, Oregon 97232
Ph: 503.253.4283

2019 REGISTERED ARCHITECT
WILDRED WHITE
STATE OF WASHINGTON

Lacamas View
ASSISTED LIVING FACILITY

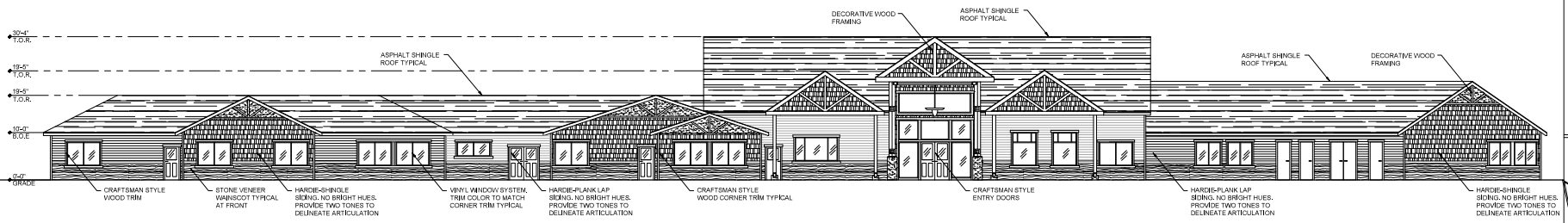
3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

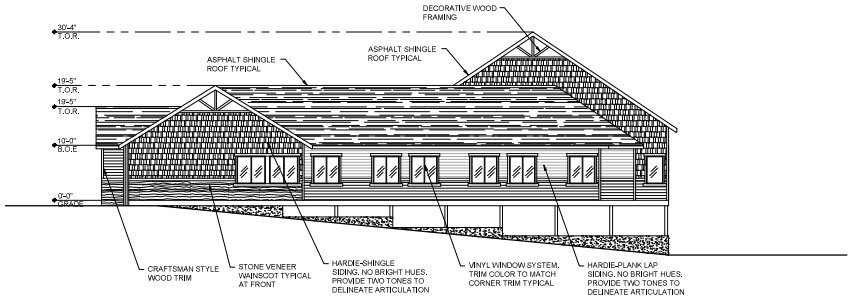
Land Use Review:
October 31, 2018

SHEET NO.
A2.2
EXTERIOR ELEVATIONS



1 A2.1 SOUTH ELEVATION

SCALE: 3/32" = 1'-0"



2 A2.1 EAST ELEVATION

SCALE: 3/32" = 1'-0"

B A M A
Architecture and Design
1631 NE Broadway St. #754
Portland, Oregon 97232
Ph: 503.253.4283

2019 REGISTERED ARCHITECT
MILDRED WHITE
STATE OF WASHINGTON

Lacamas View
ASSISTED LIVING FACILITY

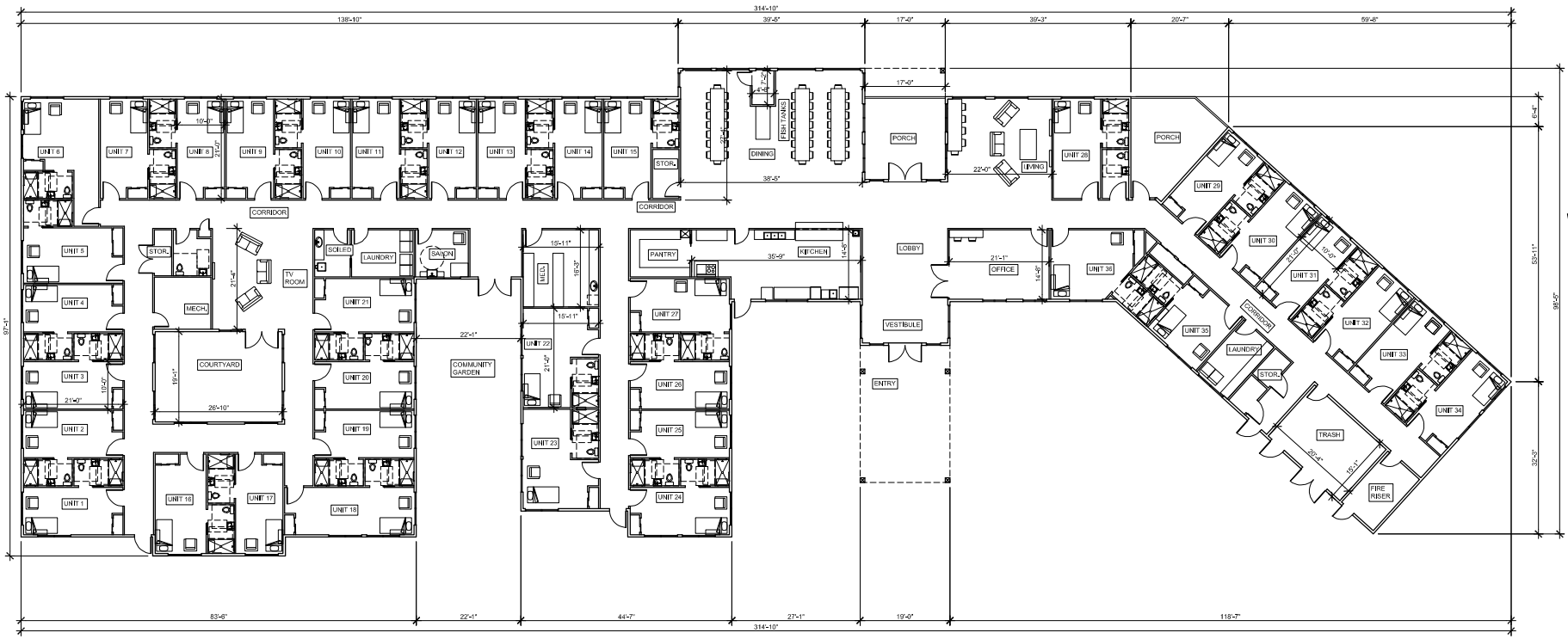
3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

Land Use Review:
October 31, 2018

SHEET NO.
A2.1
EXTERIOR ELEVATIONS



NORTH

1 / A1.1 MASTER FLOOR PLAN

SCALE: 3/32" = 1'-0"

B A M A
Architecture and Design
1631 NE Broadway St. #754
Portland, Oregon 97232
Ph: 503.233.4283

2019 REGISTERED ARCHITECT
WILDRED WHITE
STATE OF WASHINGTON

Lacamas View
RESIDENTIAL CARE FACILITY

3401 NW Lake Rd.
Camas, WA 98607

Proj # 201819

REVISIONS:

Land Use Review:
October 31, 2018

SHEET NO.
A1.1
MASTER FLOOR PLAN

EXHIBIT 10

SOLID STATE AREA LIGHTING

RAZAR SERIES-LED

S P E C I F I C A T I O N S

PROJECT NAME:

PROJECT TYPE:

RAZAR

(MODELS: RZRM, RZR, RZR-G & RZR-MAF*) PATENT PENDING

OPTICAL HOUSING

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .002") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

ELECTRICAL HOUSING w/ INTEGRATED ARM

Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

PLED™ OPTICS

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. In asymmetric distributions, a micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce standard site/area distributions. Panels are field replaceable and field rotatable in 90° increments.

LED DRIVER(S)

Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

LED EMITTERS

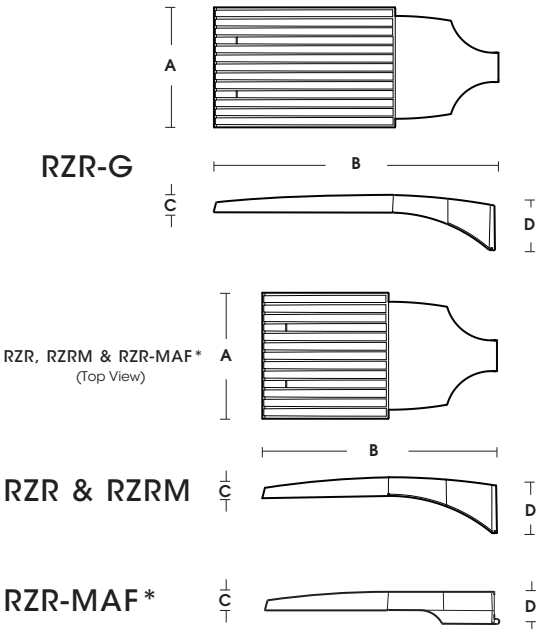
High output LED's are utilized with drive currents ranging from 350mA to 1050mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

FINISH

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

MAST ARM FITTER/ELECTRICAL HOUSING

Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.



FIXTURE	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

*DLC PENDING AS OF 7/17

c UL us LISTED

MADE IN THE USA

2017193

U.S. Architectural Lighting

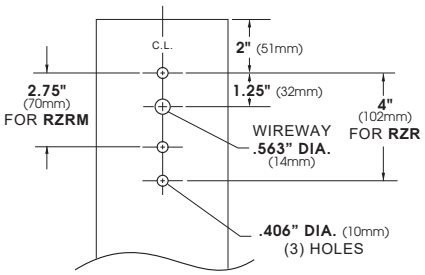
660 West Avenue O, Palmdale, CA 93551
Phone (661) 233-2000 Fax (661) 233-2001
www.usaltg.com

U.S. ARCHITECTURAL LIGHTING

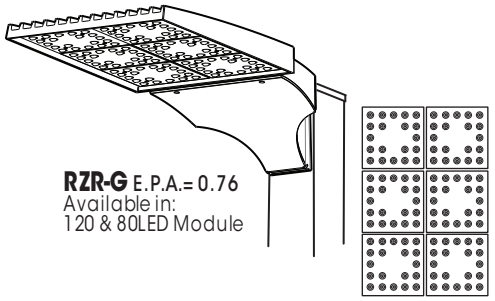
RAZAR SERIES-LED

SPECIFICATIONS

POLE DRILLING TEMPLATE

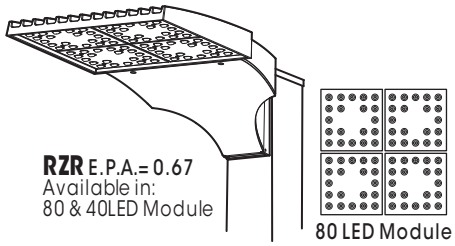


PLED® MODULES



RZR-G E.P.A.= 0.76
Available in:
120 & 80LED Module

120 LED Module



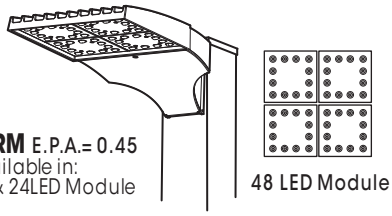
RZR E.P.A.= 0.67
Available in:
80 & 40LED Module

80 LED Module

Approximate Average Lumens – 4000K

(Lumens median of all distributions)

	350mA			525mA			700mA			1050mA		
	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.
24	28	3541	50	41	5058	70-100	53	6567	100	81	8773	150-175
40	45	5997	70-100	66	8653	100-150	87	10995	175	134	14647	200-250
48	55	7046	100	81	10018	150-175	105	12600	200	160	17566	250
80	87	11622	175-200	131	16736	200-250	174	21235	400	266	28190	450-575
120	127	17405	250	195	24860	450	260	31592	575-750	396	43323	750-1000



RZRM E.P.A.= 0.45
Available in:
48 & 24LED Module

48 LED Module

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/277/RAL-8019-S/10SP

SPEC/ORDERING INFORMATION

MODEL | OPTICS | LED MODE | VOLTAGE | FINISH | OPTIONS

MODEL

- ☐ RZR-G
- ☐ RZR
- ☐ RZR-MAF*
- ☐ RZRM

*DLC PENDING AS OF 7/17

OPTICS

- ☐ TYPE II **PLED-II** . . . . . 
- ☐ TYPE II FRONT ROW **PLED-II-FR** . . . . . 
- ☐ TYPE II MEDIAN ILLUMINATOR **PLED-II-ML** . . . . . 
- ☐ TYPE III MED. **PLED-III-M** . . . . . 
- ☐ TYPE III WIDE **PLED-III-W** . . . . 
- ☐ TYPE IV **PLED-IV** . . . . . 
- ☐ TYPE IV **PLED-IV-FT** . . . . . 
- ☐ TYPE V NARROW **PLED-VSQ-N** . . . . 
- ☐ TYPE V MED. **PLED-V-SQ-M** . . 
- ☐ TYPE V WIDE **PLED-V-SQ-W** . . 

LED MODE

NO. LEDs | DRIVE CURRENT | COLOR TEMP - CCT

RZR-G

- ☐ 120LED
- ☐ 80LED

RZR

- ☐ 80LED
- ☐ 40LED

RZRM

- ☐ 48LED
- ☐ 24LED

DRIVE CURRENT

- ☐ 350mA
- ☐ 525mA
- ☐ 700mA
- ☐ 1050mA

COLOR TEMP - CCT

- ☐ NW (4000K)* *STANDARD
- ☐ CW (5000K)
- ☐ WW (3000K)

CONSULT FACTORY FOR OTHER LED COLORS

VOLTAGE

- ☐ 120
- ☐ 208
- ☐ 240
- ☐ 277
- ☐ 347
- ☐ 480

FINISH

STANDARD TEXTURED FINISH

- ☐ BLACK **RAL-9005-T**
- ☐ WHITE **RAL-9003-T**
- ☐ GREY **RAL-7004-T**
- ☐ DARK BRONZE **RAL-8019-T**
- ☐ GREEN **RAL-6005-T**

FOR SMOOTH FINISH REPLACE SUFFIX "T" WITH SUFFIX "S" (EXAMPLE: RAL-9005-S)

CONSULT FACTORY FOR CUSTOM COLORS

OPTIONS

- ☐ HIGH-LOW DIMMING FOR HARDWIRED SWITCHING OR NONINTEGRATED MOTION SENSOR . . . . . **HLSW**
- ☐ INTERNAL HOUSE SIDE SHIELD . . . **HS-PLED**
- ☐ PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . . **PC+V**
- ☐ TWIST LOCK PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . . **TPC+V**
- ☐ TWIST LOCK RECEPTACLE ONLY . . . **TPR**
- ☐ 7-PIN TWIST LOCK RECEPTACLE ONLY . . . **TPR7**
- ☐ SINGLE FUSE (120V, 277V, 347V) . . **SF**
- ☐ DOUBLE FUSE (208V, 240V, 480V) . . **DF**
- ☐ STEP DIM MOTION SENSOR (PROGRAMMED 50/100) **MS-F211**
- ☐ REMOTE MOTION SENSOR CONFIGURATOR **MS-FC10**

U.S. Architectural Lighting

660 West Avenue O, Palmdale, CA 93551
Phone (661) 233-2000 Fax (661) 233-2001
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U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES-LED

LED/ELECTRICAL GUIDE

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K CCT	INITIAL LUMENS - 3000K CCT	INITIAL LUMENS - 5000K CCT	L70 GREATER THAN (HR)	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
24	LED	24 PLED® Optical Module - 350mA	3,298 - 3,784	3,133 - 3,595	3,463 - 3,973	60,000+	-20°F	29	120 277	0.24 0.10
24	LED	24 PLED® Optical Module - 525mA	4,711 - 5,405	4,475 - 5,135	4,947 - 5,675	60,000+	-20°F	42	120 277	0.34 0.15
24	LED	24 PLED® Optical Module - 700mA	6,023 - 6,911	5,722 - 6,565	6,324 - 7,256	60,000+	-20°F	56	120 277	0.45 0.20
24	LED	24 PLED® Optical Module - 1050mA	8,171 - 9,375	7,762 - 8,906	8,580 - 9,844	60,000+	-20°F	82	120 277	0.68 0.30
40	LED	40 PLED Optical Module - 350mA	5,585 - 6,408	5,306 - 6,088	5,864 - 6,729	60,000+	-20°F	43	120 277	0.38 0.17
40	LED	40 PLED® Optical Module - 525mA	8,059 - 9,246	7,656 - 8,784	8,462 - 9,709	60,000+	-20°F	65	120 277	0.55 0.24
40	LED	40 PLED® Optical Module - 700mA	10,240 - 11,749	9,728 - 11,162	10,752 - 12,337	60,000+	-20°F	87	120 277	0.73 0.32
40	LED	40 PLED® Optical Module - 1050mA	13,642 - 15,652	12,960 - 14,870	14,324 - 16,435	60,000+	-20°F	128	120 277	1.12 0.49
48	LED	48 PLED® Optical Module - 350mA	6,562 - 7,529	6,234 - 7,153	6,890 - 7,909	60,000+	-20°F	53	120 277	0.46 0.20
48	LED	48 PLED® Optical Module - 525mA	9,330 - 10,705	8,864 - 10,170	9,797 - 11,240	60,000+	-20°F	79	120 277	0.68 0.29
48	LED	48 PLED® Optical Module - 700mA	11,735 - 13,464	11,148 - 12,791	12,322 - 14,137	60,000+	-20°F	106	120 277	0.88 0.38
48	LED	48 PLED® Optical Module - 1050mA	16,360 - 18,771	15,542 - 17,832	17,178 - 19,709	60,000+	-20°F	160	120 277	1.33 0.58
RZR										
80	LED	80 PLED® Optical Module - 350mA	10,824 - 12,419	10,283 - 11,798	11,365 - 13,040	60,000+	-20°F	86	120 277	0.75 0.33
80	LED	80 PLED® Optical Module - 525mA	15,587 - 17,884	14,808 - 16,990	16,366 - 18,778	60,000+	-20°F	130	120 277	1.10 0.48
80	LED	80 PLED® Optical Module - 700mA	19,767 - 22,680	18,779 - 21,546	20,755 - 23,814	60,000+	-20°F	174	120 277	1.45 0.63
80	LED	80 PLED® Optical Module - 1050mA	26,255 - 30,124	24,942 - 28,618	27,568 - 31,630	60,000+	-20°F	257	120 277	2.22 0.96
RZR-G										
80	LED	80 PLED® Optical Module - 350mA	10,950 - 12,564	10,403 - 11,936	11,498 - 13,192	60,000+	-20°F	87	120 277	0.75 0.33
80	LED	80 PLED® Optical Module - 525mA	15,735 - 18,054	14,948 - 17,151	16,522 - 18,957	60,000+	-20°F	129	120 277	1.10 0.48
80	LED	80 PLED® Optical Module - 700mA	20,074 - 23,032	19,071 - 21,881	21,078 - 24,184	60,000+	-20°F	174	120 277	1.45 0.63
80	LED	80 PLED® Optical Module - 1050mA	27,651 - 31,725	26,268 - 30,139	29,033 - 33,311	60,000+	-20°F	266	120 277	2.22 0.96
120	LED	120 PLED® Optical Module - 350mA	16,211 - 18,599	15,400 - 17,669	17,021 - 19,529	60,000+	-20°F	130	120 277	1.06 0.46
120	LED	120 PLED® Optical Module - 525mA	23,154 - 26,566	21996 - 25,238	24,312 - 27,894	60,000+	-20°F	192	120 277	1.63 0.70
120	LED	120 PLED® Optical Module - 700mA	29,424 - 33,760	27,953 - 32,072	30,895 - 35,448	60,000+	-20°F	260	120 277	2.17 0.94
120	LED	120 PLED® Optical Module - 1050mA	40,350 - 46,296	38,333 - 43,981	42,368 - 48,611	60,000+	-20°F	398	120 277	3.33 1.43

NOTES:
1. Max Input Amps is the highest of starting, operating, or open circuit currents.
2. Lumen values for LED Modules vary according to the distribution type. 80LED array appears in both the RZR and RZR-G models.
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use surge suppressor supplied with luminaire.
   Note: Surge suppressors are considered a perishable device.
5. L70(10K) – TM-21 6x rule applied.

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

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Phone (661) 233-2000 Fax (661) 233-2001
www.usaltg.com

TYPE B

SOLID STATE AREA LIGHTING

RAZAR SERIES-LED

S P E C I F I C A T I O N S

PROJECT NAME:

PROJECT TYPE:

RAZAR

(MODELS: RZRM, RZR, RZR-G & RZR-MAF*) PATENT PENDING

OPTICAL HOUSING
Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .002") to facilitate thermal transfer of heat to housing and cooling fins. Solid barrier wall separates optical and electrical compartments. The optical and electrical compartments are integrated to create one assembly. Minimum wall thickness is .188".

ELECTRICAL HOUSING w/ INTEGRATED ARM
Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling ribs surrounding the electrical compartment and a flat surface on the top of the arm to accommodate a photocell receptacle. Solid barrier wall separates optical and electrical compartments. The optical compartment and electrical compartment with the integrated support arm combine to create one assembly. Minimum wall thickness is .188". Cast and hinged driver assembly cover is integrated with wiring compartment cover.

PLED™ OPTICS
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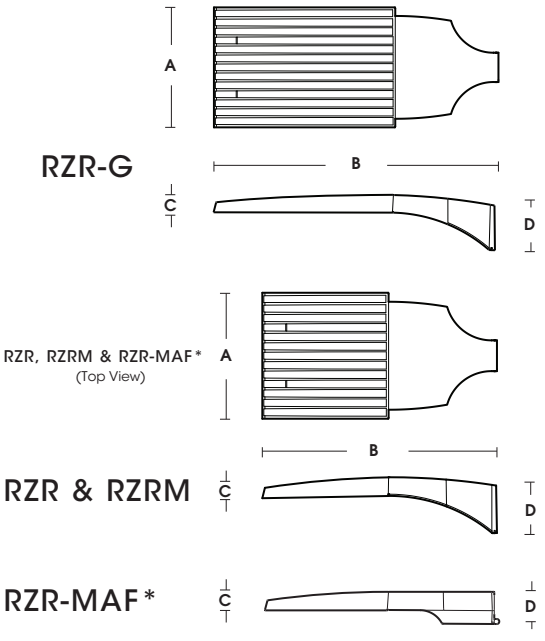
LED DRIVER(S)
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -40°F. Driver(s) is/are UL and cUL recognized and mounted directly against the Electrical Housing to facilitate thermal transfer, held down by universal clamps to facilitate easy removal. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz or 347V-480V, 50,60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection. Luminaire supplied with 20KV surge protector for field accessible installation.)

LED EMITTERS
High output LED's are utilized with drive currents ranging from 350mA to 1050mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

FINISH
Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.

MAST ARM FITTER/ELECTRICAL HOUSING
Replaces standard Electrical Housing. Fits standard 2 3/8" O.D. horizontal tenon. Two (2) straps with two (2) bolts each encircle the lower half of the tenon. Upper half of the tenon rests on self-centering steps that position the angle of the luminaire at 0°, +1.5°, +1.5 or +3° up from the horizontal. All hardware is stainless steel.



FIXTURE	A	B	C	D
RZR-G	15" 381mm	36.5" 927mm	3" 76mm	7" 187mm
RZR	14.75" 375mm	28.25" 718mm	2.75" 70mm	6.5" 165mm
RZRM	11.5" 292mm	22" 559mm	2.5" 64mm	5.25" 133mm
RZR-MAF	15" 381mm	28.25" 724mm	2.5" 64mm	4" 102mm

*DLC PENDING AS OF 7/17

c UL us LISTED

MADE IN THE USA

2017193

U.S. Architectural Lighting

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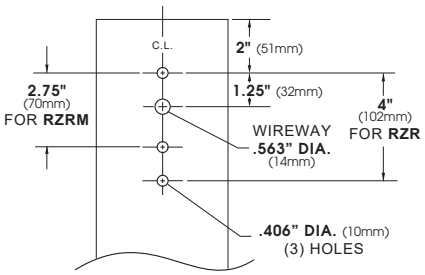
U.S. ARCHITECTURAL LIGHTING

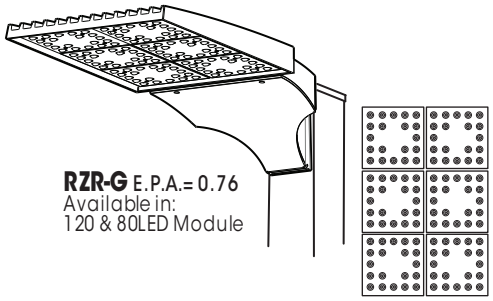
RAZAR SERIES-LED

SPECIFICATIONS

POLE DRILLING TEMPLATE

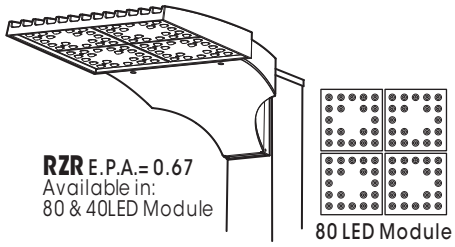


PLED® MODULES



RZR-G E.P.A.= 0.76
Available in:
120 & 80LED Module

120 LED Module



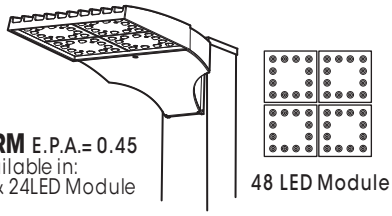
RZR E.P.A.= 0.67
Available in:
80 & 40LED Module

80 LED Module

Approximate Average Lumens – 4000K

(Lumens median of all distributions)

	350mA			525mA			700mA			1050mA		
	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.	Watts	Lumens	HID Eq.
24	28	3541	50	41	5058	70-100	53	6567	100	81	8773	150-175
40	45	5997	70-100	66	8653	100-150	87	10995	175	134	14647	200-250
48	55	7046	100	81	10018	150-175	105	12600	200	160	17566	250
80	87	11622	175-200	131	16736	200-250	174	21235	400	266	28190	450-575
120	127	17405	250	195	24860	450	260	31592	575-750	396	43323	750-1000



RZRM E.P.A.= 0.45
Available in:
48 & 24LED Module

48 LED Module

Spec/Order Example: RZR/PLED-IV/80LED-700mA/CW/277/RAL-8019-S/10SP

SPEC/ORDERING INFORMATION

MODEL | OPTICS | LED MODE | VOLTAGE | FINISH | OPTIONS

MODEL

- ☐ RZR-G
- ☐ RZR
- ☐ RZR-MAF*
- ☐ RZRM

*DLC PENDING AS OF 7/17

OPTICS

- ☐ TYPE II **PLED-II** . . . . . 
- ☐ TYPE II FRONT ROW **PLED-II-FR** . . . . . 
- ☐ TYPE II MEDIAN ILLUMINATOR **PLED-II-ML** . . . . . 
- ☐ TYPE III MED. **PLED-III-M** . . . . . 
- ☐ TYPE III WIDE **PLED-III-W** . . . . . 
- ☐ TYPE IV **PLED-IV** . . . . . 
- ☐ TYPE IV **PLED-IV-FT** . . . . . 
- ☐ TYPE V NARROW **PLED-VSQ-N** . . . . 
- ☐ TYPE V MED. **PLED-V-SQ-M** . . 
- ☐ TYPE V WIDE **PLED-V-SQ-W** . . 

LED MODE

NO. LEDs

RZR-G
- ☐ 120LED
- ☐ 80LED

RZR
- ☐ 80LED
- ☐ 40LED

RZRM
- ☐ 48LED
- ☐ 24LED

DRIVE CURRENT
- ☐ 350mA
- ☐ 525mA
- ☐ 700mA
- ☐ 1050mA

COLOR TEMP - CCT
- ☐ NW (4000K)* *STANDARD
- ☐ CW (5000K)
- ☐ WW (3000K)

CONSULT FACTORY FOR OTHER LED COLORS

VOLTAGE

- ☐ 120
- ☐ 208
- ☐ 240
- ☐ 277
- ☐ 347
- ☐ 480

FINISH

STANDARD TEXTURED FINISH
- ☐ BLACK **RAL-9005-T**
- ☐ WHITE **RAL-9003-T**
- ☐ GREY **RAL-7004-T**
- ☐ DARK BRONZE **RAL-8019-T**
- ☐ GREEN **RAL-6005-T**

FOR SMOOTH FINISH REPLACE SUFFIX "T" WITH SUFFIX "S" (EXAMPLE: RAL-9005-S)

CONSULT FACTORY FOR CUSTOM COLORS

OPTIONS

- ☐ HIGH-LOW DIMMING FOR HARDWIRED SWITCHING OR NONINTEGRATED MOTION SENSOR . . . . . **HLSW**
- ☐ INTERNAL HOUSE SIDE SHIELD . . . **HS-PLED**
- ☐ PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . . **PC+V**
- ☐ TWIST LOCK PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . . **TPC+V**
- ☐ TWIST LOCK RECEPTACLE ONLY . . . **TPR**
- ☐ 7-PIN TWIST LOCK RECEPTACLE ONLY . . . **TPR7**
- ☐ SINGLE FUSE (120V, 277V, 347V) . . **SF**
- ☐ DOUBLE FUSE (208V, 240V, 480V) . . **DF**
- ☐ STEP DIM MOTION SENSOR (PROGRAMMED 50/100) **MS-F211**
- ☐ REMOTE MOTION SENSOR CONFIGURATOR **MS-FC10**

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U.S. ARCHITECTURAL LIGHTING

RAZAR SERIES-LED

LED/ELECTRICAL GUIDE

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K CCT	INITIAL LUMENS - 3000K CCT	INITIAL LUMENS - 5000K CCT	L70 GREATER THAN (HR)	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
24	LED	24 PLED® Optical Module - 350mA	3,298 - 3,784	3,133 - 3,595	3,463 - 3,973	60,000+	-20°F	29	120 277	0.24 0.10
24	LED	24 PLED® Optical Module - 525mA	4,711 - 5,405	4,475 - 5,135	4,947 - 5,675	60,000+	-20°F	42	120 277	0.34 0.15
24	LED	24 PLED® Optical Module - 700mA	6,023 - 6,911	5,722 - 6,565	6,324 - 7,256	60,000+	-20°F	56	120 277	0.45 0.20
24	LED	24 PLED® Optical Module - 1050mA	8,171 - 9,375	7,762 - 8,906	8,580 - 9,844	60,000+	-20°F	82	120 277	0.68 0.30
40	LED	40 PLED Optical Module - 350mA	5,585 - 6,408	5,306 - 6,088	5,864 - 6,729	60,000+	-20°F	43	120 277	0.38 0.17
40	LED	40 PLED® Optical Module - 525mA	8,059 - 9,246	7,656 - 8,784	8,462 - 9,709	60,000+	-20°F	65	120 277	0.55 0.24
40	LED	40 PLED® Optical Module - 700mA	10,240 - 11,749	9,728 - 11,162	10,752 - 12,337	60,000+	-20°F	87	120 277	0.73 0.32
40	LED	40 PLED® Optical Module - 1050mA	13,642 - 15,652	12,960 - 14,870	14,324 - 16,435	60,000+	-20°F	128	120 277	1.12 0.49
48	LED	48 PLED® Optical Module - 350mA	6,562 - 7,529	6,234 - 7,153	6,890 - 7,909	60,000+	-20°F	53	120 277	0.46 0.20
48	LED	48 PLED® Optical Module - 525mA	9,330 - 10,705	8,864 - 10,170	9,797 - 11,240	60,000+	-20°F	79	120 277	0.68 0.29
48	LED	48 PLED® Optical Module - 700mA	11,735 - 13,464	11,148 - 12,791	12,322 - 14,137	60,000+	-20°F	106	120 277	0.88 0.38
48	LED	48 PLED® Optical Module - 1050mA	16,360 - 18,771	15,542 - 17,832	17,178 - 19,709	60,000+	-20°F	160	120 277	1.33 0.58
RZR										
80	LED	80 PLED® Optical Module - 350mA	10,824 - 12,419	10,283 - 11,798	11,365 - 13,040	60,000+	-20°F	86	120 277	0.75 0.33
80	LED	80 PLED® Optical Module - 525mA	15,587 - 17,884	14,808 - 16,990	16,366 - 18,778	60,000+	-20°F	130	120 277	1.10 0.48
80	LED	80 PLED® Optical Module - 700mA	19,767 - 22,680	18,779 - 21,546	20,755 - 23,814	60,000+	-20°F	174	120 277	1.45 0.63
80	LED	80 PLED® Optical Module - 1050mA	26,255 - 30,124	24,942 - 28,618	27,568 - 31,630	60,000+	-20°F	257	120 277	2.22 0.96
RZR-G										
80	LED	80 PLED® Optical Module - 350mA	10,950 - 12,564	10,403 - 11,936	11,498 - 13,192	60,000+	-20°F	87	120 277	0.75 0.33
80	LED	80 PLED® Optical Module - 525mA	15,735 - 18,054	14,948 - 17,151	16,522 - 18,957	60,000+	-20°F	129	120 277	1.10 0.48
80	LED	80 PLED® Optical Module - 700mA	20,074 - 23,032	19,071 - 21,881	21,078 - 24,184	60,000+	-20°F	174	120 277	1.45 0.63
80	LED	80 PLED® Optical Module - 1050mA	27,651 - 31,725	26,268 - 30,139	29,033 - 33,311	60,000+	-20°F	266	120 277	2.22 0.96
120	LED	120 PLED® Optical Module - 350mA	16,211 - 18,599	15,400 - 17,669	17,021 - 19,529	60,000+	-20°F	130	120 277	1.06 0.46
120	LED	120 PLED® Optical Module - 525mA	23,154 - 26,566	21996 - 25,238	24,312 - 27,894	60,000+	-20°F	192	120 277	1.63 0.70
120	LED	120 PLED® Optical Module - 700mA	29,424 - 33,760	27,953 - 32,072	30,895 - 35,448	60,000+	-20°F	260	120 277	2.17 0.94
120	LED	120 PLED® Optical Module - 1050mA	40,350 - 46,296	38,333 - 43,981	42,368 - 48,611	60,000+	-20°F	398	120 277	3.33 1.43

NOTES:
1. Max Input Amps is the highest of starting, operating, or open circuit currents.
2. Lumen values for LED Modules vary according to the distribution type. 80LED array appears in both the RZR and RZR-G models.
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use surge suppressor supplied with luminaire.
   Note: Surge suppressors are considered a perishable device.
5. L70(10K) – TM-21 6x rule applied.

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

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TYPE C

PROJECT NAME:

PROJECT TYPE:

SOLID STATE AREA LIGHTING

RAZAR WALLMOUNT-LED

S P E C I F I C A T I O N S

OPTICAL HOUSING
Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly with integral cooling fins. The Optical Panel mounting surface is milled flat (surface variance <± .003") to facilitate thermal transfer of heat to housing and cooling fins. The Optical Housing bolts to the Electrical Housing forming a unified assembly.The minimum wall thickness is .188".

ELECTRICAL HOUSING
Heavy cast low copper aluminum (A356 alloy; <0.2% copper) assembly. Minimum wall thickness is .188". Fixture Mounting Plate affixes to mounting surface over a recessed j-box. Electrical Housing anchors on the top edge of the Mounting Plate and stainless steel recessed socket head screws tighten the Electrical Housing to the Mounting Plate from the bottom.

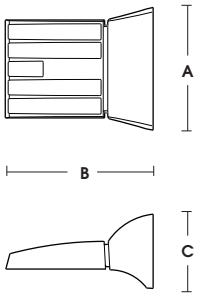
PLED™ OPTICAL MODULES
Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. The asymmetric distributions, have a micro-reflector inside the refractor which re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce Type II, III, and Type IV site/area distributions as well as other specialty asymmetric distributions. Panels are field replaceable and field rotatable in 90° increments.

LED DRIVER(S)
Constant current electronic with a power factor of >.90 and a minimum operating temperature of -30°C/-22°F Driver(s) is/are UL and cUL recognized and mounted to a driver assembly plate that has slotted holes to facilitate ease of assembly removal for fixture installation. Quick disconnects for incoming power and optical assembly power are provided. Drivers accept an input of 120-277V, 50/60Hz and utilize 0-10V dimming. 347V-480V, 50,60Hz also available on some models. Surge protector supplied for field installation at the most conveniently serviceable location.

LED EMITTERS
High output LED's are utilized with drive currents ranging from 350mA to 1050mA. 70CRI Minimum. LED's are available in standard Neutral White (4000K), or optional Cool White (5000K) or Warm White (3000K). Consult Factory for other LED options.

AMBER LED's
PCA (Phosphor Converted Amber) LED's utilize phosphors to create color output similar to LPS lamps and have a slight output in the blue spectral bandwidth. **TRA** (True Amber) LED's utilize material that emits light in the amber spectral bandwidth only without the use of phosphors.

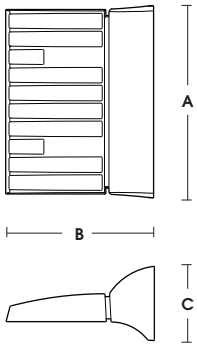
FINISH
Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step media blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability.



FIXTURE	A	B	C
RZRW1	8.75" (22mm)	12" (305mm)	6" (152mm)
RZRW1-EM	11" (279mm)	14" (356mm)	6.5" (165mm)

RZR-WM1

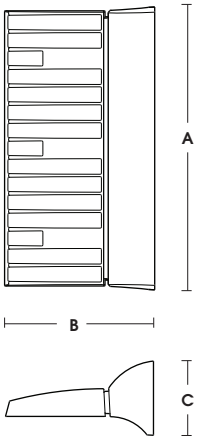
PATENT PENDING

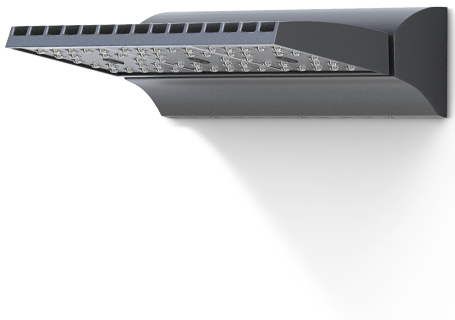


FIXTURE	A	B	C
RZRW2	16" (406mm)	12" (305mm)	6" (152mm)
RZRW2-EM	16" (406mm)	14" (356mm)	6.5" (165mm)

RZR-WM2

PATENT PENDING





FIXTURE	A	B	C
RZRW3	23" (584mm)	12" (305mm)	6" (152mm)
RZRW3-EM	23" (584mm)	14" (356mm)	6.5" (165mm)

RZR-WM3

PATENT PENDING

U.L. Listed for wet location

MADE IN THE USA

2018002

U.S. Architectural Lighting

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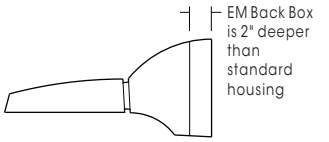
U.S. ARCHITECTURAL LIGHTING

RAZAR WALLMOUNT SERIES-LED

SPECIFICATIONS

EMERGENCY OPTION



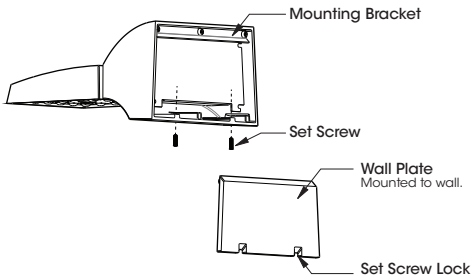
THE EMERGENCY OPTION BACK BOX EXTENDS 2" BEYOND THE STANDARD HOUSING AND CONTAINS THE EMERGENCY COMPONENTS (EC) INCLUDING BATTERIES.

THE EM-LED SYSTEM PROVIDES POWER TO ALL LEDS IN THE ARRAY (20, 40, or 60) TO MEET THE FOLLOWING LIGHT LEVELS FOR A MINIMUM OF 90 MINUTES -

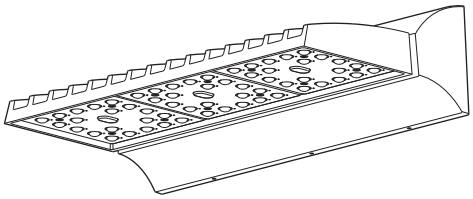
WM1 = 45% @ 350MA
WM2 = 36% @ 350MA
WM3 = 24% @ 350MA

*MULTIPLY THE % ABOVE BY THE LUMEN OUTPUT @ 350MA

WALL MOUNTING

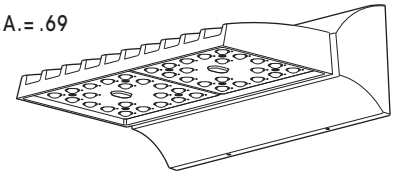


PLED® MODULES



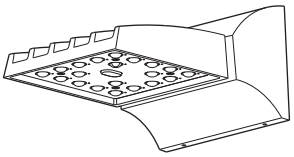
60 LED Module

RZR-WM3-LED E.P.A.= .69
Available in:
60 LED Module



40 LED Module

RZR-WM2-LED E.P.A.= .47
Available in:
40 LED Module



20 LED Module

RZR-WM1-LED E.P.A.= .33
Available in:
20LED Module

MAX INPUT WATTAGE

# OF LED's	DRIVE CURRENT 350mA	525mA	700mA	1050mA
60	68W	99W	131W	198W
40	45W	66W	87W	134W
20	23W	33W	44W	66W

Spec/Order Example: RZR-WM2/PLED-IV/40LED-700mA/CW/277/RAL-8019-S/SF

SPEC / ORDERING INFORMATION

MODEL | OPTICS | LED MODE | VOLTAGE | FINISH | OPTIONS

MODEL

- ☐ RZR-WM1
- ☐ RZR-WM2
- ☐ RZR-WM3

OPTICS

PLED® DISTRIBUTION TYPE

- ☐ TYPE II **PLED-II** . . . . . .
- ☐ TYPE II FRONT ROW **PLED-II-FR** . . . . .
- ☐ TYPE III **PLED-III** . . . . . .
- ☐ TYPE III WIDE **PLED-III-W** . . . .
- ☐ TYPE IV **PLED-IV**. . . . . .
- ☐ TYPE IV-FT **PLED-IV-FT** . . . .

LED MODE

NO. LEDs

RZR-WM1
- ☐ 20LED

RZR-WM2
- ☐ 40LED

RZR-WM3
- ☐ 60LED

DRIVE CURRENT
- ☐ 350mA
- ☐ 525mA
- ☐ 700mA[1]
- ☐ 1050mA[1]

COLOR TEMP - CCT
- ☐ NW (4000K) * *STANDARD
- ☐ CW (5000K)
- ☐ WW (3000K)

CONSULT FACTORY FOR OTHER LED COLORS

AMBER[2]
- ☐ PHOSPHOR CONVERTED AMBER **PCA**
- ☐ TRUE AMBER[3] **TRA**

NOTES:
1 - 700mA and 1050mA NOT FOR USE WITH TRA LED'S
2 - NARROW BAND AMBERS HAVE NO DEFINABLE CCT EQUIVALENT
3 - AVAILABLE IN 350mA & 525mA DRIVE CURRENTS ONLY

VOLTAGE
- ☐ 120
- ☐ 208
- ☐ 240
- ☐ 277
- ☐ 347
- ☐ 480

FINISH

STANDARD TEXTURED FINISH
- ☐ BLACK **RAL-9005-T**
- ☐ WHITE **RAL-9003-T**
- ☐ GREY **RAL-7004-T**
- ☐ DARK BRONZE **RAL-8019-T**
- ☐ GREEN **RAL-6005-T**

FOR SMOOTH FINISH REPLACE SUFFIX "T" WITH SUFFIX "S" (EXAMPLE: RAL-9005-S)

CONSULT FACTORY FOR CUSTOM COLORS

OPTIONS
- ☐ HIGH-LOW DIMMING FOR EXTERNAL CONTROL . . **HLSW**
- ☐ HOUSE SIDE SHIELDING . . . . . **HS-PLED**
- ☐ PHOTO CELL + VOLTAGE (EXAMPLE: PC120V) . . . **PC+V**
- ☐ SINGLE FUSE (120V & 277V) . . . . . **SF**
- ☐ DOUBLE FUSE (208V & 240V) . . . . . **DF**
- ☐ EMERGENCY BACKUP 1. . **EM1**
- ☐ EMERGENCY BACKUP 1 (HOUSING ONLY) **EMH1**
- ☐ EMERGENCY BACKUP 2. . **EM2**
- ☐ EMERGENCY BACKUP 3. . **EM3**
- ☐ SURFACE CONDUIT 1. . . **SC1**
- ☐ SURFACE CONDUIT 2 . . **SC2**
- ☐ SURFACE CONDUIT 3 . . **SC3**

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U.S. ARCHITECTURAL LIGHTING

RAZAR WALLMOUNT-LED

LAMP/ELECTRICAL GUIDE

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K	INITIAL LUMENS - 3000K	INITIAL LUMENS - 5000K	L70 GREATER THAN (HR)-TM21	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
20	LED	20 PLED® Optical Module - 350mA	2,501 – 2,789	2,189 – 2,442	2,561 – 2,857	60,000+	-20°F	23	120 277	0.24 0.10
20	LED	20 PLED® Optical Module - 525mA	3,523 – 3,930	3,085 – 3,441	3,608 – 4,025	60,000+	-20°F	33	120 277	0.34 0.15
20	LED	20 PLED® Optical Module - 700mA	4,411 – 4,920	3,862 – 4,308	4,517 – 5,039	60,000+	-20°F	44	120 277	0.45 0.20
20	LED	20 PLED® Optical Module - 1050mA	5,797 – 6,466	5,075 – 5,661	5,937 – 6,622	60,000+	-20°F	66	120 277	0.68 0.30
40	LED	40 PLED Optical Module - 350mA	5,002 – 5,579	4,379 – 4,884	5,122 – 5,713	60,000+	-20°F	45	120 277	0.38 0.17
40	LED	40 PLED® Optical Module - 525mA	7,047 – 7,860	6,170 – 6,881	7,216 – 8,049	60,000+	-20°F	66	120 277	0.55 0.24
40	LED	40 PLED® Optical Module - 700mA	8,822 – 9,840	7,724 – 8,615	9,034 – 10,077	60,000+	-20°F	87	120 277	0.73 0.32
40	LED	40 PLED® Optical Module - 1050mA	11,594 – 12,932	10,150 – 11,322	11,872 – 13,244	60,000+	-20°F	134	120 277	1.12 0.49
60	LED	60 PLED® Optical Module - 350mA	7,502 – 8,368	6,568 – 7,326	7,683 – 8,570	60,000+	-20°F	68	120 277	0.46 0.20
60	LED	60 PLED® Optical Module - 525mA	10,570 – 11,790	9,254 – 10,322	10,824 – 12,074	60,000+	-20°F	99	120 277	0.68 0.30
60	LED	60 PLED® Optical Module - 700mA	13,233 – 14,760	11,586 – 12,923	13,552 – 15,116	60,000+	-20°F	131	120 277	0.88 0.38
60	LED	60 PLED® Optical Module - 1050mA	17,391 – 19,398	15,226 – 16,983	17,810 – 19,866	60,000+	-20°F	198	120 277	1.31 0.57

NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents
2. Lumen values for LED Modules vary according to the distribution type
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components.
5. L70(10K) – TM-21 6x rule applied

   L70(10K) – Calculated = 244,000 @ 700mA
   = 102,000@ 1050mA

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

1) Max Input Amps is the highest of starting, operating, or open circuit currents
2) Lumen values for LED Modules vary according to the distribution type
3) System Watts includes the source watts and all driver components.
4) Fuse value should be sufficient to protect all wiring components.
5) L70(10K) – TM-21 6x rule applied
L70(10K) – Calculated = 244,000 @ 700mA
= 102,000@ 1050mA

660 West Avenue O, Palmdale, CA 93551
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EXHIBIT 12

TERAGAN & ASSOCIATES, INC.
ARBORICULTURAL CONSULTANTS

MEMORANDUM

DATE: May 11, 2019

TO: Peter Anca

FROM: Todd Prager, RCA #597, ISA Board Certified Master Arborist

RE: Updated Tree Assessment, Removal, and Protection Recommendations for Lacamas Residential Care Facility Development

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Summary

This memorandum provides updated tree assessment, removal, and protection recommendations for the surveyed trees at the proposed Lacamas Residential Care Facility development.

Background

Peter Anca is proposing to construct the Lacamas Residential Care Facility development in Camas, Washington. The proposed site plan with surveyed tree locations is provided in Attachment 1.

The assignment requested of our firm for this project was as follows:

1. Provide an assessment of the surveyed trees;
2. Provide recommendations for tree removal and retention based on the proposed site improvements; and
3. Provide protection recommendations for the trees to be retained.

Note that the proposed site plan has been updated since my January 17, 2019 report. This report has been updated as necessary to reflect the updated site plan.

Tree Assessment

On January 10, 2019, I completed my assessment of the surveyed trees. The complete inventory data is provided in the tree inventory spreadsheet in Attachment 2. The data provided for each tree includes the tree number, species (common and scientific names), trunk diameter (DBH), tree health condition, tree structural condition, pertinent comments, tree units per Section 18.13.051 Table 2 of the Camas Code, typical tree protection zone per Section 18.03.050 of the Camas Code,

typical critical root zone as defined by the project arborist, and treatment (remove or retain). The tree numbers in the tree inventory in Attachment 2 correspond to the tree numbers on the site plan in Attachment 1. The assessment data in the tree inventory includes the required tree survey information is Section 18.13.045 of the Camas Code.

Proposed Tree Removal

A typical critical root zone encompasses a radius around a tree that is .5 feet per inch of DBH. For example, a tree with a 24-inch DBH would have a minimum protection radius of 12 feet. However, this standard may need to be adjusted on a case by case basis due to tree health, root distribution, species tolerance, whether the tree will be impacted on multiple sides, the specific development proposed, and other factors.

Attachment 1 shows the proposed impacts for site improvements in relation to the trees. Forty-five (45) of the 56 trees that were surveyed at the site are proposed for removal for the following reasons:

- **Trees 5, 6, 7, 8, 10, 14, 15, 16, 20, and 21**: These trees are adjacent to the rear of the proposed building and have crowns and root systems that conflict with the proposed construction. Significant pruning and damage to their crowns and root systems would be required for building construction, scaffolding, and construction access for work on the rear portion of the building. These trees are at the southwestern edge of a stand of trees and their crown growth is primarily oriented towards the proposed building. Therefore, construction may require removal of a significant portion of their crowns.
- **Trees 2, 3, 4, 12, 13, 17, 18, and 19**: These trees are interior to the stand of trees in the rear of the property and directly adjacent to the edge trees to be removed. Based on their structural characteristics such as trunk taper, ratio of tree height to trunk diameter, and ratio of live crown height to total tree height, these trees will be at increased risk of failure from increased wind exposure after the edge trees are removed. Since the trees will be within striking distance of the proposed building, the owner has opted to remove the trees to eliminate the risk they pose to the future building and its occupants.
- **Trees 9, 11, 23 through 30, 32, 33, 34, 35, 37, 38, 38.1, 39, 46, 47, 48, 50, 51, 52, and 53**: These trees are within or adjacent to the proposed building or parking lot footprint and therefore need to be removed for construction.
- **Tree 49**: Tree 49 is an English walnut (*Juglans regia*) with significant decay at its lower trunk and a significant lean over NW Lake Road. There will also be significant root disturbance for construction of the parking lot on the northeast side of the tree behind its lean. This tree is proposed for removal for health, structural, and construction reasons.
- **Tree 49.1**: Tree 49.1 is a large Port-Orford-cedar (*Chamaecyparis lawsoniana*) with multiple stems at 3 feet above ground. This species of tree is highly susceptible to Phytophthora root rot disease and could succumb to the disease even if no construction occurs or construction impacts are minimized. Wounding of roots and soil transport during construction increases the likelihood of infection. The proposed parking lot construction on the northeast side of tree will cause significant root impacts and increase

the likelihood of Phytophthora infection. Based on these factors, tree 49.1 is proposed for removal.

Protection recommendations for the remaining trees to be retained at the site are provided in the next section of this report.

Tree Protection Recommendations

The following recommendations apply to the trees to be retained:

- **Protection Fencing**: Establish tree protection fencing in the locations shown in Attachment 1. The intent of the tree protection fencing is to protect at least the critical root zone radius around each tree to be retained of .5 feet per inch of DBH (e.g. 12-foot radius around a 24-inch tree). Note that increased tree protection fencing is shown for trees 40 through 45.
- **Directional Felling**: Fell the trees to be removed away from the trees to be retained so they do not contact or otherwise damage the trunks or branches of the trees to be retained. No vehicles or heavy equipment should be permitted within the tree protection zone during tree removal operations.
- **Stump Removal**: The stumps of trees 2 through 8, 12, 13, 17, 18, and 19 should be flush cut and retained in place or carefully surface ground to protect the soil and root systems of the trees to be retained.
- **Risk Assessment of Remaining Trees in Rear of Property**: Several existing trees in the rear of the property were not included in the survey because they will be retained and are far away from construction impacts. These trees are remnants of a larger stand of trees that was removed in approximately 2014. Based on past and proposed disturbances, I recommend completing a risk assessment of the remaining trees in the rear of the property so that significant risks can be appropriately mitigated.
- **Protect Crowns of Trees**: The crowns of the trees may extend beyond the tree protection fencing. Care will need to be taken to not contact or otherwise damage the crowns of the trees during construction activities. If pruning is required, it shall be the minimum amount needed to achieve the required clearance in accordance with ANSI A300 pruning standards.
- **Sediment Fencing**: Sediment fencing shall be installed outside the protection zones of the trees to be retained to minimize root disturbances. If erosion control is required inside the protection zones, straw wattles shall be used on the soil surface.

Attachment 3 includes additional recommendations to adequately protect the trees during construction.

Conclusion

Forty-five trees are necessary to remove for the proposed Lacamas Residential Care Facility development. The trees to be retained will be adequately protected by adhering to the recommendations in this report.

Please contact me if you have questions, concerns, or need any additional information.

Sincerely,

Todd Prager

Todd Prager
ASCA Registered Consulting Arborist #597
ISA Board Certified Master Arborist, WE-6723B
ISA Qualified Tree Risk Assessor
AICP, American Planning Association

Attachment 1:	Site Plan with Tree Locations
Attachment 2:	Tree Inventory
Attachment 3:	Additional Tree Protection Recommendations
Attachment 4:	Assumptions and Limiting Conditions

Attachment 1

TREE SUMMARY

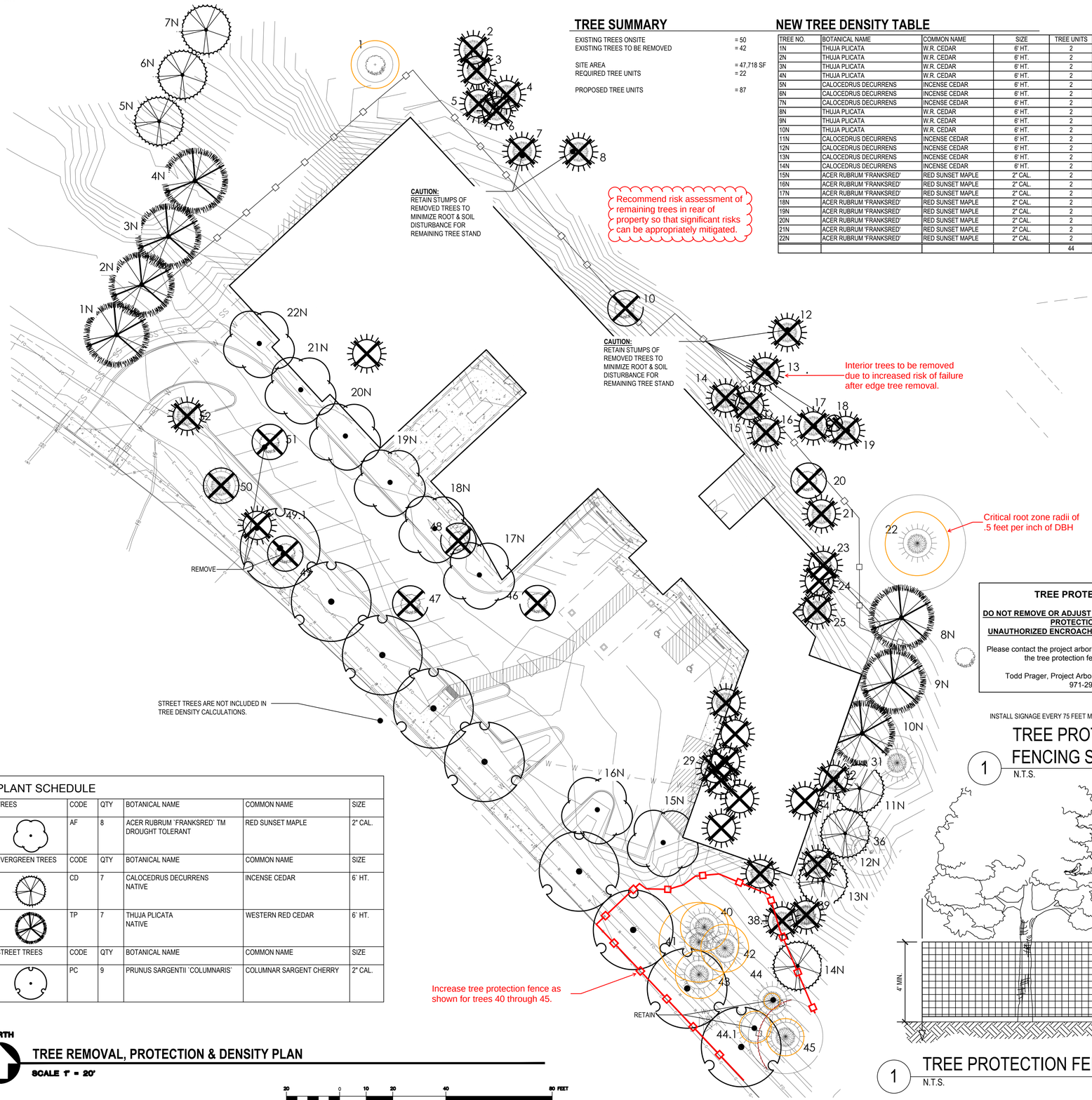
EXISTING TREES ONSITE	= 50
EXISTING TREES TO BE REMOVED	= 42
SITE AREA	= 47,718 SF
REQUIRED TREE UNITS	= 22
PROPOSED TREE UNITS	= 87

NEW TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE	TREE UNITS
1N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
2N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
3N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
4N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
5N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
6N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
7N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
8N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
9N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
10N	THUJA PLICATA	W.R. CEDAR	6' HT.	2
11N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
12N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
13N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
14N	CALOCEDRUS DECURRENS	INCENSE CEDAR	6' HT.	2
15N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
16N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
17N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
18N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
19N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
20N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
21N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
22N	ACER RUBRUM 'FRANKSRED'	RED SUNSET MAPLE	2" CAL.	2
				44

EXISTING TREE DENSITY TABLE

TREE NO.	BOTANICAL NAME	COMMON NAME	EXISTING DBH	CANOPY SPREAD	TREE UNITS	REMOVE
1	ALNUS RUBRA	RED ALDER	18" DBH	18'	5	NO
2	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
3	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
4	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'		YES
5	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
6	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
7	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
8	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
9	ALNUS RUBRA	RED ALDER	20" DBH	20'		YES
10	SAMBUCUS SPP.	ELDERBERRY	8" DBH	8'		YES
11	SAMBUCUS SPP.	ELDERBERRY	8" DBH	8'		YES
12	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
13	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'		YES
14	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
15	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
16	PSEUDOTSUGA MENZIESII	DOUG FIR	8" DBH	8'		YES
17	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
18		CHERRY	6" DBH	6'		YES
19	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'		YES
20	FRAXINUS LATIFOLIA	OREGON ASH	6" DBH	6'		YES
21	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
22	PSEUDOTSUGA MENZIESII	DOUG FIR	24" DBH	24'	8	NO
23	PSEUDOTSUGA MENZIESII	DOUG FIR	22" DBH	22'		YES
24	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
25	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
26	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'		YES
27	PSEUDOTSUGA MENZIESII	DOUG FIR	40" DBH	40'		YES
28	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
29	PSEUDOTSUGA MENZIESII	DOUG FIR	12" DBH	12'		YES
30	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
31	PSEUDOTSUGA MENZIESII	DOUG FIR	10" DBH	10'	OFF SITE	NO
32	PSEUDOTSUGA MENZIESII	DOUG FIR	32" DBH	32'		YES
33	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
34	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
35	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
36	ACER	MAPLE	12" DBH	12'	OFF SITE	NO
37	PSEUDOTSUGA MENZIESII	DOUG FIR	28" DBH	28'		YES
38	PSEUDOTSUGA MENZIESII	DOUG FIR	20" DBH	20'		YES
38.1	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'		YES
39	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'		YES
40	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
41	PSEUDOTSUGA MENZIESII	DOUG FIR	30" DBH	30'	11	NO
42	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
43	PSEUDOTSUGA MENZIESII	DOUG FIR	18" DBH	18'	5	NO
44	PSEUDOTSUGA MENZIESII	DOUG FIR	6" DBH	6'	2	NO
44.1	ALNUS RUBRA	RED ALDER	12" DBH	12'	2	NO
45	PSEUDOTSUGA MENZIESII	DOUG FIR	14" DBH	14'	OFF SITE	NO
46	CORNUS FLORIDA	FLOWERING DOGWOOD	8" DBH	8'		YES
47		LOCUST	24" DBH	24'		YES
48	MAGNOLIA X SOULANGERANA	SAUCER MAGNOLIA	6" DBH	6'		YES
49	JUGLANS REGIA	E. WALNUT	12" DBH	12'	OFF SITE	YES
49.1	CHAMAECYPARIS LAWSONIANA	PORT ORFORD CEDAR	36" DBH	36'		YES
50	PSEUDOTSUGA MENZIESII	DOUG FIR	45" DBH	36'	OFF SITE	YES
51		DECIDUOUS	6" DBH	6'		YES
52	PSEUDOTSUGA MENZIESII	DOUG FIR	16" DBH	16'		YES
53	PSEUDOTSUGA MENZIESII	DOUG FIR	36" DBH	36'		YES
TOTAL TREE UNITS EXISTING TO REMAIN					43	



PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	AF	8	ACER RUBRUM `FRANKSRED` TM DROUGHT TOLERANT	RED SUNSET MAPLE	2" CAL.
EVERGREEN TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	CD	7	CALOCEDRUS DECURRENS NATIVE	INCENSE CEDAR	6` HT.
	TP	7	THUJA PLICATA NATIVE	WESTERN RED CEDAR	6` HT.
STREET TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE
	PC	9	PRUNUS SARGENTII `COLUMNARIS`	COLUMNAR SARGENT CHERRY	2" CAL.

NORTH

TREE REMOVAL, PROTECTION & DENSITY PLAN

SCALE 1" = 20'

20 0 10 20 40 80 FEET

TREE PROTECTION ZONE

DO NOT REMOVE OR ADJUST THE LOCATION OF THIS TREE PROTECTION FENCING
UNAUTHORIZED ENCROACHMENT MAY RESULT IN FINES

Please contact the project arborist if alterations to the location of the tree protection fencing are necessary.

Todd Prager, Project Arborist, Teragan & Associates, 971-295-4835

INSTALL SIGNAGE EVERY 75 FEET MAMIMUM

TREE PROTECTION FENCING SIGN

1 N.T.S.

TREE PROTECTION FENCING DETAIL

1 N.T.S.

LEGEND

EXISTING TREES TO BE REMOVED

EXISTING TREES TO REMAIN
ROOT ZONE AREA

TREE PROTECTION FENCE

1 L1.0

TREE PROTECTION FENCE

TREE PROTECTION NOTES:

1. BEFORE WORK IS STARTED, INSTALL TREE PROTECTION FENCING. CONTACT THE PROJECT ARBORIST FOR ASSISTANCE. CONSULT ARBORIST REPORT ATTACHMENT 3, TREE PROTECTION RECOMMENDATIONS.
2. NO ENCROACHMENT OF ANY KIND IS ALLOWED WITHIN THE TREE PROTECTION FENCE ZONE DURING CONSTRUCTION. WHERE PLANTINGS & IRRIGATION ARE REQUIRED, INSTALL BY HAND DIGGING, NO MACHINERY ALLOWED.
3. INSTALL FENCE AS SHOWN ON PLAN, ROOT PROTECTION ZONE IS AN AREA AROUND A TREE THAT IS BASED ON THE DIAMETER OF THE TREE CANOPY AND BETWEEN EXISTING CURB AND PROPOSED SIDEWALK . NO MORE THAN 25% OF THE ROOT ZONE MAY BE IMPACTED.
4. FENCING SHALL BE 4-FOOT HIGH ORANGE CONSTRUCTION FENCE WITH METAL POSTS AND BE SECURED TO THE GROUND WITH 6-FOOT METAL POSTS. AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
5. FENCE SHALL BE INSTALLED PRIOR TO LAND CLEARING, FILLING OR ANY LAND ALTERATION AND SHALL REMAIN IN PLACE UNTIL AFTER CONSTRUCTION IS COMPLETE.
6. NO EXCAVATION OR COMPACTION OF EARTH OR OTHER POTENTIALLY DAMAGING ACTIVITIES ALLOWED WITHIN THE PROTECTION FENCING.
7. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMITS OF THE FENCING.
8. WITHIN CLEARING/GRADING LIMITS OR AT THE EDGE OF THE CLEARING/GRADING LIMITS, TREE PROTECTION MAY BE INSTALLED AROUND GROUPS OF TREES.
9. DURING WORK, ANY ROOTS GREATER THAN TWO INCHES FOUND DURING EXCAVATION SHALL BE CLEANLY CUT. MULTIPLE ROOT PRUNING EVENTS FOR SINGLE TREES SHALL BE MANAGED & MONITORED BY THE PROJECT ARBORIST.
10. AFTER CONSTRUCTION IS COMPLETE, PROJECT ARBORIST SHALL VERIFY TREE PROTECTION FENCEING CAN BE REMOVED.

REGISTERED
552
Teresa Katherine Long
OREGON
5-14-04
LANDSCAPE ARCHITECT

AAI aldan associates, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

LACAMAS RCF
CAMAS, WASHINGTON

TREE REMOVAL, PROTECTION & DENSITY PLAN
10/30/18
RTN
DSE

L1.0

Attachment 2

Tree No.	Common Name	Scientific Name	DBH[1]	Condition[2]	Structure[2]	Comments	Tree Units	Tree Protection Zone[3]	Critical Root Zone[4]	Treatment
1	red alder	*Alnus rubra*	18	good	good		5	18	9	retain
2	Douglas-fir	*Pseudotsuga menziesii*	12	fair	fair	moderately suppressed, overtopped by adjacent trees				remove
3	Douglas-fir	*Pseudotsuga menziesii*	18	fair	fair	one sided				remove
4	Douglas-fir	*Pseudotsuga menziesii*	18	fair	fair	crown extension suppressed by adjacent trees				remove
5	Douglas-fir	*Pseudotsuga menziesii*	22	good	fair	one sided				remove
6	Douglas-fir	*Pseudotsuga menziesii*	22	good	fair	one sided				remove
7	Douglas-fir	*Pseudotsuga menziesii*	14	fair	fair	one sided, one foot from existing wall				remove
8	Douglas-fir	*Pseudotsuga menziesii*	12	fair	poor	significant lean uphill (towards development), overtopped by adjacent trees, partially uprooted,multiple tops				remove
9	red alder	*Alnus rubra*	20	good	good					remove
10	elderberry	*Sambucus sp.*	8	n/a	n/a	not a tree, decayed, declining				remove
11	elderberry	*Sambucus sp.*	8	n/a	n/a	not a tree, decayed, declining				remove
12	Douglas-fir	*Pseudotsuga menziesii*	22	good	fair	one sided, 40% live crown ratio (lcr)				remove
13	Douglas-fir	*Pseudotsuga menziesii*	16	good	fair	one sided, codominant at 40'				remove
14	Douglas-fir	*Pseudotsuga menziesii*	20	good	fair	one sided, previously lost top with new top at 40'				remove
15	Douglas-fir	*Pseudotsuga menziesii*	14	good	fair	one sided, 60% lcr, codominant at 50'				remove
16	Douglas-fir	*Pseudotsuga menziesii*	8	fair	fair	overtopped by adjacent trees, one sided, 40% lcr, marginal trunk taper				remove
17	Douglas-fir	*Pseudotsuga menziesii*	20	good	fair	one sided, 60% lcr				remove
18	sweet cherry	*Prunus avium*	6	fair	fair	overtopped by adjacent trees, one sided, nuisance species				remove
19	Douglas-fir	*Pseudotsuga menziesii*	16	fair	fair	one sided, crown extension suppressed by adjacent trees, marginal trunk taper				remove
20	Oregon ash	*Fraxinus latifolia*	6	fair	fair	overtopped by adjacent trees, codominant top				remove
21	Douglas-fir	*Pseudotsuga menziesii*	14	fair	fair	one sided, overtopped by adjacent trees, moderately suppressed				remove
22	Douglas-fir	*Pseudotsuga menziesii*	24	fair	fair	extensive ivy on lower trunk, 40% lcr, moderately thin crown	8	24	12	retain
23	Douglas-fir	*Pseudotsuga menziesii*	22	good	fair	one sided				remove
24	Douglas-fir	*Pseudotsuga menziesii*	14	fair	fair	one sided, overtopped by adjacent trees, moderately suppressed				remove

Attachment 2

Tree No.	Common Name	Scientific Name	DBH[1]	Condition[2]	Structure[2]	Comments	Tree Units	Tree Protection Zone[3]	Critical Root Zone[4]	Treatment
25	Douglas-fir	*Pseudotsuga menziesii*	28	good	fair	one sided				remove
26	Douglas-fir	*Pseudotsuga menziesii*	10	poor	poor	extensive ivy, one sided, overtopped by adjacent trees				remove
27	Douglas-fir	*Pseudotsuga menziesii*	40	fair	fair	one sided, extensive ivy on lower trunk				remove
28	Douglas-fir	*Pseudotsuga menziesii*	6	poor	poor	extensive ivy, suppressed				remove
29	Douglas-fir	*Pseudotsuga menziesii*	12	fair	fair	extensive ivy on lower trunk, one sided				remove
30	Douglas-fir	*Pseudotsuga menziesii*	6	poor	poor	suppressed				remove
31	Douglas-fir	*Pseudotsuga menziesii*	10	poor	poor	thin crown, marginal trunk taper	offsite	10	5	retain
32	Douglas-fir	*Pseudotsuga menziesii*	32	poor	poor	thin crown, extensive ivy on lower trunk, 33% lcr				remove
33	Douglas-fir	*Pseudotsuga menziesii*	36	fair	fair	moderately one one sided, swelling at lower trunk indicative of decay				remove
34	Douglas-fir	*Pseudotsuga menziesii*	36	poor	poor	thin crown, extensive ivy on lower trunk, 33% lcr				remove
35	Douglas-fir	*Pseudotsuga menziesii*	36	good	fair	one sided				remove
36	bigleaf maple	*Acer macrophyllum*	12	fair	fair	marginal trunk taper, extensive ivy on lower trunk	offsite	12	6	retain
37	Douglas-fir	*Pseudotsuga menziesii*	28,10	fair	fair	thin crown, 40% lcr, codominant stems at lower trunk				remove
38	Douglas-fir	*Pseudotsuga menziesii*	20	fair	fair	thin crown, 60% lcr, extensive ivy on lower trunk				remove
38.1	Douglas-fir	*Pseudotsuga menziesii*	6	poor	poor	poor trunk taper, thin crown, dead top				remove
39	Douglas-fir	*Pseudotsuga menziesii*	14	poor	poor	poor trunk taper, thin crown, dead top				remove
40	Douglas-fir	*Pseudotsuga menziesii*	18	poor	poor	suppressed, lost top	5	18	9	retain
41	Douglas-fir	*Pseudotsuga menziesii*	30	good	fair	moderately one sided	11	30	15	retain
42	Douglas-fir	*Pseudotsuga menziesii*	18	fair	fair	crown extension suppressed by adjacent trees, bowed trunk with horizontal crack at 20'	5	18	9	retain
43	Douglas-fir	*Pseudotsuga menziesii*	18	poor	poor	lost top at 30'	5	18	9	retain
44	Douglas-fir	*Pseudotsuga menziesii*	6	fair	fair	marginal trunk taper, moderately suppressed	2	6	3	retain
44.1	red alder	*Alnus rubra*	12	fair	fair	one sided, lean over street, multiple leaders, added to site map in approximate location by arborist	2	12	6	retain
45	Douglas-fir	*Pseudotsuga menziesii*	14	good	fair	one sided (offsite)	offsite	14	7	retain

Attachment 2

Tree No.	Common Name	Scientific Name	DBH[1]	Condition[2]	Structure[2]	Comments	Tree Units	Tree Protection Zone[3]	Critical Root Zone[4]	Treatment
46	flowering dogwood	*Cornus florida*	8	fair	fair	epicormic growth, suspect dogwood anthracnose				remove
47	black locust	*Robinia pseudoacacia*	24	fair	fair	multiple leaders, nuisance species				remove
48	saucer magnolia	*Magnolia × soulangeana*	6	fair	poor	codominant at ground level, multiple heading cuts in crown				remove
49	English walnut	*Juglans regia*	12	poor	poor	multiple leaders, significant decay at lower trunk, lean over street	offsite			remove
49.1	Port-Orford-cedar	*Chamaecyparis lawsoniana*	36	good	fair	multiple leaders at 3', highly suseptible to Phytophthora root rot, added to site map in approximate location by arborist	offsite			remove
50	Douglas-fir	*Pseudotsuga menziesii*	45	fair	fair	moderately thin crown, minor branch dieback	offsite			remove
51	deciduous		6	very poor	very poor	extensive cracks and decay in lower crown				remove
52	Douglas-fir	*Pseudotsuga menziesii*	16	good	good					remove
53	Douglas-fir	*Pseudotsuga menziesii*	36	fair	fair	lost top at 30' with multiple new leaders				remove

[1]**DBH** is the trunk diameter in inches provided by the project surveyor. Spot checked for accuracy by project arborist on January 10, 2019.

[2]**Condition** and **Structure** ratings range from very poor, poor, fair, to good.

[3]**Tree Protection Zone** is an area surrounding the trunk of a tree with a radius of 1 foot per inch of DBH. This represents the ideal tree protection zone surrounding a typical tree.

[4]**Critical Root Zone** is an area surrounding the trunk of a tree with a radius of .5 feet per inch of DBH. This represents the a typical minimum root protection zone although factors such as species tolerance, anticipated root distribution, whether the tree will be impacted on multiple sides, and the specific development proposed need to be considered.

Attachment 3
Tree Protection Recommendations

Before Construction Begins

1. Notify all contractors of tree protection procedures. For successful tree protection on a construction site, all contractors must know and understand the goals of tree protection.
    a. Hold a tree protection meeting with all contractors to explain the goals of tree protection.
    c. Have all contractors sign memoranda of understanding regarding the goals of tree protection. The memoranda should include a penalty for violating the tree protection plan. The penalty should equal the resulting fines issued by the local jurisdiction plus the appraised value of the tree(s) within the violated tree protection zone per the current Trunk Formula Method as outlined in the current edition of the ***Guide for Plant Appraisal*** by the Council of Tree & Landscape Appraisers. The penalty should be paid to the owner of the property.
2. Fencing
    a. Tree protection fencing may be set as shown in Attachment 1.
    b. The fencing should be put in place before the ground is cleared in order to protect the trees and the soil around the trees from disturbances.
    c. Fencing should be established by the project arborist based on the needs of the trees to be protected and to facilitate construction.
    d. Fencing should consist of 4-foot high steel fencing on concrete blocks or 4-foot metal fencing secured to the ground with 6-foot metal posts to prevent it from being moved by contractors, sagging, or falling down.
    e. Fencing should remain in the position that is established by the project arborist and not be moved without approval from the project arborist until final project approval.
3. Signage
    a. All tree protection fencing should have signage as follows so that all contractors understand the purpose of the fencing:

> **TREE PROTECTION ZONE**
>
> **DO NOT REMOVE OR ADJUST THE LOCATION OF THIS TREE PROTECTION FENCING**
> **UNAUTHORIZED ENCROACHMENT MAY RESULT IN FINES**
>
> Please contact the project arborist if alterations to the location of the tree protection fencing are necessary.
>
> Todd Prager, Project Arborist, Teragan & Associates, 971-295-4835

    b. Signage should be placed every 75-feet or less.

During Construction

1. Protection Guidelines Within the Tree Protection Zones:
    a. No new buildings; grade change or cut and fill, during or after construction; new impervious surfaces; or utility or drainage field placement should be allowed within the tree protection zones.
    b. No traffic should be allowed within the tree protection zones. This includes but is not limited to vehicle, heavy equipment, or even repeated foot traffic.
    c. No storage of materials including but not limiting to soil, construction material, or waste from the site should be permitted within the tree protection zones. Waste includes but is not limited to concrete wash out, gasoline, diesel, paint, cleaner, thinners, etc.
    d. Construction trailers should not to be parked/placed within the tree protection zones.
    e. No vehicles should be allowed to park within the tree protection zones.
    f. No other activities should be allowed that will cause soil compaction within the tree protection zones.
2. The trees should be protected from any cutting, skinning or breaking of branches, trunks or woody roots.
3. The project arborist should be notified prior to the cutting of woody roots from trees that are to be retained to evaluate and oversee the proper cutting of roots with sharp cutting tools. Cut roots should be immediately covered with soil or mulch to prevent them from drying out.
4. Trees that have woody roots cut should be provided supplemental water during the summer months.
5. Any necessary passage of utilities through the tree protection zones should be by means of tunneling under woody roots by hand digging or boring with oversight by the project arborist.
6. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

After Construction

1. Carefully landscape the areas within the tree protection zones. Do not allow trenching for irrigation or other utilities within the tree protection zones.
2. Carefully plant new plants within the tree protection zones. Avoid cutting the woody roots of trees that are retained.
3. Do not install permanent irrigation within the tree protection zones unless it is drip irrigation to support a specific planting or the irrigation is approved by the project arborist.
4. Provide adequate drainage within the tree protection zones and do not alter soil hydrology significantly from existing conditions for the trees to be retained.
5. Provide for the ongoing inspection and treatment of insect and disease populations that are capable of damaging the retained trees and plants.
6. The retained trees may need to be fertilized if recommended by the project arborist.
7. Any deviation from the recommendations in this section should receive prior approval from the project arborist.

Attachment 4
Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. The information provided by Peter Anca and his consultants was the basis of the information provided in this report.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. The consultant is not responsible for information gathered from others involved in various activities pertaining to this project. Care has been taken to obtain information from reliable sources.
4. Loss or alteration of any part of this delivered report invalidates the entire report.
5. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
6. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
7. The purpose of this report is to:
    - Provide an assessment of the surveyed trees;
    - Provide recommendations for tree removal and retention based on the proposed site improvements; and
    - Provide protection recommendations for the trees to be retained.

clemow associates LLC

October 19, 2018, ***Revised February 8, 2019***

Peter and Emma Anca
PO Box 87651
Vancouver, Washington 98687

c/o BAMA Architecture and Design, LLC
Attention: Mildred White, AIA, NCARB
7350 SE Milwaukie Avenue
Portland, Oregon 97202

Re: **Anca Adult Care Facility – Camas, Washington**
Transportation Engineering Services

City of Camas File Number PA8-26
C&A Project Number 20180801.00

Dear Mr. and Ms. Anca,

This Transportation Impact Analysis (TIA) supports the proposed Anca Adult Care Facility in Camas, Washington. Based on requirements identified in the August 19, 2018 City of Camas Pre-Application Conference notes, this TIA addresses the following:

1. Property Description and Proposed Land Use Action
2. Development Trip Generation
3. Trip Distribution and Traffic Assignment
4. Access Description
5. Access Deviation Request
6. On-Site Traffic Circulation
7. Movement Conflicts
8. Intersection Sight Distance
9. Summary

1. PROPERTY DESCRIPTION AND PROPOSED LAND USE ACTION

The proposed Anca Adult Care Facility is located at 3401 NW Lake Road in Camas, Washington. The proposed project includes constructing an approximate 19,000 square foot congregate care facility with 36 beds (dwelling units). The proposed development is a conditional use in the City of Camas Residential R-10 zone district and requires a Type III land use decision.

The location of the development location is depicted in the attached Figure 1 for reference.

2. DEVELOPMENT TRIP GENERATION

The development proposal includes removing an existing single-family residence and constructing a 36-bed congregate care facility. Development trip generation was determined using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition and is presented in the following table.

TABLE 1 – TRIP GENERATION

Land Use	ITE Code	Size	Daily	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Proposed Development									
Congregate Care Facility	253	36 Occ DU	77	1	1	2	3	3	6
Existing Development									
Single-Family Detached Housing	210	1 DU	*(9)*	*(0)*	*(1)*	*(1)*	*(1)*	*(0)*	*(1)*
Net New Trip Generation			**66**	**1**	**0**	**1**	**2**	**3**	**5**

As presented in the previous table, the development is anticipated to generate 66 daily, 1 AM peak hour, and 5 PM peak hour net new motor vehicle trips.

3. TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

The Anca Adult Care facility is located north of NW Lake Road and east of NW Parker Street. On-site parking is located south of the building, adjacent the roadway with two accesses to NW Lake Road. The eastern access is entrance-only, and the western access is exit-only.

Detailed trip distribution and traffic assignment has been performed and is shown in attached Figure 2.

4. ACCESS DESCRIPTION

The subject property is located north of NW Lake Road. This roadway is functionally classified as an *Arterial* and has three motor vehicle travel lanes, including a continuous two-way left-turn lane that becomes a dedicated left-turn lane at intersections.

The subject property only has access to NW Lake Road. The existing single-family residence currently has one access and the proposed development will have two accesses. The proposed eastern access is entrance-only, and the western access is exit-only. Refer to the attached site plan for site layout and access locations.

5. ACCESS DEVIATION REQUEST

The proposed eastern development access is approximately 130 feet (measured centerline to centerline) from the NW Lake Road/NW Jackson Street intersection and the western access is approximately 575 feet (measured centerline to centerline) from the NW Lake Road/NW Parker Street/NW Larkspur Street intersection. Based on the Camas Design Standard Manual, the *Minimum Access Spacing* for an arterial roadway is 660 feet. As such, deviation requests for both accesses are necessary. The August 19, 2018 Pre-Application Conference notes further state: *"Based on the location and topography of the Applicant's property, the City Engineer will support a deviation request from the 660-foot minimum access spacing standards for arterials."*

Additionally, Camas Municipal Code Section 17.19.040.B.11 – *Infrastructure Standards relating to Street Access Management* states,

> *"a. Access to all marginal access streets shall be restricted so as to minimize congestion and interference with the traffic carrying capacity of such street, and to provide separation of through and local traffic in accordance with CMC 17.19.030.D.6. The restrictions imposed shall be in accordance with the Camas Design Standards Manual.*
>
> *b. The city engineer may grant exceptions to the access restriction policies and standards when no other feasible access alternative exists."*

Consistent with City requirements, the applicant is requesting a deviation from the 660-foot minimum arterial access spacing standard supported by the following comments/reasoning:

- Proposed development trip generation is very low and is not anticipated to have any measurable transportation system impacts regardless of access configuration or location.
- On-site traffic circulation is one-way westbound and fully supports the two-access proposal.
- The eastern (entrance-only) access is offset from the NW Lake Road/NW Jackson Street intersection a distance less than the City access spacing standard; however, because of the offset direction, east and westbound left-turn movements are separated, thereby reducing conflicts. With an entrance-only access, a raised median in NW Lake Road is not necessary.
- The western (exit-only) access is approximately 575 feet east of the NW Lake Road/NW Parker Street/NW Larkspur Street intersection and is outside the intersection functional area. Further, the exit-only operation of the access will not cause any roadway queuing.
- Overall, the two, one-way accesses, in the proposed locations do not negatively impact public roadway operations and the proposed on-site traffic circulation is safe and efficient.

6. ON-SITE TRAFFIC CIRCULATION

The proposed development will have two accesses as shown on the attached site plan. The eastern access is entrance-only, the western access is exit-only, and on-site traffic circulation is one-way westbound.

Traffic flow through the pick-up and drop-off location in front of the facility is also one-way westbound. On-site traffic circulation is depicted on the attached Figure 3.

Overall, the proposed on-site traffic circulation is safe and efficient.

7. MOVEMENT CONFLICTS

The proposed on-site traffic circulation is safe and efficient, and the one-way operation reduces movement conflicts. The eastern (entrance-only) access offset direction from the NW Lake Road/NW Jackson Street intersection separates east and westbound left-turn movements, thereby reducing conflicts. The western (exit-only) access is outside the intersection functional area and will not cause any roadway queuing or unnecessary movement conflicts.

8. INTERSECTION SIGHT DISTANCE ANALYSIS

Intersection sight distance is evaluated based on requirements identified in the current American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets.*

Per AASHTO recommendations, intersection sight distance was measured from a driver's eye height of 3.5 feet and 14.5 feet from the edge of the nearest travel lane to an object height of 3.5 feet above the roadway surface. The posted speed on NW Lake Road is 35 MPH.

Noting there is no vertical roadway curvature in the project vicinity, sight distance is only potentially limited by horizontal curvature. Further, because the proposed accesses are located on the outside of a horizontal curve, sight distance also tends not to be limited.

Field measurements are shown in attached Figure 4 for both accesses. Intersection sight distances are summarized as follows:

TABLE 2 – INTERSECTION SIGHT DISTANCE

Turning Movement	Roadway Direction	85th Percentile Speed (MPH)	Sight Distance	
			Required (ft)	Available (ft) [1]
Left-Turn from Stop	To the West	35	390	500+
	To the East	35	390	520+
Right-Turn from Stop and Crossing Maneuver	To the West	35	335	500+
	To the East	35	335	520+
Left-Turn from Major Road	To the East	35	285	375+

[1] Assumes management of vegetation and any other obstructions in the sight triangle.

As shown in the table above, intersection sight distance is available for all turning movements at all access locations assuming vegetation management in the sight triangle.

9. SUMMARY

The following conclusions are made based on the analysis contained in this letter.

1. The development proposal includes removing an existing single-family residence and constructing a 36-bed congregate care facility.

2. The development is anticipated to generate 66 daily, 1 AM peak hour, and 5 PM peak hour net new motor vehicle trips.

3. The subject property only has access to NW Lake Road. The existing single-family residence currently has one access and the proposed development will have two accesses. The proposed eastern access is entrance-only, and the western access is exit-only. Refer to the attached site plan for site layout and access locations.

4. Consistent with City requirements, the applicant is requesting a deviation from the 660-foot minimum arterial access spacing standard supported by the following comments/reasoning:

    a. Proposed development trip generation is very low and is not anticipated to have any measurable transportation system impacts regardless of access configuration or location.

    b. On-site traffic circulation is safe and efficient, and the one-way operation reduces movement conflicts.

    c. The eastern (entrance-only) access offset direction from the NW Lake Road/NW Jackson Street intersection separates east and westbound left-turn movements, thereby reducing conflicts.

    d. The western (exit-only) access is outside the intersection functional area and will not cause any roadway queuing or unnecessary movement conflicts.

    e. Overall, the two, one-way accesses, in the proposed locations do not negatively impact public roadway operations and the proposed on-site traffic circulation is safe and efficient.

5. Intersection sight distance is available for all turning movements at all access locations assuming vegetation management in the sight triangle.

Sincerely,

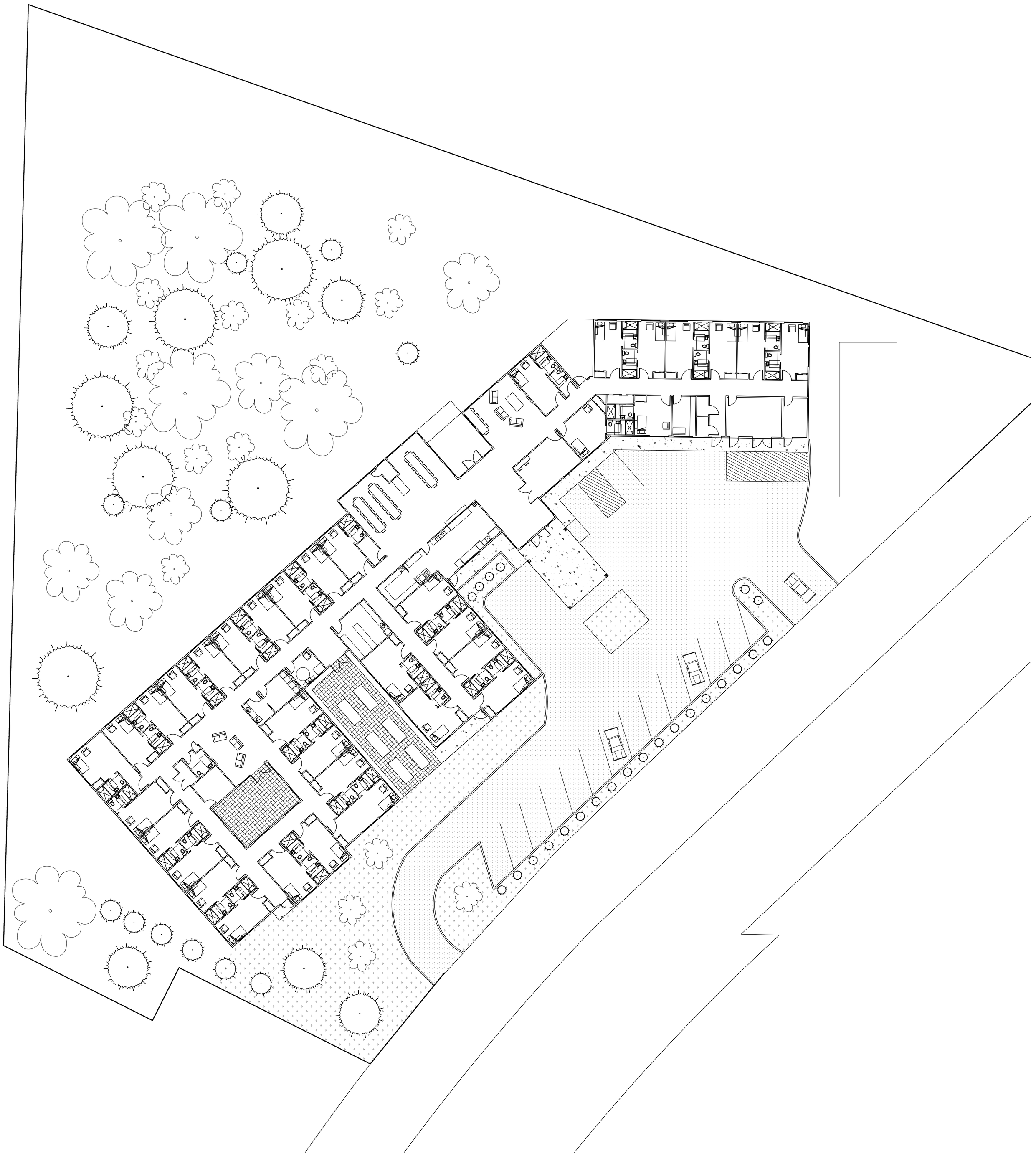
Christopher M. Clemow, PTOE

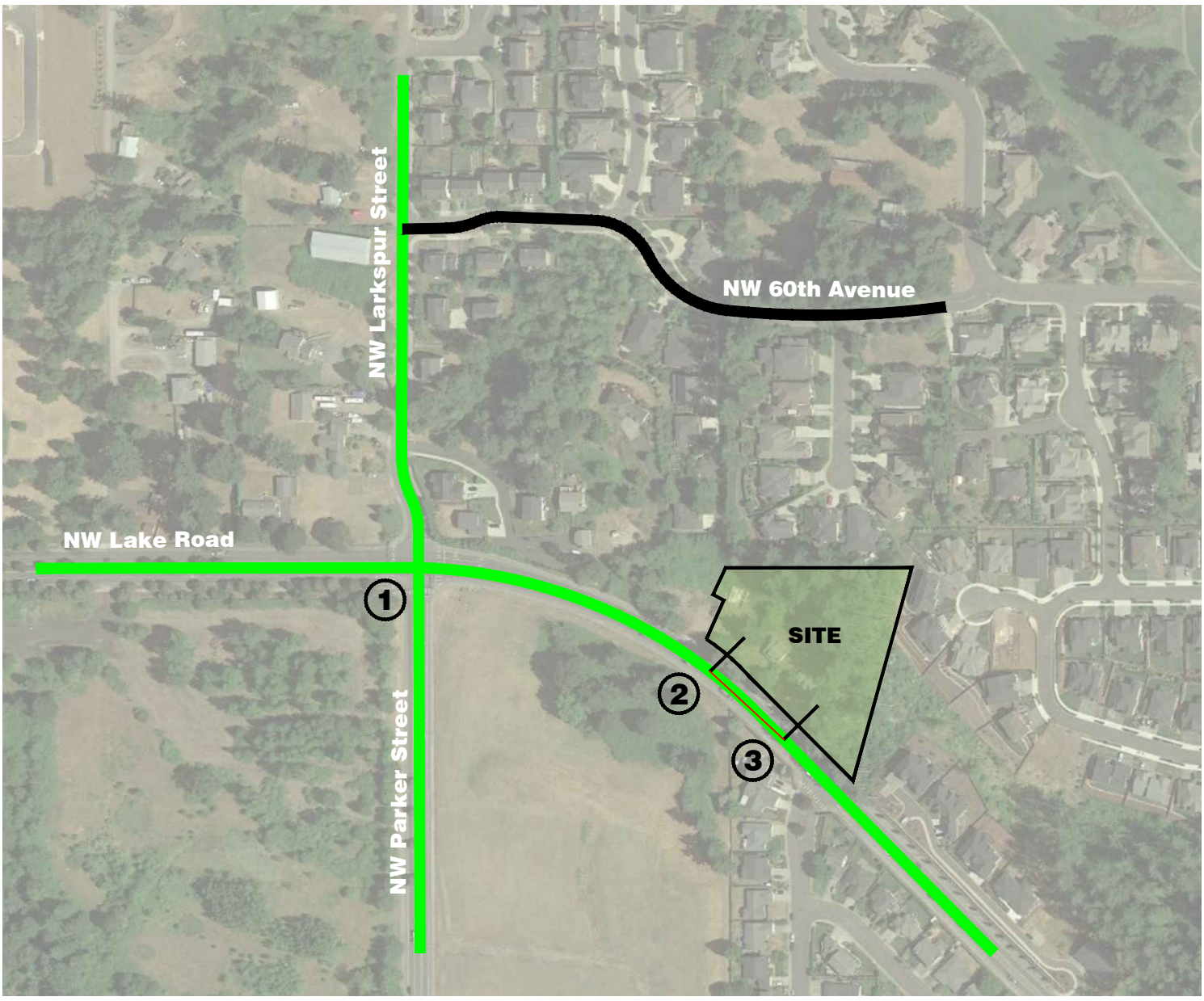
John G. Replinger, PE

Attachments: Site Plan
Figures 1, 2, 3 and 4

John Gordon Replinger Jr. STATE OF WASHINGTON 32911 REGISTERED PROFESSIONAL ENGINEER

Expires 4/18/2019





Functional Roadway Classifications

LEGEND

- Interstate
- Principal Arterial
- Minor Arterial
- Major Collector
- Local Roadway
- (#) Study Intersections

clemow associates LLC
1582 Fetters Loop
Eugene, Oregon 97402
541-579-8315
cclemow@clemow-associates.com

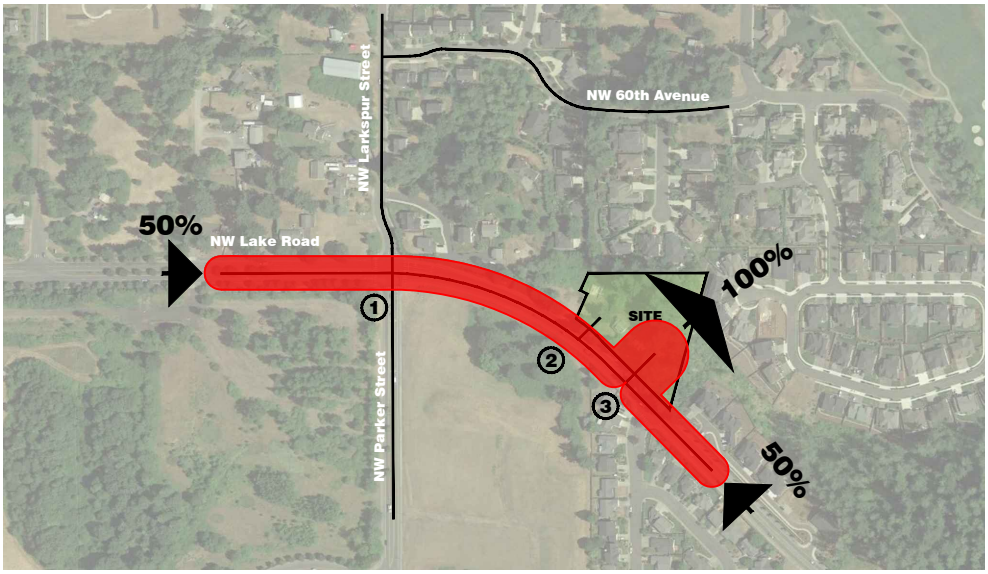
STUDY AREA

Anca Adult Care Facility - Camas, Washington

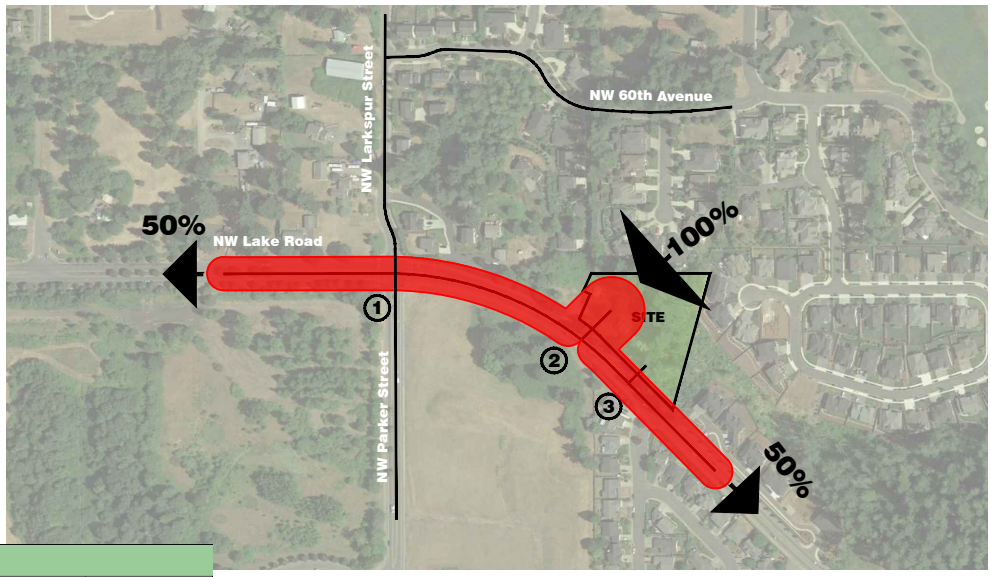
Project No. 20180801.00

FIGURE 1

Entering Distribution



Exiting Distribution



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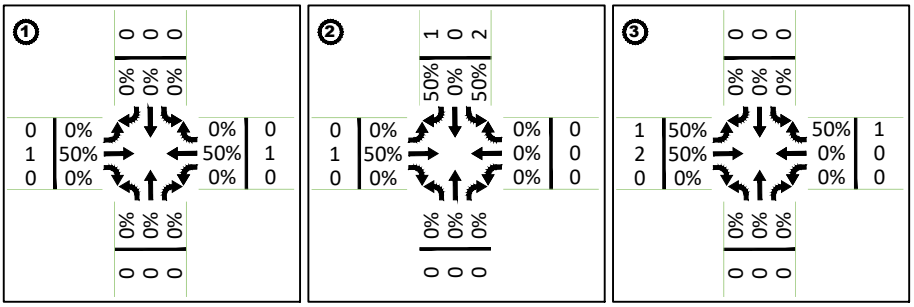
Single-Family Detached Housing	210	1 DU	(9)	(0)	(1)	(1)	(1)	(0)	(1)
Net New Trip Generation			66	1	0	1	2	3	5



Notes: - Distribution percentages and traffic assignment include both entering and exiting volumes.

clemow associates LLC
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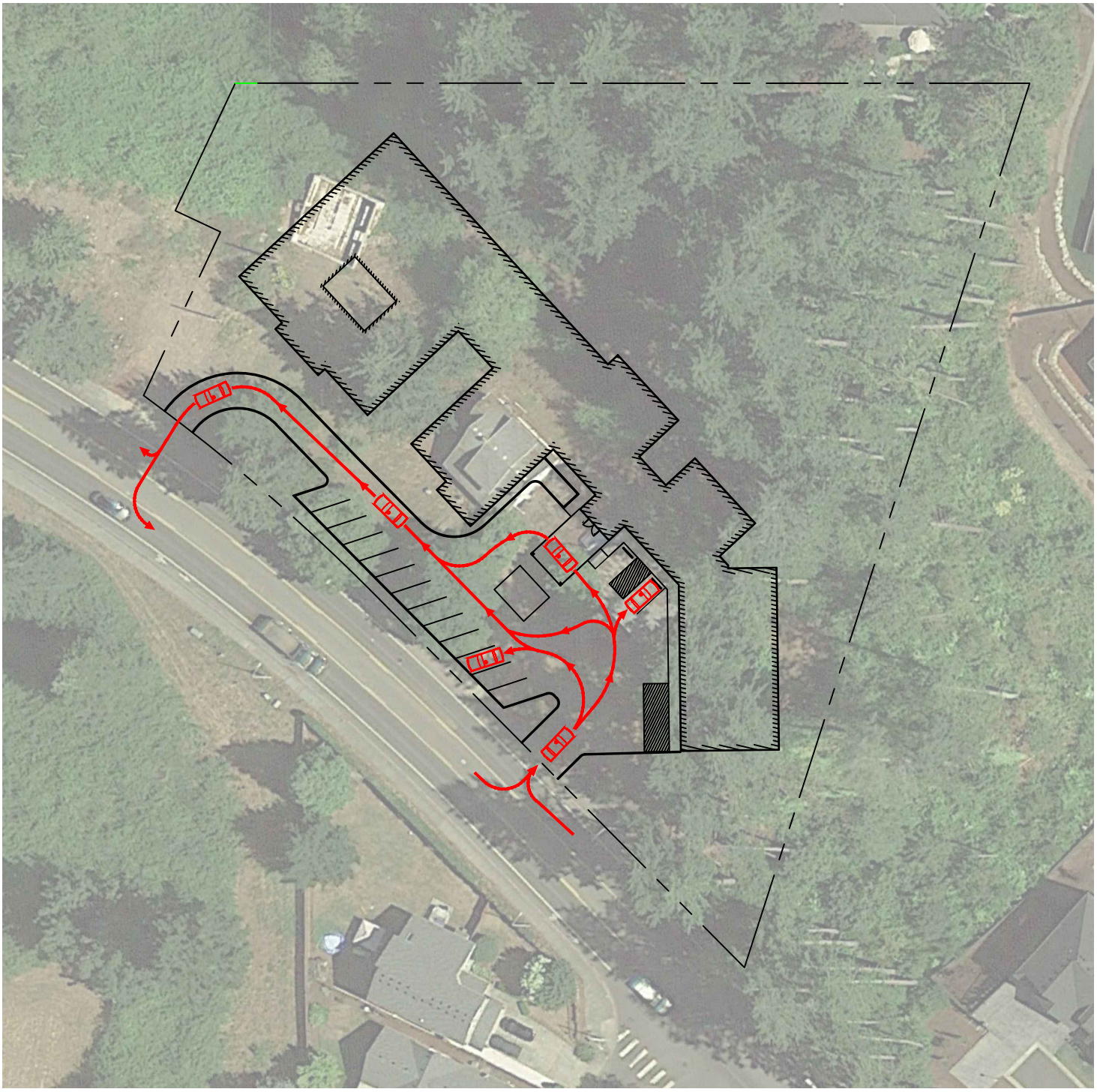
DEVELOPMENT TRAFFIC VOLUMES
PM Peak Hour

Anca Adult Care Facility - Camas, Washington

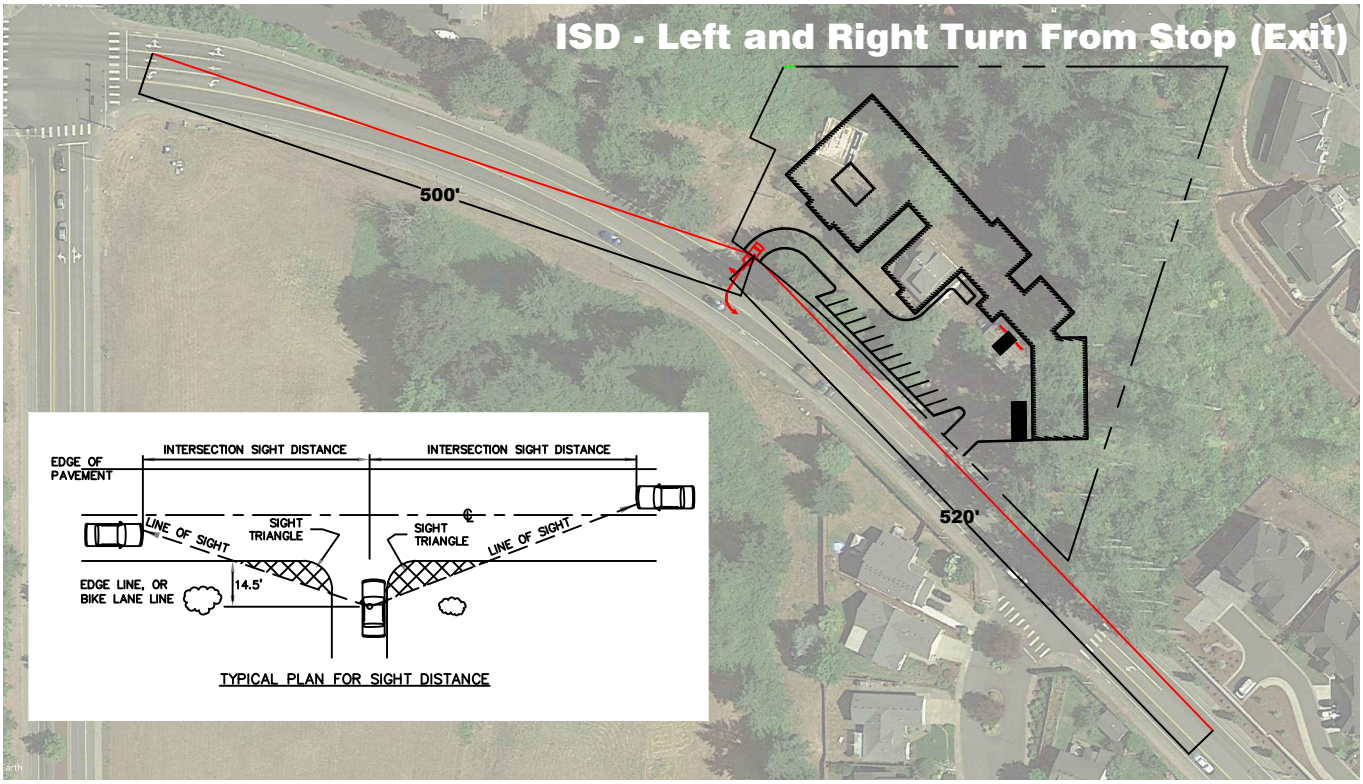
Project No. 20180801.00

FIGURE

2



clemow associates LLC	1582 Fetters Loop Eugene, Oregon 97402 541-579-8315 cclemow@clemow-associates.com	**SITE CIRCULATION** **Anca Adult Care Facility - Camas, Washington** **Project No. 20180801.00**	**FIGURE** **3**



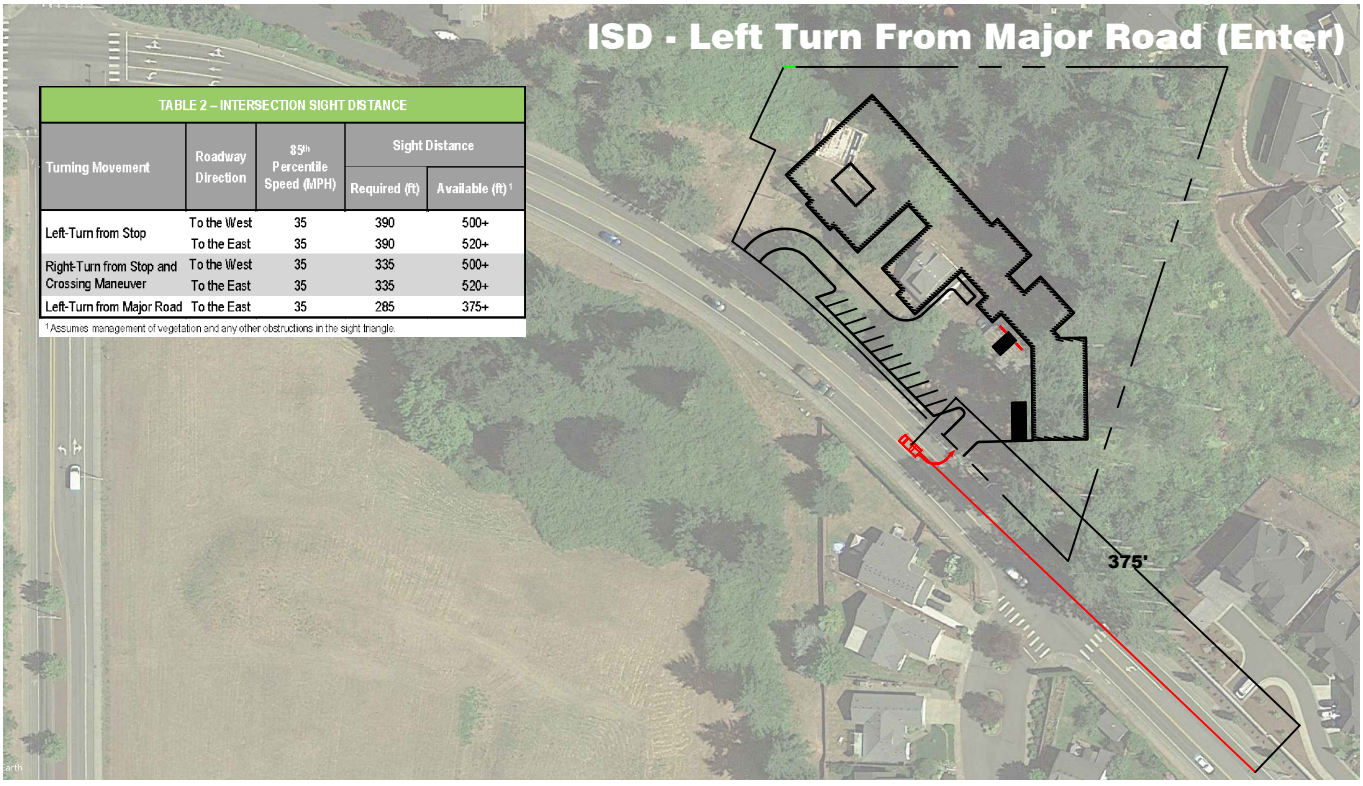


TABLE 2 – INTERSECTION SIGHT DISTANCE

Turning Movement	Roadway Direction	85th Percentile Speed (MPH)	Sight Distance	
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	To the East	35	390	520+
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	To the East	35	335	520+
Left-Turn from Major Road	To the East	35	285	375+

[1] Assumes management of vegetation and any other obstructions in the sight triangle.

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INTERSECTION SIGHT DISTANCE

Anca Adult Care Facility - Camas, Washington

Project No. 20180801.00

FIGURE 4

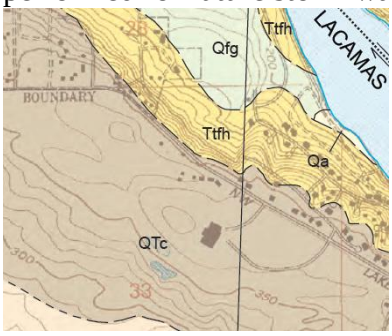
EXHIBIT 14

Peter Anca
503-351-3171
peteremmaanca@gmail.com

27 September 2018

Re: Storm water testing at 3401 NW Lake Rd., Camas, WA

Field Investigation:
Rapid Soil Solutions (RSS) has performed a total of two (2) infiltration tests. Figure 1 shows the project site location. RSS found silt, clay and sand of the Troutdale Formation within the testing locations. Testing was performed for future storm water design.

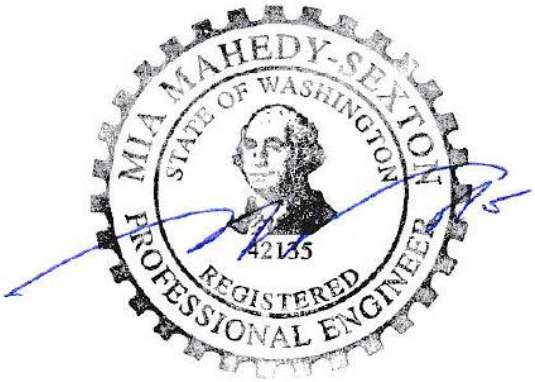


Infiltration Testing:
See figure on the infiltration sheets for the location of the tests. Infiltration testing was performed as per Clark County Storm Water Manual. Testing took place in two hand auger borings. The tests were completed a total of three times. The rates are shown on the following spread sheet with the site plan. RSS found the rate is **4.2 in/hr at 6ft and 4.8 at 8ft.**

Depth to Ground Water
RSS did not find any indications of shallow ground water based on the soils at 8 feet. If shallow ground water was present the soil would be stained.

The analysis, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of explorations. Any questions regarding this report please contact me at the below number or email.

Sincerely,



Mia Mahedy-Sexton, PE GE.

Rapid Soil Solutions LLC 503-816-3689 mia@rapidsoilsolutions.com

Infiltration Test Results

Address: 3401 NW Lake Rd., Camas, WA 9/21/2018

By: Chelsea Trotter, EIT, supervised by Mia Mahedy-Sexton, PE GE

Purpose: Infiltration Test Hand Auger

HA#1 Depth = 6'

#1		#2		#3	
Time	Measurement	Time	Measurement	Time	Measurement
9:59	12.0 In.	10:59	12.0 In.	11:59	12.0 In.
10:19	7.2 In.	11:19	9.0 In.	12:19	9.6 In.
10:39	6.0 In.	11:39	8.4 In.	12:39	8.4 In.
10:59	6.0 In.	11:59	7.2 In.	12:59	7.8 In.
Rate	6.0 In./Hr		4.8 In./Hr		4.2 In./Hr

Soils:

0-15" Top Soil with roots and trace gravel

15"-3.5' Dry, red-brown w/ orange hue, fine grained, stiff, silty-CLAY

3.5'-6' Damp, red-brown w/ orange hue, coarse grained, stiff, silty-CLAY w/ sand, gravel & cobble

HA#2 Depth = 8'

#1		#2		#3	
Time	Measurement	Time	Measurement	Time	Measurement
10:01	12.0 In.	11:01	12.0 In.	12:01	12.0 In.
10:21	6.0 In.	11:21	8.4 In.	12:21	9.6 In.
10:41	4.8 In.	11:41	7.2 In.	12:41	8.4 In.
11:01	3.6 In.	12:01	6.0 In.	13:01	7.2 In.
Rate	8.4 In./Hr		6.0 In./Hr		4.8 In./Hr

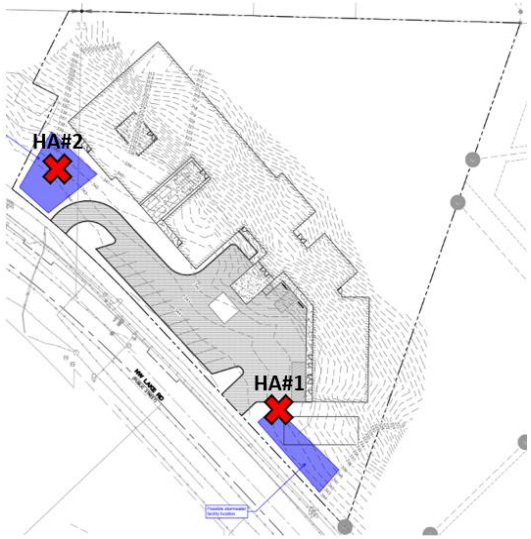
Soils:

0-12" Top Soil with roots and gravel

12"-4' Dry to damp, red-brown w/ orange hue, fine grained, stiff, silty-CLAY w/ trace gravel

4'-6.5' Damp, red-brown w/ orange hue, fine to coarse grained, stiff, silty-CLAY w/ sand

6.5'-8' Damp, red-brown w/ tan, coarse grained, very stiff, silty-CLAY w/ SAND and gravel



Rapid Soil Solutions LLC
503-816-3689
mia@rapidsoilsolutions.com

Figure 1 –Site Location

EXHIBIT 15

AAI afghan associates, inc.
ENGINEERING

Camas RCF

PRELIMINARY TECHNICAL INFORMATION REPORT

3401 NW Lake Road
Camas, WA 98607

Revised May 13, 2019
October 26th, 2018

The information contained in this report was prepared by and under direct supervision of the undersigned:

All information required by VMC 14.24, 14.25 and 14.26 Stormwater and Erosion Control Ordinance is included in the preliminary stormwater plan and the proposed stormwater facilities are feasible.

Craig Harris, PE
AAI Engineering
4875 S.W. Griffith Drive
Suite 300
Beaverton, Oregon 97005
PH 503.620.3030 FX 503.620.5539
craigh@aaieng.com
AAI Project Number: A18139.11

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Appendix E

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Appendix F

Calculations

Appendix G

Existing Conditions

Appendix H

Hardscape plans

Section A – Project Overview

This report has been prepared to outline the existing and proposed stormwater conditions for the Camas RCF project. The report is based on field observations, existing survey data and a site geotechnical report.

The project site is located along the north eastern side of NW Lake Road 500, feet east of the intersection of Lake Spur Road and NW Lake road in Camas, Washington. The total project site is approximately 97,139 sf (2.23 ac). Currently the site consists of a private residence with a barn, a lawn and landscape area and large evergreen and deciduous trees. The site is slopes down to the Northeast with slopes ranging from 5%-40%. No private stormwater system exists on the property.

The two small residential structures total approximately 1,680 sf of impervious, the rest of the remaining site 95,459 sf (2.19 ac) is pervious area. Per the Geotechnical Report, the site soil has been tested and resulted in infiltration rates ranging from 4.2 in/hr to 4.8 in/hr.

See Appendix A – Vicinity Map and Appendix B – Existing Conditions.

From test pits performed on the site, no ground water was found onsite.

See Appendix F – Geotechnical Report.

The primary purpose of this project is to improve the site for a residential assisted living facility. The site improvements will consist of one new building with an asphalt parking lot, two driveways (each one way) and site improvements totaling approximately 33,667 sf (0.77 ac) of total proposed impervious area. In addition to the site improvements, a stormwater system and conveyance piping are also included in the proposed design. The proposed storm system includes an 8x4 Modular Wetlands system for water quality treatment and Contech detention pipe for flow control. Flows from the parking and sidewalk are treated by the Modular Wetland system then routed to the detention pipe. Roof runoff is tight lined directly into the detention system. Post-construction flows will be reduced to preexisting conditions for the discharge rates from 8% of the 2-year peak flow to the full 50-year flow

See Appendix C – Site Plans and Appendix D – Storm Plans and Details.

The proposed stormwater facilities are designed to capture the entire runoff from the proposed site improvements. No runoff from adjacent properties is anticipated to be captured by the proposed facilities. In addition, all site impervious runoff will be completely managed on site and will not drain onto adjacent properties. The stormwater quality and quantity required for this project will be designed according to the Camas Stormwater Manual 2016.

Section B – Minimum Requirements

We have determined that Minimum Requirements #1 - 9 apply to new impervious surfaces. All Minimum Requirements that apply to this site are listed below.

Minimum Requirement #1– Preparation of Stormwater Site Plan.

Complete site plans that show the existing and proposed conditions of the project and drainage systems are included. This drainage report summarizes the methods and analysis in the design of the stormwater components.

See Appendix B – Existing Conditions, Appendix C – Site Plans and Appendix D – Storm Plans and Details.

Minimum Requirement #2 – Construction Stormwater Pollution Prevention

The complete Construction Stormwater Pollution Prevention Plan (SWPPP) is a combination of the Temporary Erosion and Sediment Control (TESC) Plan and the Stormwater Spill Prevention Plan (SSPP).

See Appendix G – Grading and Erosion Control Plans.

A SWPPP - will be completed and submitted to the City prior to final project approval.

Minimum Requirement #3 – Source Control of Pollution

To ensure proper source control of pollution the contractor/owner will implement the following operational BMPs from the Stormwater Manual for Western Washington.

S411 BMPs for Landscaping and Lawn Vegetation Management
S417 BMPs for Maintenance of Stormwater Drainage and Treatment Systems
S420 BMPs for Painting/Finished/Coating of Vehicles/Boats//Buildings/Equipment
S424 BMP's for Roof/Building Drains at Manufacturing and Commercial Buildings
S431 BMPs for Washington and Steam Cleaning Vehicles/Equipment/Building structures

Since the proposed project is not a high use oil control will not be required.

Minimum Requirement #4 – Preservation of Natural Drainage Systems and Outfalls

Post-construction there will be no flow off site which will help reduce demands on the existing City storm system.

Minimum Requirement #5 – On-Site Stormwater Management

LID BMPS were considered but ultimately due to erosion concerns and drainage issues per the geotechnical report and lack of space onsite, most of were deemed infeasible.

Roofs:

Full Dispersion in accordance with BMP T5.30: Full Dispersion (p.939), or Downspout Full Infiltration Systems in accordance with BMP T5.10A: Down-spout Full Infiltration (p.905). – Infeasible due to more than 65% site being disturbed.

Bioretention (See BMP T7.30: Bioretention Cells, Swales, and Planter Boxes (p.959)) facilities that have a minimum horizontally projected surface area below the overflow which is at least 5% of the total surface area draining to it. Infeasible due to erosion concerns and seepage to neighboring properties down below.

Downspout Dispersion Systems in accordance with BMP T5.10B: Down-spout Dispersion Systems (p.905)4. Perforated Stub-out Connections in accordance with BMP T5.10C: Perforated Stub-out Connections (p.905) Infeasible due to erosion concerns and seepage to neighboring properties down below.

Other Hard Surfaces:
Full Dispersion in accordance with BMP T5.30: Full Dispersion (p.939). Infeasible due to more than 65% site being disturbed

Permeable pavement1 in accordance with BMP T5.15: Permeable Pavements (p.917). Infeasible due to lack of infiltration. Expected infiltration rate expected to be less than 12 in/hr per Geotech report.

Bioretention BMP's (BMP T7.30: Bioretention Cells, Swales, and Planter Boxes (p.959)) that have a minimum horizontally projected surface area below the overflow which is at least 5% of the total surface area draining to it. Infeasible due to erosion concerns and seepage to neighboring properties down below.

Sheet Flow Dispersion in accordance with BMP T5.12: Sheet Flow Dispersion (p.908), or Concentrated Flow Dispersion in accordance with BMP T5.11: Concentrated Flow Dispersion (p.905). Infeasible due to lack of vegetative flow path and steep slopes.

Since many of the BMPS were deemed infeasible the project will meet the flow control standard through the use of CMP and a flow control tee and match developed discharge duration to predeveloped durations for the range of predeveloped discharge rates from 8% of the 2-year peak flow to the full 50-year flow.

See Appendix J- Storm Design Calculations- To be provided with permit submittal.

Minimum Requirement #6 – Runoff Treatment

This project is composed of approximately 97,139 sf (2.23 ac) of which, approximately 14,200 sf (0.326 ac) is pollution generating impervious surface and 19,467 sf (0.4469 ac) is non-pollution generating impervious surface. To meet the minimum requirement # 6 water is treated through the use of an 8x4 Modular. These have been sized through WWHM to treat the offline water quality flow rate.

The proposed project will consist of one building and an asphalt parking area with adjacent sidewalks. The building foot print is approximately 19,466 sf. Per Volume V Chapter 2 of the SWMMWW the site does not meet the ADT level to trigger Oil Control. A total of 100 daily trips per 1000SF of building would need to occur to trigger Oil Control. Using the SWMMWW rate of 100 trips/1,000SF, 1,946 daily vehicle trips would need to occur to warrant oil treatment. The project site will also not trigger the other 3 criteria for oil control.

Minimum Requirement #7 – Flow Control

Post-construction flows will be reduced to preexisting conditions for the discharge rates from 8% of the 2-year peak flow to the full 50-year flow. Flow control was met with 54" diameter corrugated metal pipe. The system is approximately 1300' of pipe with a total storage volume of

20,671 cf. The onsite detention and flow control will help reduce demands on the existing city Camas storm system and preserve the existing outfalls.

See Appendix J- Storm Design Calculations- To be provided with permit submittal.

Minimum Requirement #8 – Wetlands Protection

No existing wetlands on or adjacent to project site. No on-site or off-site protection required.

Minimum Requirement #9 – Operation and Maintenance

The Operation and Maintenance guidance is based on Section L of the Clark County General Requirements and Details for the Design and Construction of Surface Water Systems Manual, Section 4, 2017, for the on-site BMP's. The onsite stormwater will be maintained and owned by the property owner.

See Appendix H – Operation and Maintenance Manual-To be provided with permit submittal.

Section C – Conveyance System Analysis and Design

The onsite conveyance system and all piping will be sized to handle the 25yr storm event with no flooding or damage to any of the structures. Complete conveyance calculations will be completed and submitted to the City prior to final project approval.

See Appendix G – Existing Conditions, Appendix A – Vicinity Map, and Appendix J – Conveyance Calculations.

Section D – Additional Requirements

D.1 Offsite Analysis

The subject property is located along Lake Road northwest of NW Jackson Street in Camas Washington. The project is bound by residential properties to the northwest, northeast, and southeast. The site is not located within a flood plain or flood way and no critical areas have been identified within 1/4 mile of the site. No problems have been observed or conveyed to us during our investigation into the site history. All complied information used for the design of the stormwater system has been included in this report.

See Appendix G – Existing Conditions and Appendix A – Vicinity Map

D.2 Closed Depression Analysis

N/A

D.3 Approval Conditions Summary

A construction stormwater general permit and NOI will completed when a contractor has been chosen and before construction.

D.4 Approval Conditions Summary

D.5 Special Reports and Studies

See Appendix D – Geotechnical Report.

Appendix A

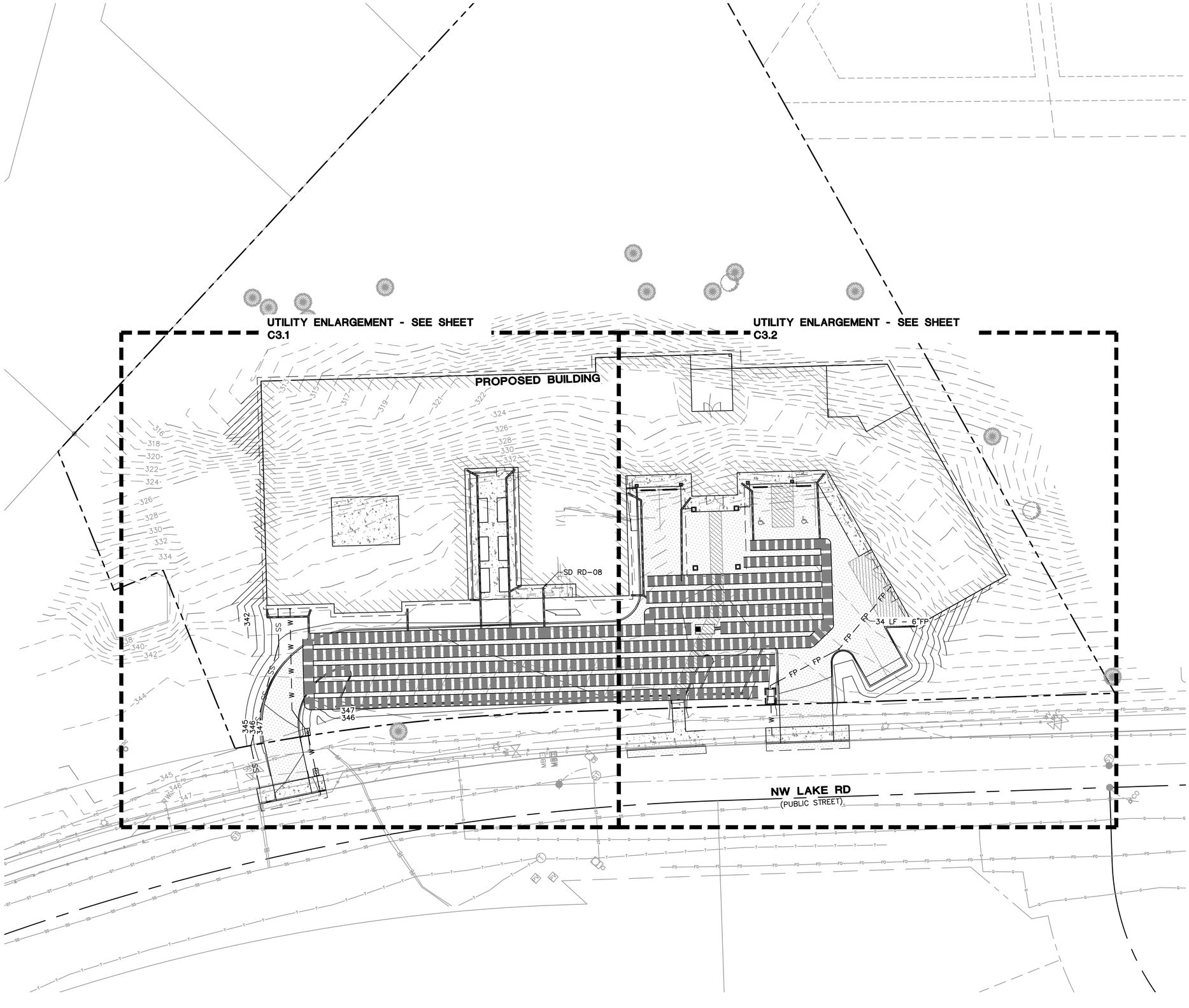
Vicinity Map/Soil Map-Will be provided in future submittals

Appendix B

Basin Map- Will be provided in future submittals

Appendix C

Storm Plans and EC Plans- EC plans will be provided in future submittals



SHEET NOTES

1. STRUCTURES HORIZONTAL LOCATIONS AND PIPE INVERTS ARE BASED ON THE CENTER OF THE STRUCTURE.
2. INSTALL THRUST BLOCKS ON FIRE AND WATER LINES.
3. ALL SANITARY AND STORM PIPING SHALL BE PVC 3034 OR APPROVED EQUAL, UNLESS NOTED OTHERWISE.
4. THIS PLAN IS GENERALLY DIAGRAMMATIC. IT DOES NOT SHOW EVERY JOINT, BEND, FITTING, OR ACCESSORY REQUIRED FOR CONSTRUCTION.
5. CLEAN OUTS SHALL BE INSTALLED IN CONFORMANCE WITH UPC CHAPTER SEVEN, SECTION 707 AND SECTION 719. NOT ALL REQUIRED CLEAN OUTS ARE SHOWN.
6. DOMESTIC WATER AND FIRE LINES AND ACCESSORIES BETWEEN THE WATER METER AND THE BUILDING SHALL BE INSTALLED BY A LICENSED PLUMBER EMPLOYED BY A LICENSED PLUMBING CONTRACTOR.
7. UTILITIES WITHIN FIVE FEET OF A BUILDING SHALL BE CONSTRUCTED OF MATERIALS APPROVED FOR INTERIOR USE AS DESCRIBED IN THE CURRENT EDITION OF THE UPC.
8. INLETS AND OUTLETS TO ON-SITE MANHOLES SHALL HAVE FLEXIBLE CONNECTION NO CLOSER THAN 12" AND NO FARTHER THAN 36" FROM THE MANHOLE.

LEGEND

SANITARY SEWER LINE	SS SS
WATER LINE	W W W
FIRE LINE	FP FP FP FP
FDC LINE	FDC FDC FDC
STORM LINE	

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG D. JAMES — STATE OF WASHINGTON — 40160 — REGISTERED PROFESSIONAL ENGINEER

AAI aldian associates, inc.
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4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C3.0

JOB NUMBER: A18139.10

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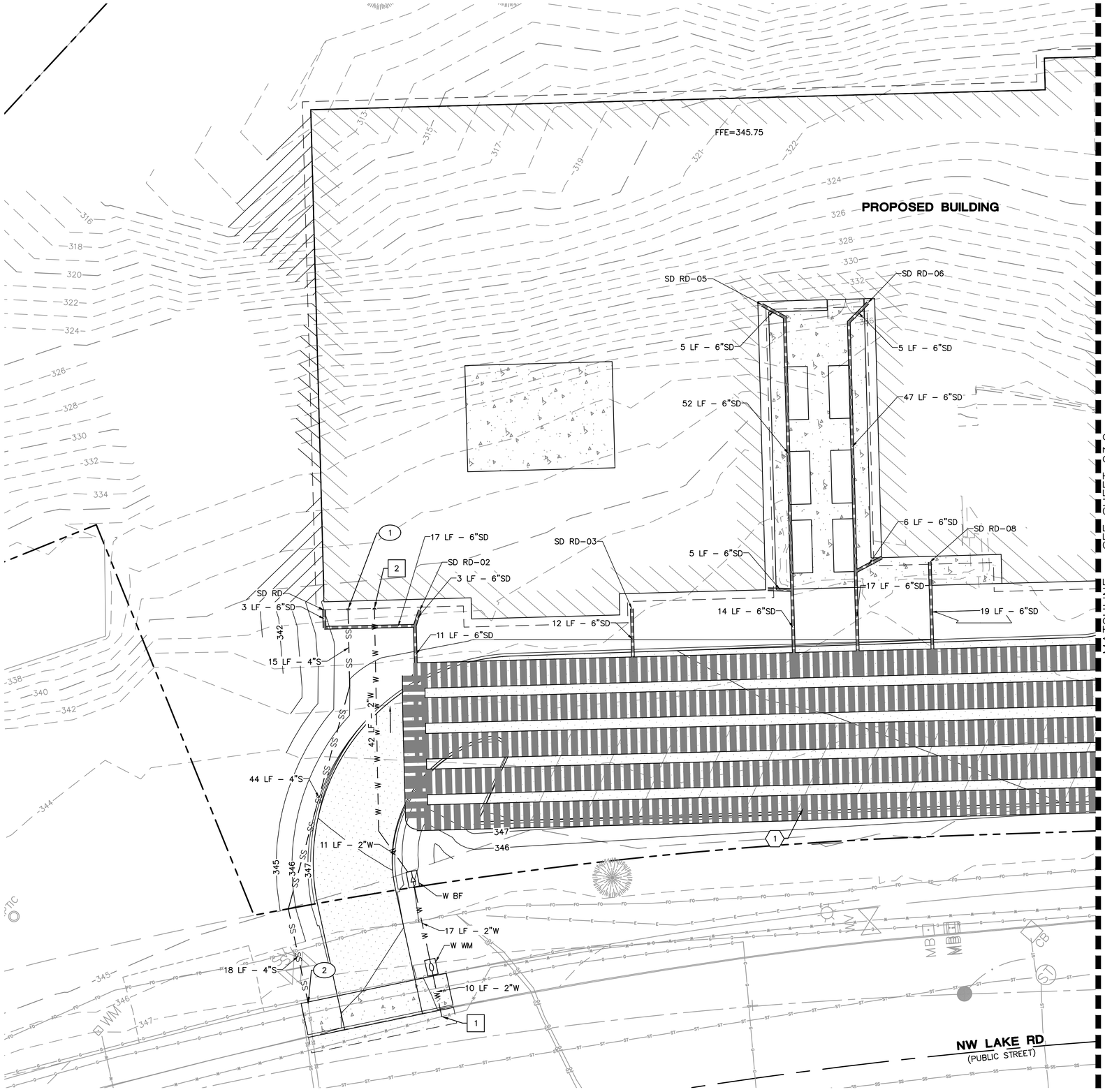

SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

(X) CONSTRUCTION NOTES

1 INSTALL 1300LF OF 54"ø CONTECH CMP DETENTION PIPE

2 INSTALL 8X4 MODULAR WETLAND SYSTEM WITH GRATED INLET.

(X) SANITARY NOTES

1 BUILDING POINT OF CONNECTION
2 CONNECT TO EXISTING SANITARY LINE
3 ABANDON EXISTING SANITARY LINE

[X] WATER NOTES

1 CONNECT TO EXISTING WATER LINE
2 DOMESTIC BUILDING POINT OF CONNECTION
3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

UTILITY LENGTH – UTILITY SIZE – UTILITY TYPE

XXLF – XX" XX

S=X.XX%

SLOPE (WHERE APPLICABLE)

STRUCTURE LABELS

UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER)
STRUCTURE TYPE CALLOUT (SEE BELOW)
ID NUMBER (WHERE APPLICABLE)

XX XX–XX
RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X

← STRUCTURE INFO (WHERE APPLICABLE)

STRUCTURE TYPES

CALLOUT	DESCRIPTION
BF	DOMESTIC BACKFLOW ASSEMBLY
CO	CLEANOUT
FCMH	FLOW CONTROL MANHOLE
FV	FIRE VAULT WITH DOUBLE CHECK DETECTOR ASSEMBLY
RD	ROOF DRAIN CONNECTION
WM	WATER METER

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

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CRAIG T. RAMEY – STATE OF WASHINGTON – 40160 – REGISTERED PROFESSIONAL ENGINEER

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN – WEST

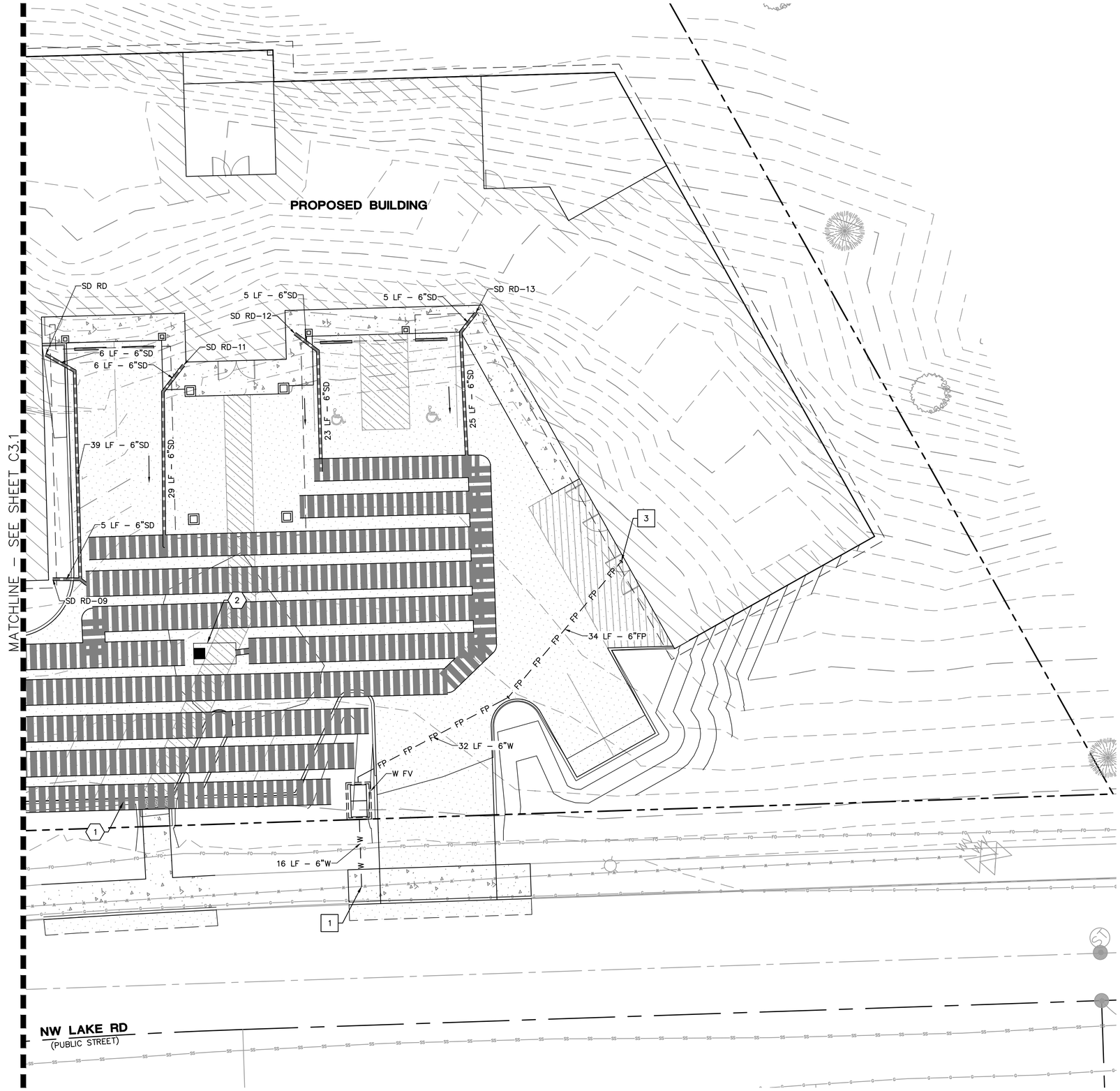
DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C3.1

JOB NUMBER: A18139.10



SHEET NOTES

1. SEE SHEET C3.0 FOR GENERAL SHEET NOTES.

(X) CONSTRUCTION NOTES

1 INSTALL 1300LF OF 54"ø CONTECH CMP DETENTION PIPE

2 INSTALL 8X4 MODULAR WETLAND SYSTEM WITH GRATED INLET.

(X) SANITARY NOTES

1 BUILDING POINT OF CONNECTION

2 CONNECT TO EXISTING SANITARY LINE

3 ABANDON EXISTING SANITARY LINE

[X] WATER NOTES

1 CONNECT TO EXISTING WATER LINE

2 DOMESTIC BUILDING POINT OF CONNECTION

3 FIRE BUILDING POINT OF CONNECTION

LABEL LEGEND

PIPE LABELS

UTILITY LENGTH – UTILITY SIZE – UTILITY TYPE

XXLF – XX" XX

S=X.XX% – SLOPE (WHERE APPLICABLE)

STRUCTURE LABELS

UTILITY TYPE (FP=FIRE PROTECTION, S=SANITARY, SD=STORM DRAINAGE, W=WATER)
STRUCTURE TYPE CALLOUT (SEE BELOW)
ID NUMBER (WHERE APPLICABLE)

XX XX–XX
RIM=XX.XX
IE IN=XX.X
IE OUT=XX.X
← STRUCTURE INFO (WHERE APPLICABLE)

STRUCTURE TYPES

CALLOUT	DESCRIPTION
BF	DOMESTIC BACKFLOW ASSEMBLY
CO	CLEANOUT
FCMH	FLOW CONTROL MANHOLE
FV	FIRE VAULT WITH DOUBLE CHECK DETECTOR ASSEMBLY
RD	ROOF DRAIN CONNECTION
WM	WATER METER

NORTH

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 feet

05/13/19 – LAND USE RESUBMITTAL

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CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

UTILITY PLAN – EAST

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C3.2

JOB NUMBER: A18139.10

Appendix D

Geotech Report

Geotechnical Report

3401 NW Lake Road
Camas, Washington

Prepared for:

Peter Anca

23 May 2018
Revised 12 April 2019

Rapid Soil Solutions INC
3915 SW Plum St
Portland, OR
503-816-3689

PROJECT AND SITE DESCRIPTIONS

Introduction

Rapid Soil Solutions (RSS) has prepared this geotechnical report, as requested, for the proposed new residential care facility to be constructed on the Clark County parcel currently assigned the account number of 177666000. RSS understands that this proposed new development will replace the three structures (dwelling, barn and garage/shop) that currently stand within the subject parcel. This parcel is situated along the northeastern side of NW Lake Road, generally across from its intersection with NW Jackson Street and 500 feet beyond (east) its intersection with NW Parker Street/NW Larkspur St. The site is currently assigned the street address of 3401 NW Lake Road. It is situated 0.1 miles east of NW Parker St, 0.4 miles southwest of Lacamas Lake, 1.0 miles north of NW 38th Ave, and is 3.1 miles north of the Columbia River. The site is located within the northern end of the City of Camas and is not part of a subdivision. It occupies the northwestern corner of the NE quarter of Section 33, Township 2-North, Range 3-East (W.M.) and extends slightly into the adjacent quarter section (NW ¼, Sec.33, T.2N, R.3E). The abbreviated legal description of the site is "#4 SEC 33 T2N R3EWM 2.23A". It is located at the latitude and longitude of 45.621024 and -122.444525 (45°37'15.7"N, 122°26'40.3"W). The site can be found along the northern edge of the Camas, OR-WA 7.5-minute quadrangle (SW ¼ of the Troutdale 15' Quad).

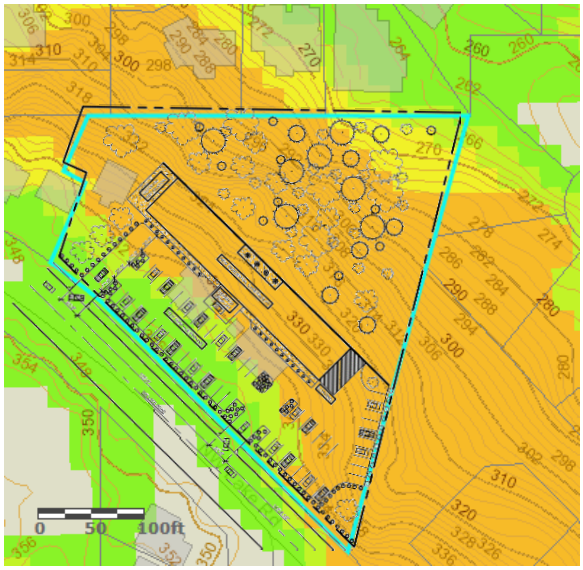
SITE CONDITIONS

Surface Conditions

This 2.23-acre (97,139 square foot) subject site is situated in a medium-density residential neighborhood surrounded on most sides by single-family residential development. A portion of the Wafer Tech LLC business campus land holdings (5509 NW Parker St) are situated to the southwest of the subject site. The semiconductor fabrication plant is situated generally a half mile west of the subject site, in the western end of the 120-acre tax lot; the land adjacent to the southwest of the subject site is currently a vacant grassy field with some trees. The parcels surrounding the subject site on all other sides are zoned R-7.5, R-10, and R-15. These are all low and medium density single-family home districts. The subject site is currently zoned R-10, or Residential-10,000, a zone intended for single-family dwellings with densities of four to five dwellings per acre. The average lot size in the R-10 zone is 10,000 square feet. The site is tucked between four subdivisions, the Potter Subdivision (3-508) to the northwest, Lacamas Woods (311017) to the north, Lake Hills (311760) to the east and the Forest Hills subdivision (H898). The lots surrounding the subject site, with the exception of the business park (southwest of the site) and an undeveloped slope that is owned by the Lake Hills HOA (southeast of the site), contain single-family dwellings and range in size from 0.22 to 0.69 acres. Only two of the seven adjacent residential lots exceed 0.3 acre in size. One of the parcels contains a mobile home constructed in 1984 but a detached garage from 1970 is also present on the parcel. The rest of the adjacent structures are more recent construction; the oldest was built in 1996, one was constructed in 2003, two in 2005, one in 2017, and one in 2018.

The subject site currently contains a single-family dwelling originally constructed in 1920.

The two-story structure has a 968 square foot footprint and contains an unfinished daylight basement. Clark County notes the effective year built as 1950, generally indicating extensive remodeling or updates. Two additional structures stand on the subject site. One is a 960 square foot detached garage situated just south of the existing dwelling. The garage was also constructed in 1920. In the northern end of the parcel is a 720 square foot loft barn, originally constructed in 1935 and mostly dismantled at the time of the site visit conducted by RSS. The current conditions of the site can generally be divided into four categories: (1) the level yard and building area along the edge of NW Lake Road, (2) a blackberry-dominated slope descending from the rear of the dwelling to a private graveled road (SE 122nd Ave), (3) the level bench of the private graveled roadway, and (4) forested slopes descending to the adjacent subdivision.



The slopes at the subject site are classified as falling within the categories of 5-10% (green), 10-15% (yellow-green), 15-25% (yellow) and 25-40% (orange). The 2' contour intervals presented by Clark County Maps Online does not appear to include the 15' wide bench occupied by the old private driveway that bisects the subject site. RSS understands that the proposed new structure will extend from the rear of the existing dwellings to the western (upslope) edge of the benched driveway area. RSS understands that the roughly 50-foot-wide building will span an elevation change of roughly 14 to 18 feet (roughly 28-36% slope). RSS understands the low slope area adjacent to NW Lake Road will be utilized for surface parking. ***Using an updated site plan with contours, the slopes at the north end of the building are 33% and the slopes in the south end of the site are 19%.***

Historical aerial imagery dating back to 1955 was referenced as part of this investigation. RSS observed the conditions on site to have changed relatively little since the earliest available image. The areas surrounding the subject site, particularly to the north, east, and south, have been substantially altered by suburban development. In 1955 the subject site appears to have contained the same number of

structures as currently stand on the site. The area in front of the barn and south of the dwelling appear to have been cleared of trees prior to 1955 but the remainder of the parcel was forested. The roadway descending behind the existing dwellings can clearly be seen in these early images, periciliary the one taken in 1974. This road appears to have been used to access a dwelling located directly north of the subject site; this land area has since been divided into Lacamas Woods (2002), after which the gravel drive appears to have fallen into disuse. An image taken in winter of 2002 displays the location of the existing structures and the driveway with the proposed plot plan roughly overlain is included.

Regional Geology

Current geologic literature[1,2,3,4,5,6,7,8] classifies the slopes underlying the subject site as Troutdale formation, one of the units within the thick accumulation of basin-fill deposits that accumulated in the Pliocene and Miocene as the Portland Basin subsided. The site is situated along the eastern edge of the Portland basin, as the slopes begin to ascend into the Southern Cascade Range. Some, such as Evarts and O'Connor (2008) have divided the Troutdale formation into informal members, and the site is classified as underlain by the Hyaloclastic sandstone member of the Troutdale Formation. Additionally, the site is situated just past the unconformable contact between the underlying hyaloclastic sandstone member of the Troutdale Formation and an overlaying unnamed Conglomerate basin-fill deposit.

Geologic History

The subject site is tucked along the easternmost edge of the forearc basin of the Cascadia subduction system on slopes rising into the Cascade Range (volcanic arc), in an area informally referred to as the Troutdale Bench.

The Southern Cascade Province of Washington State is part of the Cascades Volcanic Arc, an active range that has formed over the past 40 million years. Prior to the formation of the volcanic arc, roughly 200 million years ago, the Farallon oceanic began subducting below the

1 http://www.oregongeology.org/geologicmap/

2 Burns, W.J., Mickelson, K.A., and Duplantis, S., 2012, Landslide inventory maps of the Camas quadrangle, Multnomah County, Oregon, and Clark County, Washington: Oregon Department of Geology and Mineral Industries, Interpretive Map Series 43, scale 1:8,000.

3 Evarts, R.C., and O'Connor, J.E., 2008, Geologic map of the Camas quadrangle, Clark County, Washington, and Multnomah County, Oregon: U.S. Geological Survey, Scientific Investigations Map SIM-3017, scale 1:24,000.

4 Mundorff, M.J., 1964, Geology and ground-water conditions of Clark County, Washington, with a description of a major alluvial aquifer along the Columbia River: U.S. Geological Survey, Water-Supply Paper 1600, scale 1:48,000.

5 Fiksdal, A.J., 1975, Sand and gravel in Clark County, Washington: Washington Division of Geology and Earth Resources, Open File Report 75-11, scale 1:62,500.

6 Trimble, D.E., 1957, Geology of the Portland quadrangle, Oregon-Washington: U.S. Geological Survey, Geologic Quadrangle Map GQ-104, scale 1:62,500.

7 Trimble, D.E., 1963, Geology of Portland, Oregon and adjacent areas: U.S. Geological Survey, Bulletin 1119, scale 1:62,500.

8 Phillips, W.M., 1987, Geologic map of the Vancouver quadrangle, Washington: Washington Division of Geology and Earth Resources, Open File Report 87-10, scale 1:100,000.

more buoyant continent of North America. This convergent plate boundary produced terrain accretion, transferring ocean floor sediments, volcanic island chains and basalts from underwater volcanoes from the surface of the sub-ducting plate to the edge of the continental plate. During the late Eocene the earliest Cascade Range volcanoes began erupting (43-37 million years ago – Northcraft volcanoes) onto the coastal plain environment that has formed during the earlier Eocene (55-43 million ears ago). Much of this volcanism emplaced mafic lavas (basalt & andesite) but some produced felsic lava and ash. Volcanic activity continued as the early Cascade volcanic arc began erupting at a fast pace, producing massive outpourings of lava, ash and various rock fragments and building up the mountain range. A short lull in volcanic activity occurred between 21 and 18 million years ago, which was followed by the Columbia River Basalt Group flows. Modern Cascade volcanism began roughly 500,000 years ago and formed the recognizable peaks that dot the regional skyline.

Descending to the west of the Cascade Range, the slopes plunge below the Portland Basin. This basin is one of several topographic and structural depressions that collectively constitute the Puget-Willamette forearc trough. This topographic and structural basin generally has low topographic relief. The basin formed due to tectonic compressional stress that both intimated the basin's formation and produced prolonged the enlargement of the basin. As the Portland Basin continued to subside during the late Miocene and Pliocene, it filled with continental fluvial and lacustrine sediments that were transported through the Cascade Range by the ancestral Columbia River as well as with locally derived detritus carried in by tributaries draining the surrounding highlands. This resulted in a thick accumulation of material preserving a complex record of deposition and erosion (aggradation and incision). The Troutdale formation is part of this complicated accumulation of fluvial material. The modern Columbia River has carved a channel through the current-day basin. In the lowland areas of the basin the deposits laid down by ancient rivers are buried beneath the thick deposit of catastrophic flood deposits, but along the northern and eastern edges of the basin an uplifted area, referred to as the Troutdale Bench, exposes the conglomeratic basin-fill deposit.

At the end of the last glacial maximum, an ice dam in western Montana began to melt. The periodic failure of the ice dam retaining Glacial Lake Missoula resulted in dozens of gigantic floods that stretched from their origin in Montana generally following the Columbia River and eventually reaching the Pacific Ocean. The hydraulically restrictive Oregon Coast Range causes the sediment filled waters to temporarily pond across much of the Willamette forearc trough including the Portland, Tualatin and Willamette basins. The floodwaters, which reached an elevation of 400 feet above sea level, soured many areas down to bedrock and buried others beneath thick layers of gravel, sand and silt that can be divided into a fine-grained and course-grained units. Dramatic scour features and giant bars can be seen within the Portland Basin, and demonstrate the great influence the floodwaters had on shaping the Quaternary geomorphology of the region. The sediments are generally comprised of unconsolidated silt, sand, and gravels were emplaced between about 21,000 to 12,000 years ago.

Site Geology

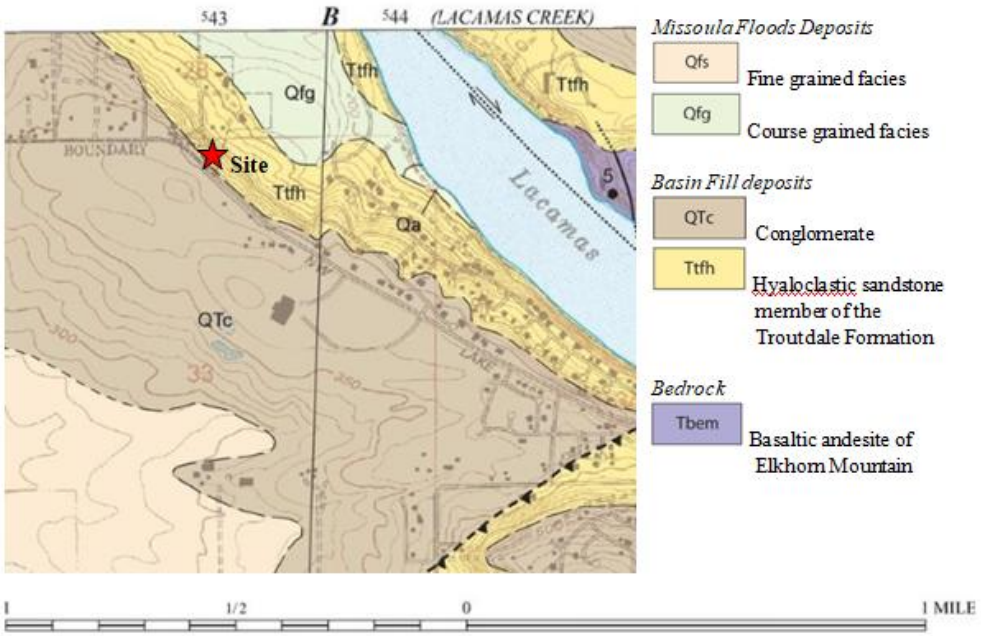
The structural depression that is the Portland Basin is floored by late Eocene and Oligocene

rocks and filled with Neogene deposits. The Troutdale formation is one of these basin-fill deposits and is generally composed of three characteristic sedimentary rock types: basaltic clast conglomerate, arkosic sandstone, and basaltic vitric sandstone. At the subject site the deposits are classified as falling within the Hyaloclastic sandstone member of the Troutdale Formation.

Generally, the Troutdale formation is described as a semi-consolidated, massive to crudely stratified, pebbly and cobbly conglomerate with sparse lenses of friable sandstone. It is moderately to well-sorted and typically clast supported with a sandstone matrix. The clasts are well rounded and the clast population is dominated by cobbles of basalt form the Columbia River Basalt Group, but typically includes light-colored granitic and quatzofeldspathic metamorphic rocks and distinctive, white to light-gray, iron-oxide stained quartzite. Sparse interbeds of volcanic lithic and micaceous quartzofeldspathic sandstone have been noted. In some places the upper several meters of the Troutdale deposits have weathered into a reddish-brown clayey soil where scattered quartzite pebbles in the soil is the only indication of the original conglomeratic texture.

The Hyaloclastic sandstone member of the Troutdale formation (Trimble, 1963 and Tolan & Beeson, 1984: vitric sandstone) is described as a fluvial sedimentary strata. It can be distinguished as an indurated, course sandstone composed of abundant grains of basalt and conglomerate. It consists largely to entirely of angular to subrounded fragments 2-6 mm in diameter and primarily comprised of basalt. Weathering has turned much of the dark-green rock into a distinctive yellowish-brown color. The sandstone ranges from poorly sorted to well sorted and contains dispersed pebbles and cobbles of olivine-bearing basalt. Interbedded conglomerates are sometimes present and often contain well rounded to subrounded pebbles and cobbles.

The upper slopes at the subject site transition into an unconsolidated to cemented, thick bedded, pebble to boulder conglomerate with minor beds and lenses of basaltic and quartzofeldspathic sandstone. This conglomerate unit of the basin fill deposits unconformably overlays the Troutdale formation. The unit varies from well sorted, clast-supported to poorly sorted. It is generally deeply weathered. While not mapped at the subject site, a thin deposit appears to be present in the uppermost slopes, underlying the proposed surface parking.



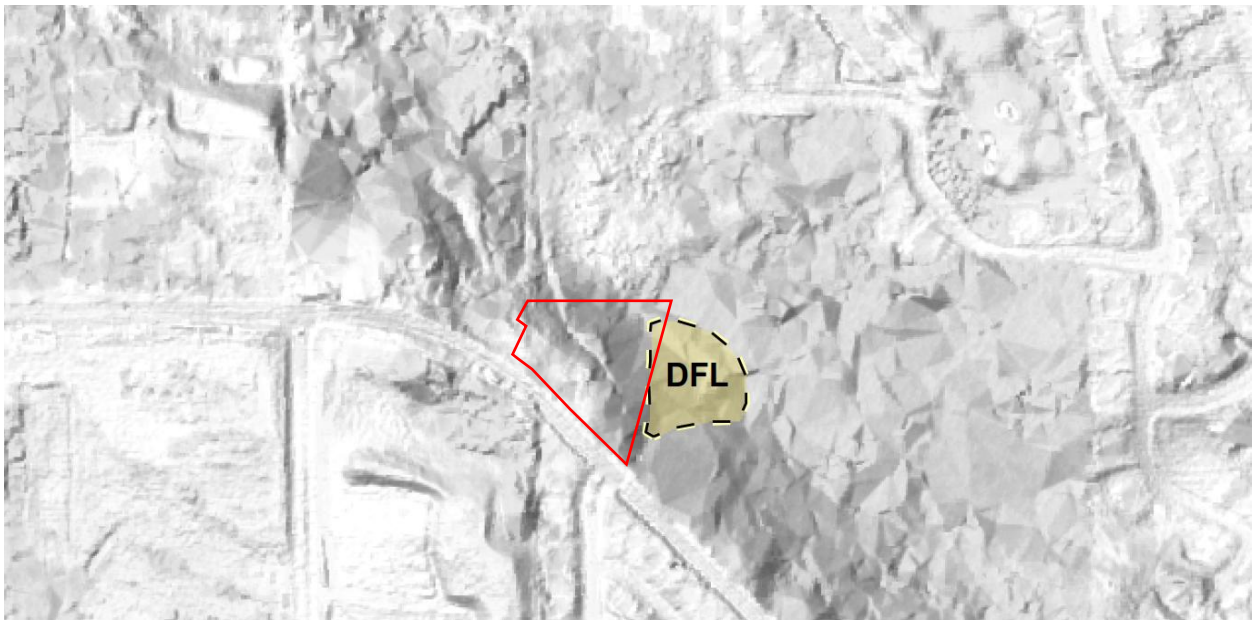
Geohazard Review

The Washington State Department of Natural Resources Division of Geology and Earth Resources' Interactive Natural Hazards map[9], Clark County Maps Online[10], and IMS-43 were accessed on 16 May 2018 to investigate mapped geologic hazards. This review indicates that the subject site is situated outside the 500-year floodplain. The Site Class Map of Clark County, Washington[11] as presented by Clark County Maps Online, indicates that the site contains a National Earthquake Hazards Reduction Program (NEHRP) soil site class of 'C', indicating an average shear wave velocity in the upper 100 feet of between 1200 and 2500 feet per second. The interactive DNR maps present a similar NEHRP soil site classification for the subject site, with the contact between the 'C to D', indicating an average shear wave velocity in the upper 100 feet corresponding to a 'C' site class and a mean shear wave velocity minus one standard deviation falls within a 'D' site class (600-1,200 ft/s). A 'C' site class corresponds to very dense soil and soft rock while a 'D' site class corresponds to stiff soil profile. The liquefaction susceptibility at the subject site[12], as presented by Clark County Maps Online, is classified as 'very low'. DNR also presents a liquefaction hazard of 'very low'. The slopes on site are classified as exceeding 15%, but Clark County Maps Online does not further classify the steeply sloping areas as an 'area of potential instability'. The lower slopes at the subject site are classified as counting a severe erosion hazard. There are no mapped landslides on the subject site. A debris flow is mapped descending from the draw that descends southeastward from the southern/southeastern corner of the subject site. This old debris flow (older than 150 years) extends along the eastern edge of the subject site.

See new hazard figure #4. That the time of the intial explorations the building was

9 https://fortress.wa.gov/dnr/geology/?Theme=natural_hazards
10 http://gis.clark.wa.gov/mapsonline/
11 ftp://ww4.dnr.wa.gov/geology/pubs/ofr04-20/ofr2004-20_sheet12_clark_nehrp.pdf
12 ftp://ww4.dnr.wa.gov/geology/pubs/ofr04-20/ofr2004-20_sheet11_clark_liq.pdf

much smaller. It has grown in size but is still above the hazard line on the lot. When the final orientation is determined RSS will explore the area with several more test holes.



Field Exploration and subsurface conditions

Four (4) hand augur borings were excavated to in the area of the new **adult care** facility and one Wildcat drive probe was conducted next to HA#1. Please see figure 3, in the appendix for the location of the borings. Hand augur logs detailing materials encountered can be found in the appendix. The logs were created using the Unified Soil Classification and Visual Manual Procedure (ASTM-D 2488). A geologist in training (GIT) logged these borings on site and complied the logs, which were reviewed by registered professional geotechnical engineer. The logs were created using the Unified Soil Classification and Visual Manual Procedure (ASTM-D 2488). Samples were transported to the laboratory for further classification in sealed bags. Please see appendix for further laboratory results. The soil conditions in the upper slopes were found to be medium dense silty GRAVELS underlain by silty CLAY, followed by a stiff fine grained sandy SILT to a depth of 7ft; borings did not exceed 7 ft deep. Observed soil conditions changed in the lower elevation borings; in the lowest boring RSS observed sandy GRAVELS to silty SAND likely derived from highly weathered Troutdale formation deposits. Moisture content varied from 27.7% to 32.9% . Groundwater was not encountered.

Adjacent to the hand augur boring HA#1, we also conducted a Wild Cat, Dynamic Cone Penetrometer (DCP) exploration to determine strength of soils. The soil conditions near the surface were soft, transition to very stiff SILT with depth. The readings from the Wildcat, N values directly correlate soils and water levels and placement of the drilling locations and conditions of the slope. The WILDCAT log, in the appendix, describes the soils in the subgrade as ‘stiff to hard’ at a depth of 21.3 feet; WILDCAT refusal was encountered at a depth of 21.3 feet.

The USDA Natural Resources Conservation Service’s Web Soil Survey classifies the soils

within the subject site as primarily comprised of Hesson clay loam (0-8% slopes in the western half, 30-55% slopes in the eastern half). The Hesson clay loam forms on terraces from alluvium. It is classified as well drained with a water table typically found at depths greater than 80 inches. The typical profile is comprised of clay loam (H1: 0"-12") and clay (H2: 12"-60"). The suitability and limitations rating for the site, as presented by the USDA, indicates that new development could be negatively impacted by a possible shrink-swell potential that the mapped soil type is classified as containing (0.42 on a scale were 1.00 is the greatest negative impact and 0.00 indicates no limitations for the proposed application). ***Laboratory findings for the soils collected from the site by RSS describe soils as having a liquid limit that is below a possible shrink/swell condition. See the appendix for results of samples on site.***

Seismic Design Criteria

The seismic design criteria for this project found herein is based on the IBC 2015 and IRC 2015. A summary of IBC seismic design criterion is below it is generated from the USGS web site for earthquake hazards using Latitude: 45.621024 and Longitude: -122.444525 using site class D.

	Short Period	**1 Second**
Maximum Credible Earthquake Spectral Acceleration	Ss = 0.896g	S1 = 0.377g
Adjusted Spectral Acceleration	Sms = 1.023	Sm1 = 0.621g
Design Spectral Response Acceleration Perimeters	Sds = 0.682g	Sd1= 0.414g

Excavations

Excavations can be accomplished with conventional excavating equipment. All excavations for footings and subgrades in the sand should be performed by an excavator or backhoe equipped with a smooth-faced bucket (no teeth).

Because of safety considerations and the nature of temporary excavations, the Contractor should be made responsible for maintaining safe temporary cut slopes and supports for utility trenches, etc. We recommend that the Contractor incorporate all pertinent safety codes during construction, including the latest OSHA revised excavation requirements, and based on soil conditions and groundwater evidenced in cuts made during construction.

Structural Fills

Depending upon finished building pad elevations, structural fills may be required to raise the site grades. Additionally, fill may be required for the backfilling of the proposed new foundation walls. Native or imported material may be used for fill, provided the soil is free of organics, cobbles larger than 6 inches in maximum diameter, or other deleterious matter; native fill must also be of low plasticity and at the proper water content.

Fills should be placed on level benches in thin lifts and compacted to a dry density of at least 92% of its Maximum Dry Density (MDD) as determined by the Modified Proctor Test

(ASTM D-1557). ***Lift height to be determined during construction based upon fill materials utilized and methods for compaction utilized by the earth work contractor.***
For any over-excavation completed in the area of footings or slabs, the backfill material shall consist of free-draining, well-graded, crushed aggregate base with a maximum particle size of ¾ inch. The rock shall not contain more than 5% fines (material passing the No. 200 sieve, as tested by ASTM D-1140). The rock shall be compacted to a dry density of at least 92% of its MDD.

Foundation Design
Based on the field exploration, and our experience with this soil formation, it is our opinion that the foundation should consist of conventional spread footings. Footing excavations should be evaluated by the Engineer to confirm suitable bearing conditions. Observations should also confirm that all loose or soft material, organics, unsuitable fill, prior topsoil zones, and softened subgrades, if present, have been removed. Localized deepening of footing excavations may be required to penetrate through the upper, softer site soils.

If the bases of the footing excavations are disturbed by workers or equipment, the bases should be compacted to a smooth, unyielding surface with a plate compactor.

All concrete footings should be founded at least 1.0 feet below the lowest exterior grade, and 16 inches below the finished floor elevation, whichever is deeper. Interior footings may also be founded at a depth of 12 inches below the finished floor elevation. There may be traces of small construction debris from past houses on the site. ***Please allow for at least 48 hours notice for site inspections to ensure that all past construction debris is removed from the site.***

The new footings should be designed for a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) as per scribed in 2012 IBC code book under section 1804.2 Table 2 Allowable Foundation and Lateral Pressures. When sizing footings for ***seismic considerations***, ***the allowable bearing pressure may be increased by 1.33.*** Lateral pressures may be resisted by friction between the bases of the footings and the underlying ground surface.

Retaining walls and embedded basement walls
Default lateral soil load for the design of basement and retaining walls supporting level backfill shall be 40 psf/ft for laterally unrestrained retaining walls and 60 psf/ft for laterally restrained retaining walls. ***If a greater capacity is required 1ft of soils shall be excavated and replaced with compacted ¾" minus rock. See table below.***

For embedded building walls, a superimposed seismic lateral force should be calculated based on a dynamic force of $5H^2$ pounds per lineal foot of wall, where H is the height of the wall in feet, and applied at 1/3 H from the base of the wall. The wall footings should be designed in accordance with the guidelines provided in the "Foundation Design" section of

this report. These design parameters have been provided assuming that back-of-wall drains will be installed to prevent buildup of hydrostatic pressures behind all walls.
The backfill material placed behind the walls and extending a horizontal distance equal to at least half of the height of the retaining wall should consist of granular retaining wall backfill as specified in the "Structural Fill" section of this report. The wall backfill should be compacted to a minimum of 95 percent of the maximum dry density, as determined by ASTM D698. However, backfill located within a horizontal distance of 3 feet from the retaining walls should only be compacted to approximately 92 percent of the maximum dry density, as determined by ASTM D698. Backfill placed within 3 feet of the wall should be compacted in lifts less than 6 inches thick using hand-operated tamping equipment (e.g., jumping jack or vibratory plate compactors). If flat work (e.g., sidewalks or pavements) will be placed atop the wall backfill, we recommend that the upper 2 feet of material be compacted to 95 percent of the maximum dry density, as determined by ASTM D698.

A minimum 12-inch-wide zone of drain rock, extending from the base of the wall to within 6 inches of finished grade, should be placed against the back of all retaining walls. Perforated collector pipes should be embedded at the base of the drain rock. The drain rock should meet the requirements provided in the "Structural Fill" section of this report. The perforated collector pipes should discharge at an appropriate location away from the base of the wall. The discharge pipe(s) should not be tied directly into storm water drain systems, unless measures are taken to prevent backflow into the wall's drainage system.

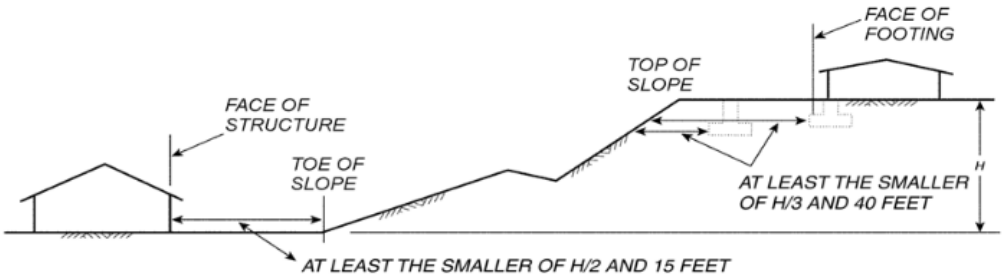
Settlements of up to 1 percent of the wall height commonly occur immediately adjacent to the wall as the wall rotates and develops active lateral earth pressures.

Engineering values summary

Bearing capacity soil	2,000psf
Bearing capacity of rock ¾" minus	3,000psf
Coefficient of friction soil	0.30
Coefficient of friction rock	0.45
Active pressure	40pcf
Passive pressure	300pcf

Slope setbacks

Placement of the adult care facility shall follow the prescribed below figure. By benching the facility into the existing slopes, the minimum setback requirements, as laid out in the below figure, can be meet. From the updated site plan, the rear walls of the facility will need to be embedded into the slope to meet the minimum setback requirements; please see figure below.



ot = 304.8 mm.

FIGURE 1808.7.1
FOUNDATION CLEARANCES FROM SLOPES

Settlement

Based on our knowledge of the project scope, and for footings designed as described in the preceding paragraphs, maximum settlement should not exceed 1 inch. Differential settlement should be on the order of 50 to 75% of the maximum settlement over 50 feet. Our settlement estimate assumes that no disturbance to the foundation soils would be permitted during excavation and construction, and that footings are prepared as described in the preceding paragraphs.

Drainage

Storm water review has reviewed the preliminary drawings site plans by AAI. In my professional opinion take any issue with the two small drainage swales located close to NW Lake Road. Please note these are still preliminary drawings. RSS will review the final location when the infiltration facilities are finalized.

The Contractor should be made responsible for temporary drainage of surface water and groundwater as necessary to prevent standing water and/or erosion at the working surface.

The ground surface around the structure should be sloped to create a minimum gradient of 2% away from the building foundations for a distance of at least 5 feet. Surface water should be directed away from all buildings into drainage swales or into a storm drainage system. “Trapped” planting areas should not be created next to any buildings without providing means for drainage. Storm water for this site will be directed towards the street.

Limitations

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials and contractors to ensure correct implementation of the recommendations.

The opinions, comments and conclusions presented in this report were based upon information derived from our literature review, field investigation and laboratory testing. Conditions between, or beyond, my exploratory hand augur holes may vary from those encountered. Unanticipated soil conditions and seasonal soil moisture variations are

commonly encountered and cannot be fully determined by merely taking soil samples. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

CONCLUSIONS AND RECOMMENDATIONS

In my opinion, a structure with footings founded on and keyed into competent native soil with proper embedment into the ground as written above. RSS recommends that we are retainined by the developer for the onsite inspections.

Limitations

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations. The opinions, comments and conclusions presented in this report were based upon information derived from our literature review, field investigation, and laboratory testing. Conditions between, or beyond, our exploratory borings may vary from those encountered. Unanticipated soil conditions and seasonal soil moisture variations are commonly encountered and cannot be fully determined by merely taking soil samples or soil borings. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

If there is more than 2 years time between the submission of this report and the start of work at the site; if conditions have changed due to natural causes or construction operations at, or adjacent to, the site; or, if the basic project scheme is significantly modified from that assumed, it is recommended this report be reviewed to determine the applicability of the conclusions and recommendations.

The work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the Pacific Northwest for projects of this nature and magnitude. No warranty, express or implied, exists on the information presented in this report. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

APPENDIX

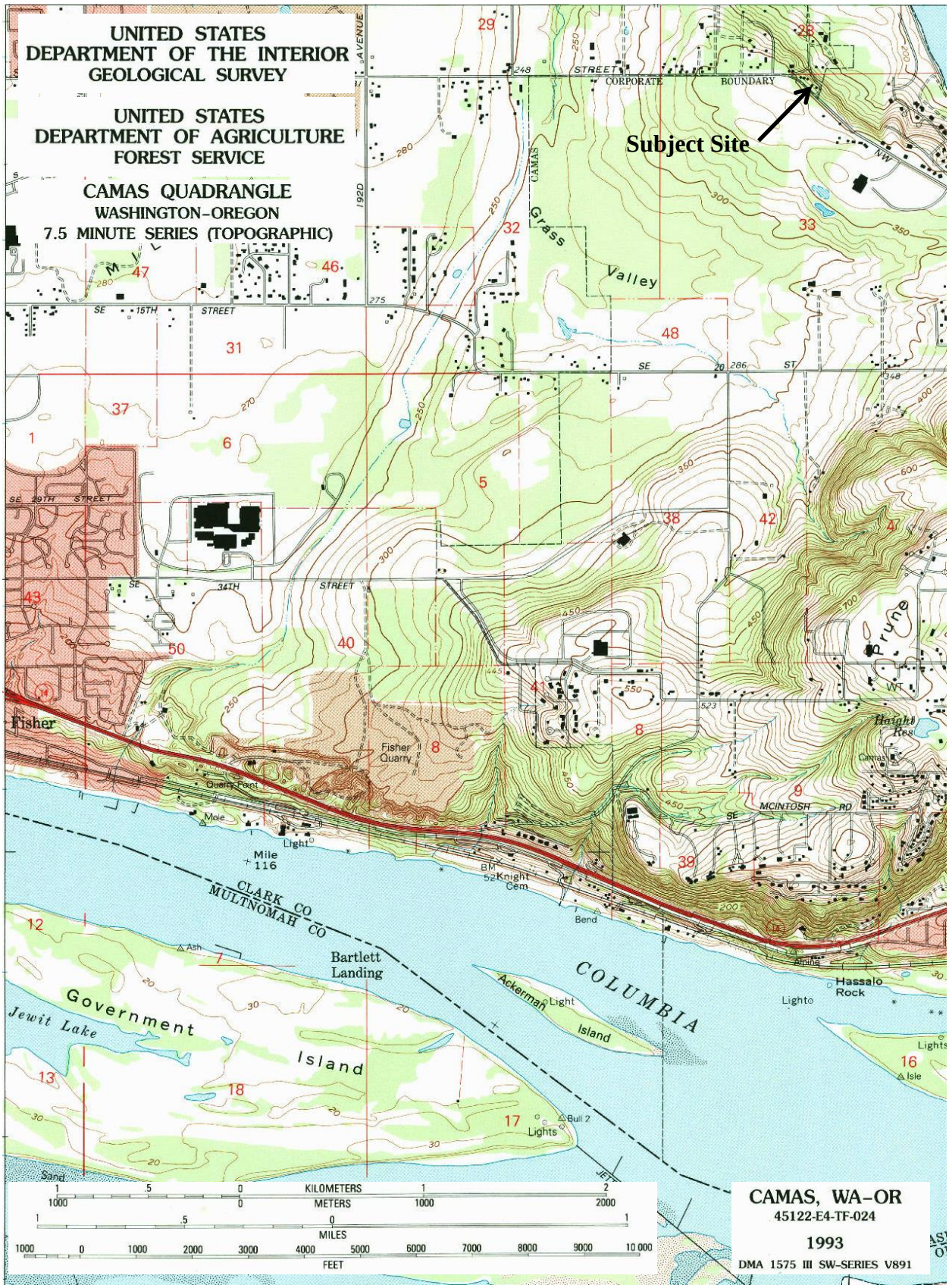


Figure 1: Subject site location on the NW quarter of the Camas quadrangle

NE Qtr of Section 33 T2N R3E WM

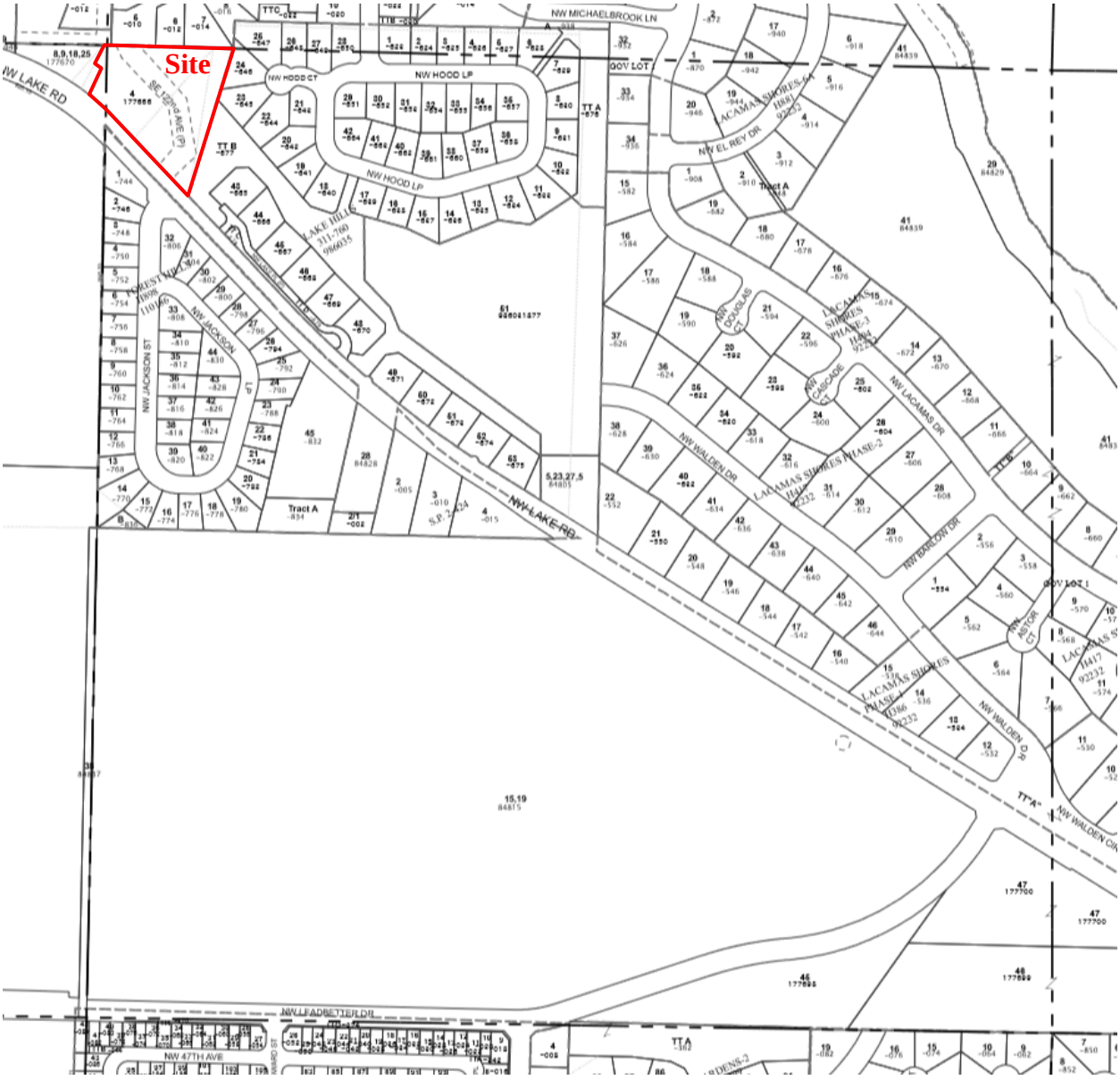
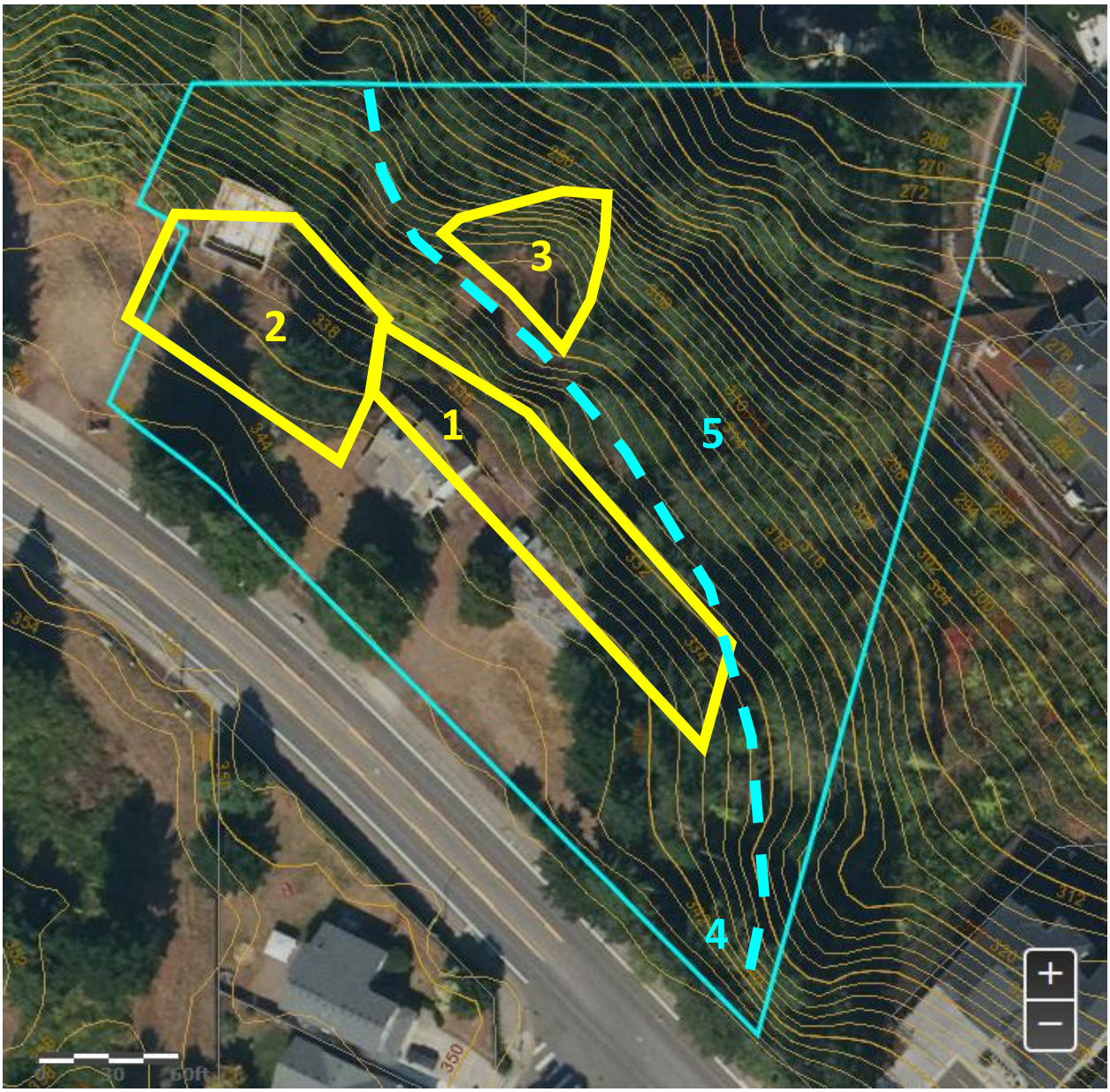


Figure 2: Subject site location on the Clark County Assessor's Map

Figure 3: Subject site, 2016 aerial image, 2-foot contours, approximate proposed new building location and approximate boring locations



1) Fill – Debris filled fill to an unknown depth. Will require removal during construction.
2) Fill – Fine grained fill to a depth of at least 2'. Fill underlain by organic material. Both will require removal.
3) Fill – unknown material and depth.
4) Cut gravel driveway. Materials appear to be side-cast to the northeastern side of driveway. Oversteepening slopes.
5) Slopes below (northeast of) the driveway are steep and susceptible to erosion and sliding. Locally slopes mapped by Clark County GIS are measured as exceeding 60%, with the average slope closer to 45%. On site investigations below the driveway were not conducted by RSS.

Slope areas extending from the southern edges of the existing structures to the roadway contain a combination of cut slopes and fill slopes. This area is a slope hazard area and a slide hazard area.

Figure 4 -Site Hazards

Lab Results

Project Name: 3401 NW Lake Rd Sample Date 5/10/2018

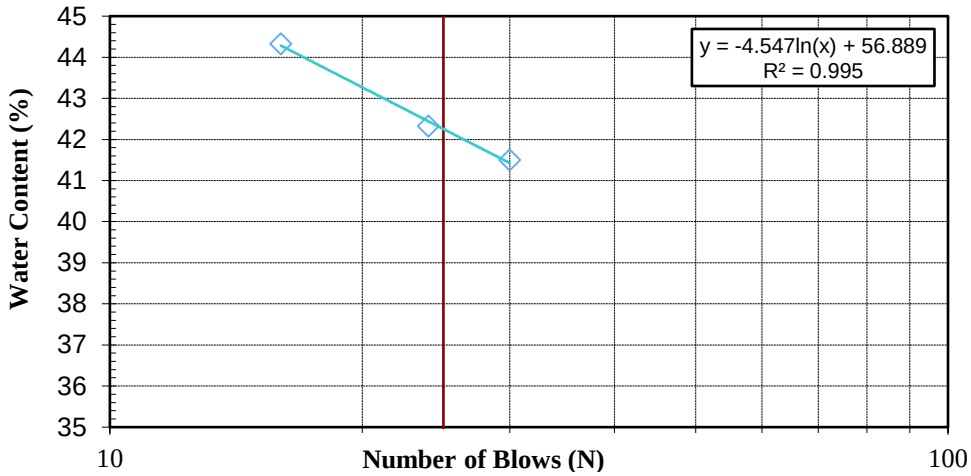
Moisture

	Sample number	HA#1	HA#2A	HA#2B	HA#3	
1	Date and time in oven	5/10/18 1:45 PM	5/10/18 1:45 PM	5/10/18 1:45 PM	5/10/18 1:45 PM	
2	Date and time out of oven	5/14/18 8:00 AM	5/14/18 8:00 AM	5/14/18 8:00 AM	5/14/18 8:00 AM	
3	Depth (ft)	4	4	7	2	
4	Tare No.	3	4	5	6	
5	Tare Mass	234	230	233	232	
6	Tare plus sample moist	1054	1256	1493	914	
7	Tare plus sample dry	876	1002	1194	756	
8	Mass of water (g)	178	254	299	158	
9	Mass of soil (g)	642	772	961	524	
10	Water Content (%)	27.73	32.90	31.11	30.15	

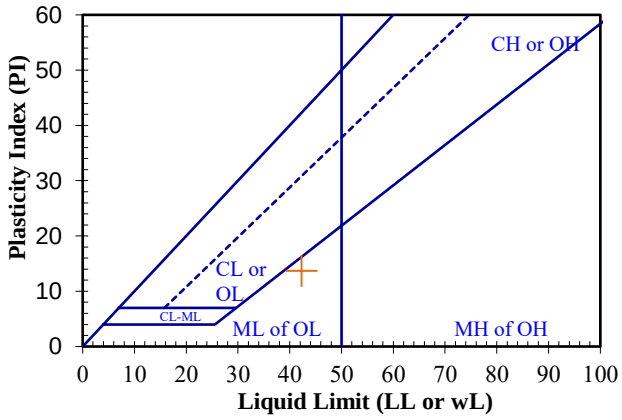
Atterberg Limit Test

Sample Number: HA#2A Depth: 4'

		Liquid Limit			Plastic Limit	
		1	2	3	1	2
1	Tare No.	D#3.1	D#3.2	D#3.3	R#3.1	R#3.2
2	Tare Mass (g)	39.49	39.59	40.51	39.27	42.33
3	Tare Plus Wet Soil (g)	75.7	71.57	75.35	52.5	53.17
4	Tare Plus Dry Soil (g)	65.08	62.06	64.65	49.55	50.77
5	Mass of Water (g)	10.62	9.51	10.7	2.95	2.4
6	Mass of Soil (g)	25.59	22.47	24.14	10.28	8.44
7	Water Content (%)	41.50	42.32	44.32	28.70	28.44
8	No. Blows	30	24	16		



Liquid Limit (%) **42.25**
Plastic Limit (%) **28.57**
Plasticity Index (%) **13.69**
USCS Classification **ML**



Rapid Soil Solutions LLC

Lab Results

Project Name: 3401 NW Lake Rd

Sample Date 5/10/2018

Grain Size Analysis

Dry Seive Method

HA#1 Depth: 4'

Total Sample Weight (g): 245.29

Sieve #	Weight (g)	% Retained
>1/4"	21.22	8.65
1/4" to #40	93.25	38.02
#40 to #200	67.64	27.58
< #200	63.18	25.76
> #200	182.11	74.24

HA#2B Depth: 7'

Total Sample Weight (g): 518.06

Sieve #	Weight (g)	% Retained
>1/4"	300.54	58.01
1/4" to #40	158.03	30.50
#40 to #200	40.14	7.75
< #200	19.35	3.74
> #200	498.71	96.26

HA#1

Surface Elevation:
Boring Date: 05/10/2018
Boring Location: Camas, WA
Drilling Method: Hand Auger

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table		
0						GWT not encountered	GM	Medium desnse, medium brown, course grained, silty GRAVEL, dry. Gravels are rounded, semi spherical, hard rock, mostly small gravels with some large gravels. Broken bottle at 1.5' deep. Sloughed off above slope.
1								
2							ML	Medium stiff, reddish brown, fine grained, clayey SILT to silty CLAY with some small rounded gravels, damp to moist.
3							ML-CL	Medium stiff, medium tan brown with a slight orange hue, fine grained, silty CLAY to clayey SILT with some rounded gravels, damp to moist. Medium-high plasticity.
4	8% gravels, 38% course & medium sand, 28% fine sand, 26% fines	27.7					SM	Dense, tan orange with various colored individual grains, course grained, silty SAND with gravels, damp. Highly weathered sedimentary unit, Troutdale Fm.
								Boring completed at depth of 4 ft.
5								
6								
7								

LOG OF BORING

Rapid Soil Solutions	**3401 NW Lake Road**	**Plate 1**

+ $

'HSWK | 5HPDUNV | 0RLVWXUH | 'U\ 'HQVLW\ | %ORZ &RXQWV | 6DPSOH 7\SH | :DWHU 7DEOH

*:7 QRW HQFRXQWHUHG

6XUIDFH (OHYDWLRQ¸
%RULQJ 'DWH¸ ˘ ·
%RULQJ /RFDWLRQ¸ &DPDV :$
'ULOOLQJ 0HWKRG¸ +DQG $XJHU

0/ 0HGLXP VWXII PHGLXP EURZQ ILQH JUDL
JUDYHOV GDPS WR GU\ /RFDOO\ GHULYH
GZHOOLQJ FRQVWUXFWLRQ %RULQJ ORFD
˘ EHQFK EHKLQG KRXVH

0/ 0HGLXP VWLII WR VRIW PHGLXP ULFK EUI
ZLWK DEXQGDQW URRWV DQG WUDFH FDU
GU\ 2OG WRS VXEVRLO KRUL]RQ

0/ 0HGLXP VWLII WR VWLII PHGLXP EURZQ
JUDYHOV GU\ *UDYHOV DUH VPDOO URX

*0 'HQVH PHGLXP EURZQ ZLWK D VOLJKW UH
*3 *5$9(/ ZLWK D VLOW\ FOD\ WR FOD\H\ VLO
*UDYHOV DUH ODUJH DQG KLJKO\ ZHDWKH
LQGLYLGXDO FODVWV FODVW VXSSRUWHG
'HQVH PXOWLFRORUHG FRXUVH JUDLQHG
*UDYHOV DUH URXQGHG VDQG LV VXEURX
FRQVROLGDWHG FDQ GLJ ZLWK KDQG DXJ
VHGLPHQWDU\ EHGURFN 7URXWGDOH)P

// 3, ˜

˘· JUDYHO
FRXUVH
DQG PHGLXP
VDQG · ILQH
VDQG ILQHV

%RULQJ FRPSOHWHG DW GHSWK RI ˆ IW
RU FREEOH

/2* 2) %25,1*

5DSLG 6RLO 6ROXWLRQV	1: /DNH 5RDG	3ODWH

1: /DNH 5RDG &DP

+ $

'HSWK

5HPDUNV

0RLVWXUH

'U\ 'HQVLW\

%ORZ &RXQWV

6DPSOH 7\SH

:DWHU 7DEOH

6XUIDFH (OHYDWLRQ¸

%RULQJ 'DWH¸

%RULQJ /RFDWLRQ¸ &DPDV :$

'ULOOLQJ 0HWKRG¸ +DQG $XJHU

*0 0HGLXP GHQVH WR GHQVH PHGLXP EURZQ

*5$9(/ GU\ $EXQGDQW URRWV

%RULQJ FRPSOHWHG DW GHSWK RI IW

*:7 QRW HQFRXQWHUHG

)LOH¸ &¸?8VHUV?UDFKH?'RFXPHQWV?.Q 3URJUHVV)LOHV?

6XSHU/RJ &LYLO7HFK 6RIWZDUH 86$ ZZZ FLYLOWHFK FRP

/2* 2) %25,1*

5DSLG 6RLO 6ROXWLRQV	1: /DNH 5RDG	3ODWH

1: /DNH 5RDG &DPDV)LOHV? 3URJUHVV?.Q HQWHUSULVH?'RFXPHQWV?UDFKH?8VHUV?&.?$SSOLFDWLRQ 'DWD?0LFURVRIW?:LQGRZV?7HPSRUDU\ ,QWHUQHW)LOHV?&RQWHQW.,(5?&$&+(?FRP)LOHV)LOH, &.?8VHUV?UDFKH?'RFXPHQWV?Q 3URJUHVV)LOHV? 1: /DNH 5RDG &DP

+ $

'HSWK | 5HPDUNV | 0RLVWXUH | 'U\ 'HQVLW\ | %ORZ &RXQWV | 6DQG 7\SH | :DWHU 7DEOH

6XUIDFH (OHYDWLRQ
%RULQJ 'DWH
%RULQJ /RFDWLRQ &DPDV :$
'ULOOLQJ 0HWKRG +DQG $XJHU

*0

0HGLXP GHQVH PHGLXP EURZQ FRXUVH J
*5$9(/ GU\ *UDYHOV DUH KDUG ODUJH D
DWWHPSW HQFRXQWHUHG DXJHU UHIXVDO
6HFRQG DWWHPSW HQFRXQWHUHG DXJHU
EORFN DW

*:7 QRW HQFRXQWHUHG

%RULQJ FRPSOHWHG DW GHSWK RI IW

/2* 2) %25,1*

5DSLG 6RLO 6ROXWLRQV	1: /DNH 5RDG	3ODWH

6XSSRUW &LYLO7HFK 6RIWZDUH 86$ ZZZ FLYLOWHFK FRP)LOH, &.?8VHUV?UDFKH?'RFXPHQWV?Q 3URJUHVV)LOHV?

PROJECT NO.:
PROJECT NAME:
PROJECT ADDRESS: 3401 NW Lake Road
PROJECT CITY, STATE: Camas, WA

HOLE NUMBER: RAP-1
CREW: Mia & Rachel
DATE STARTED: 05-10-2018
DATE COMPLETED: 05-10-2018
SURFACE ELEVATION: 326
WATER ON COMPL.: Not Evident

TOTAL DEPTH (cm): 710

FILENAME: ☐ Display the full path with Filename

CONSISTENCY ALPHA VALUES:			
GRANULAR:		COHESIVE:	
0	VERY LOOSE	0	VERY SOFT
5	LOOSE	2	SOFT
11	MEDIUM DENSE	5	MEDIUM STIFF
31	DENSE	9	STIFF
51	VERY DENSE	16	VERY STIFF
		31	HARD

GRAPH FACTOR: 3.3

HIGH ADHESION CORRECTIION FACTOR: 1

DISPLAY FULL PATH:

DEPTH	BLOWS PER 10 cm	TORQUE (ft.-lbs.)	DEPTH (cm)	FACTOR	ADHESION (Kg/cm²)	UN-FACTORED CONE RESISTANCE (Kg/cm²)	UN-FACTORED ADHESION RATIO (%)	CORRECTED CONE RESISTANCE (Kg/cm²)	CORRECTED ADHESION RATIO (%)	ABSOLUTE N'	SOIL TYPE	INFERRED SOIL DESCRIPTION
10 cm	1		10	4.44								
20 cm	2		20	4.44								
30 cm	5		30	4.44								
40 cm	3		40	4.44								
50 cm	3	0	50	4.44	0.00	13.3	0.00	13.32	0.00	2	GRANULAR	VERY LOOSE GRANULAR
60 cm	3		60	4.44								
70 cm	3		70	4.44								
80 cm	3		80	4.44								
90 cm	2		90	4.44								
100 cm	4	2.5	100	4.44	0.60	17.8	3.39	17.76	3.39	3	SILT	VERY LOOSE SILT
110 cm	9		110	3.86								
120 cm	10		120	3.86								
130 cm	16		130	3.86								
140 cm	16		140	3.86								
150 cm	14	5	150	3.86	1.21	54.0	2.23	54.04	2.23	10	GRANULAR	LOOSE GRANULAR
160 cm	13		160	3.86								
170 cm	11		170	3.86								
180 cm	10		180	3.86								
190 cm	13		190	3.86								
200 cm	12	5	200	3.86	1.21	46.3	2.60	46.32	2.60	8	SILT	LOOSE SILT
210 cm	16		210	3.42								
220 cm	15		220	3.42								
230 cm	14		230	3.42								
240 cm	18		240	3.42								
250 cm	17	5	250	3.42	1.21	58.1	2.07	58.14	2.07	10	GRANULAR	LOOSE GRANULAR
260 cm	16		260	3.42								
270 cm	14		270	3.42								
280 cm	14		280	3.42								
290 cm	16		290	3.42								
300 cm	20	5	300	3.42	1.21	68.4	1.76	68.40	1.76	12	GRANULAR	MEDIUM DENSE GRANULAR
310 cm	17		310	3.06								
320 cm	19		320	3.06								
330 cm	20		330	3.06								
340 cm	17		340	3.06								
350 cm	17	7.5	350	3.06	1.81	52.0	3.47	52.02	3.47	9	SILT	LOOSE SILT
360 cm	17		360	3.06								
370 cm	15		370	3.06								
380 cm	15		380	3.06								
390 cm	18		390	3.06								
400 cm	22	7.5	400	3.06	1.81	67.3	2.68	67.32	2.68	12	SILT	MEDIUM DENSE SILT
410 cm	50		410	2.77								

420 cm	40		420	2.77								
430 cm	26		430	2.77								
440 cm	35		440	2.77								
450 cm	36	12.5	450	2.77	3.01	99.7	3.02	99.72	3.02	18	SILT	MEDIUM DENSE SILT
460 cm	32		460	2.77								
470 cm	40		470	2.77								
480 cm	42		480	2.77								
490 cm	32		490	2.77								
500 cm	30	7.5	500	2.77	1.81	83.1	2.18	83.10	2.18	15	GRANULAR	MEDIUM DENSE GRANULAR
510 cm	28		510	2.54								
520 cm	26		520	2.54								
530 cm	27		530	2.54								
540 cm	26		540	2.54								
550 cm	26	15	550	2.54	3.62	66.0	5.47	66.04	5.47	12	CLAY	STIFF CLAY
560 cm	23		560	2.54								
570 cm	23		570	2.54								
580 cm	26		580	2.54								
590 cm	26		590	2.54								
600 cm	30	15	600	2.54	3.62	76.2	4.74	76.20	4.74	14	SILT	MEDIUM DENSE SILT
610 cm	32		610	2.33								
620 cm	30		620	2.33								
630 cm	60		630	2.33								
640 cm	60		640	2.33								
650 cm	70	15	650	2.33	3.62	163.1	2.22	163.10	2.22	30	GRANULAR	MEDIUM DENSE GRANULAR

Appendix E

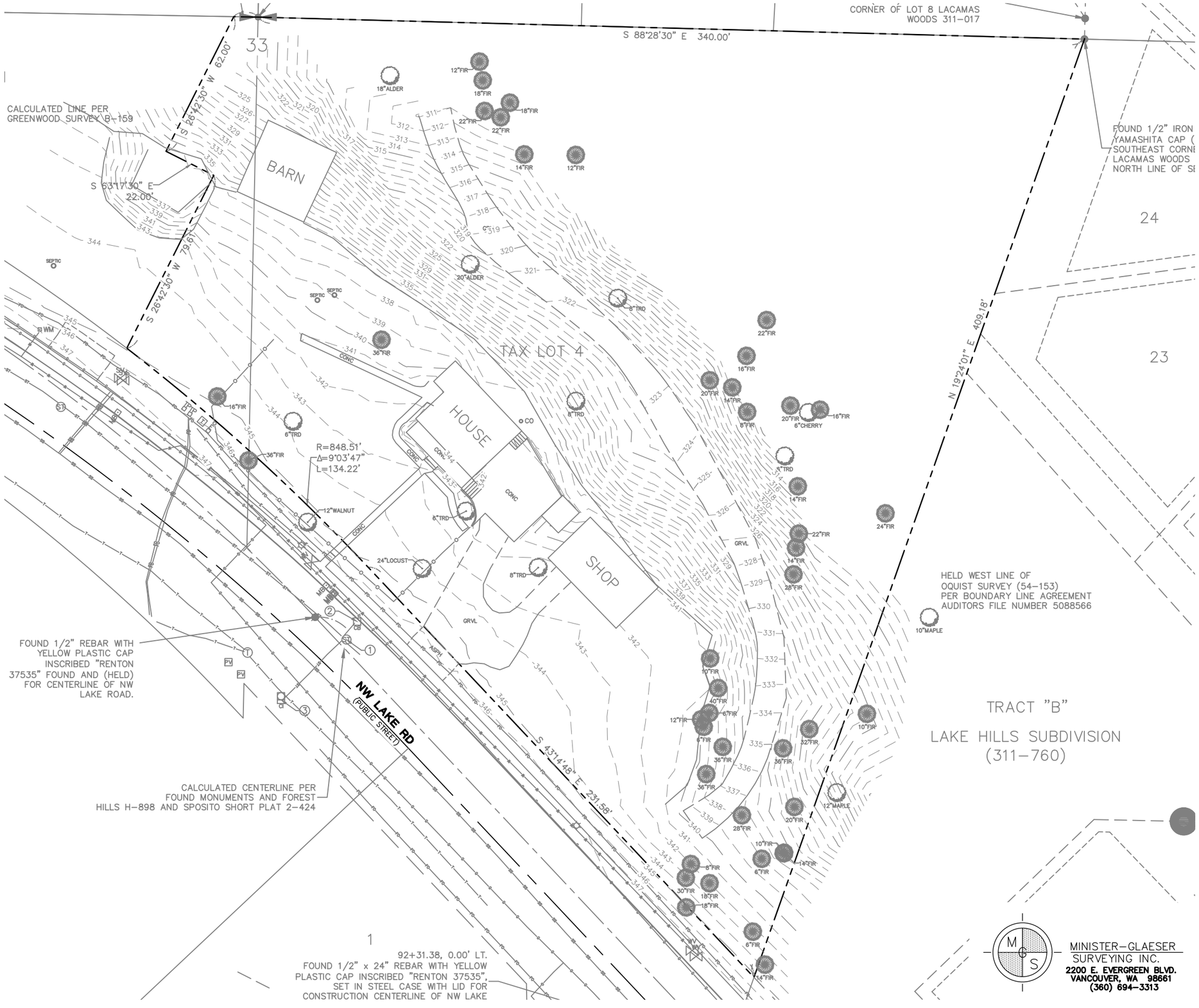
Operations and Maintenance Manual- Will be provided in future submittals

Appendix F

Calculations- Will be provided in future submittals

Appendix G

Existing Conditions



SURVEY NOTES

A UTILITY LOCATE WAS CALLED FOR ON 5-07-18 UNDER TICKET NUMBER 18183147. THE UNDERGROUND UTILITIES AS SHOWN HEREON ARE AS MARKED AT THE TIME OF THIS SURVEY. UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE ONLY. UNDERGROUND CONNECTIONS ARE SHOWN AS STRAIGHT LINES BETWEEN SURFACE LOCATIONS BUT MAY CONTAIN BENDS OR CURVES NOT SHOWN. SOME UNDERGROUND LOCATIONS HEREON MAY HAVE BEEN TAKEN FROM PUBLIC RECORDS. M.G.S. ASSUMES NO LIABILITY FOR THE ACCURACY OF PUBLIC RECORDS.

VERTICAL DATUM:
NAVD 88 (GEOID 12A)

SURVEY NOTES

- WV — INDICATES WATER VALVE
- WM — INDICATES WATER METER
- INDICATES TELEPHONE PEDESTAL
- ASPH — INDICATES ASPHALT
- CONC — INDICATES CONCRETE
- GRVL — INDICATES GRAVEL
- S — INDICATES SANITARY SEWER MANHOLE
- SV — INDICATES SANITARY VALVE
- SEPTIC — INDICATES SEPTIC SYSTEM LID
- INDICATES LIGHT POLE
- INDICATES ELECTRIC PEDESTAL
- T — INDICATES TRANSFORMER
- MB — INDICATES MAIL BOX
- FV — INDICATES FIBER OPTIC VAULT
- ST — INDICATES STORM SEWER MANHOLE
- INDICATES COMBINATION CURB INLET
- CB — INDICATES CATCH BASIN
- INDICATES BOUNDARY
- INDICATES EDGE OF ASPHALT
- INDICATES EDGE OF CONCRETE
- INDICATES EDGE OF GRAVEL
- INDICATES 5 FOOT INTERVAL CONTOUR
- INDICATES 1 FOOT INTERVAL CONTOUR
- INDICATES CHAINLINK FENCE LINE
- FO — INDICATES FIBER OPTIC LOCATE
- G — INDICATES GAS LOCATE
- SS — INDICATES SANITARY LOCATE
- T — INDICATES TELEPHONE LOCATE

NORTH

GRAPHIC SCALE
20 0 10 20 40 80
(IN FEET)
1 inch = 20 feet

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

05/13/19 - LAND USE RESUBMITTAL

AAI engineering, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE
EXISTING CONDITIONS PLAN

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE
REVISIONS:	

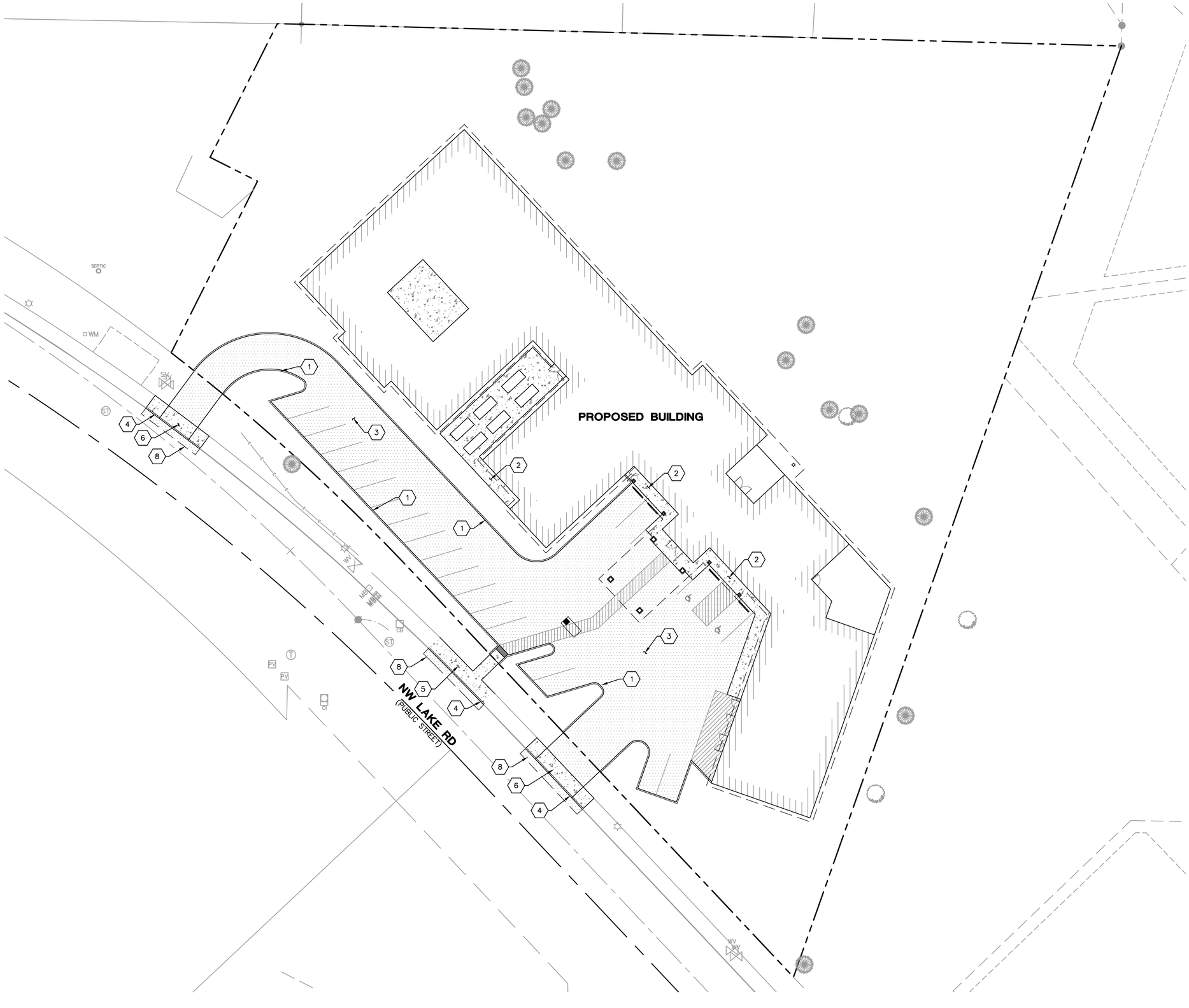
SHEET NUMBER

C0.3

JOB NUMBER: A18139.10

Appendix H

Hardscape plans



SHEET NOTES

1. SEE ARCHITECTURAL PLANS FOR ADDITIONAL SITE INFORMATION.
2. THE CONTRACTOR SHALL HAVE A FULL SET OF THE CURRENT APPROVED CONSTRUCTION DOCUMENTS INCLUDING ADDENDA ON THE PROJECT SITE AT ALL TIMES.
3. THE CONTRACTOR SHALL KEEP THE ENGINEER AND JURISDICTION INFORMED OF CONSTRUCTION PROGRESS TO FACILITATE SITE OBSERVATIONS AT REQUIRED INTERVALS. 24-HOUR NOTICE IS REQUIRED.

(X) CONSTRUCTION NOTES

1 INSTALL PRIVATE CURB

2 INSTALL PRIVATE CONCRETE SIDEWALK

3 INSTALL PRIVATE ASPHALT PAVEMENT

4 INSTALL PUBLIC CURB

5 INSTALL PUBLIC CONCRETE SIDEWALK

6 INSTALL PUBLIC DRIVEWAY

7 INSTALL CONCRETE PAVERS PER ARCHITECTURAL PLANS

8 SAWCUT AND REPAIR ASPHALT

LEGEND

PROPERTY LINE

CONCRETE SIDEWALK SURFACING

ASPHALT SURFACING

BIORETENTION SWALE

NORTH

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 feet

05/13/19 – LAND USE RESUBMITTAL

CRAIG DAVEY
STATE OF WASHINGTON
40160
REGISTERED
PROFESSIONAL ENGINEER

AAI alphan associates, inc.
ENGINEERING
4875 SW Griffith Drive | Suite 300 | Beaverton, OR | 97005
503.620.3030 tel | 503.620.5539 fax | www.aaieng.com

CAMAS RCF

CAMAS, WASHINGTON

SHEET TITLE

SITE PLAN

DATE:	10/30/18
DRAWN:	RTN
CHECKED:	DSE

REVISIONS:

SHEET NUMBER

C1.0

JOB NUMBER: A18139.10

EXHIBIT 16

Geotechnical Report

3401 NW Lake Road
Camas, Washington

Prepared for:

Peter Anca

23 May 2018
Revised 12 April 2019

Rapid Soil Solutions INC
3915 SW Plum St
Portland, OR
503-816-3689

PROJECT AND SITE DESCRIPTIONS

Introduction

Rapid Soil Solutions (RSS) has prepared this geotechnical report, as requested, for the proposed new residential care facility to be constructed on the Clark County parcel currently assigned the account number of 177666000. RSS understands that this proposed new development will replace the three structures (dwelling, barn and garage/shop) that currently stand within the subject parcel. This parcel is situated along the northeastern side of NW Lake Road, generally across from its intersection with NW Jackson Street and 500 feet beyond (east) its intersection with NW Parker Street/NW Larkspur St. The site is currently assigned the street address of 3401 NW Lake Road. It is situated 0.1 miles east of NW Parker St, 0.4 miles southwest of Lacamas Lake, 1.0 miles north of NW 38th Ave, and is 3.1 miles north of the Columbia River. The site is located within the northern end of the City of Camas and is not part of a subdivision. It occupies the northwestern corner of the NE quarter of Section 33, Township 2-North, Range 3-East (W.M.) and extends slightly into the adjacent quarter section (NW ¼, Sec.33, T.2N, R.3E). The abbreviated legal description of the site is "#4 SEC 33 T2N R3EWM 2.23A". It is located at the latitude and longitude of 45.621024 and -122.444525 (45°37'15.7"N, 122°26'40.3"W). The site can be found along the northern edge of the Camas, OR-WA 7.5-minute quadrangle (SW ¼ of the Troutdale 15' Quad).

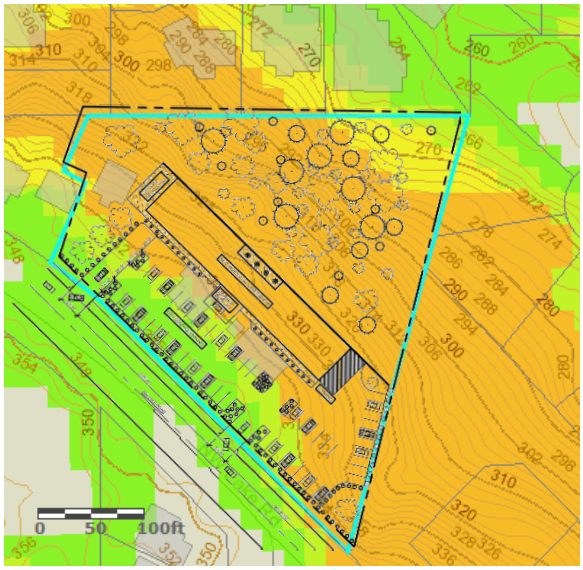
SITE CONDITIONS

Surface Conditions

This 2.23-acre (97,139 square foot) subject site is situated in a medium-density residential neighborhood surrounded on most sides by single-family residential development. A portion of the Wafer Tech LLC business campus land holdings (5509 NW Parker St) are situated to the southwest of the subject site. The semiconductor fabrication plant is situated generally a half mile west of the subject site, in the western end of the 120-acre tax lot; the land adjacent to the southwest of the subject site is currently a vacant grassy field with some trees. The parcels surrounding the subject site on all other sides are zoned R-7.5, R-10, and R-15. These are all low and medium density single-family home districts. The subject site is currently zoned R-10, or Residential-10,000, a zone intended for single-family dwellings with densities of four to five dwellings per acre. The average lot size in the R-10 zone is 10,000 square feet. The site is tucked between four subdivisions, the Potter Subdivision (3-508) to the northwest, Lacamas Woods (311017) to the north, Lake Hills (311760) to the east and the Forest Hills subdivision (H898). The lots surrounding the subject site, with the exception of the business park (southwest of the site) and an undeveloped slope that is owned by the Lake Hills HOA (southeast of the site), contain single-family dwellings and range in size from 0.22 to 0.69 acres. Only two of the seven adjacent residential lots exceed 0.3 acre in size. One of the parcels contains a mobile home constructed in 1984 but a detached garage from 1970 is also present on the parcel. The rest of the adjacent structures are more recent construction; the oldest was built in 1996, one was constructed in 2003, two in 2005, one in 2017, and one in 2018.

The subject site currently contains a single-family dwelling originally constructed in 1920.

The two-story structure has a 968 square foot footprint and contains an unfinished daylight basement. Clark County notes the effective year built as 1950, generally indicating extensive remodeling or updates. Two additional structures stand on the subject site. One is a 960 square foot detached garage situated just south of the existing dwelling. The garage was also constructed in 1920. In the northern end of the parcel is a 720 square foot loft barn, originally constructed in 1935 and mostly dismantled at the time of the site visit conducted by RSS. The current conditions of the site can generally be divided into four categories: (1) the level yard and building area along the edge of NW Lake Road, (2) a blackberry-dominated slope descending from the rear of the dwelling to a private graveled road (SE 122nd Ave), (3) the level bench of the private graveled roadway, and (4) forested slopes descending to the adjacent subdivision.



The slopes at the subject site are classified as falling within the categories of 5-10% (green), 10-15% (yellow-green), 15-25% (yellow) and 25-40% (orange). The 2' contour intervals presented by Clark County Maps Online does not appear to include the 15' wide bench occupied by the old private driveway that bisects the subject site. RSS understands that the proposed new structure will extend from the rear of the existing dwellings to the western (upslope) edge of the benched driveway area. RSS understands that the roughly 50-foot-wide building will span an elevation change of roughly 14 to 18 feet (roughly 28-36% slope). RSS understands the low slope area adjacent to NW Lake Road will be utilized for surface parking. ***Using an updated site plan with contours, the slopes at the north end of the building are 33% and the slopes in the south end of the site are 19%.***

Historical aerial imagery dating back to 1955 was referenced as part of this investigation. RSS observed the conditions on site to have changed relatively little since the earliest available image. The areas surrounding the subject site, particularly to the north, east, and south, have been substantially altered by suburban development. In 1955 the subject site appears to have contained the same number of

structures as currently stand on the site. The area in front of the barn and south of the dwelling appear to have been cleared of trees prior to 1955 but the remainder of the parcel was forested. The roadway descending behind the existing dwellings can clearly be seen in these early images, periciliary the one taken in 1974. This road appears to have been used to access a dwelling located directly north of the subject site; this land area has since been divided into Lacamas Woods (2002), after which the gravel drive appears to have fallen into disuse. An image taken in winter of 2002 displays the location of the existing structures and the driveway with the proposed plot plan roughly overlain is included.

Regional Geology

Current geologic literature[1,2,3,4,5,6,7,8] classifies the slopes underlying the subject site as Troutdale formation, one of the units within the thick accumulation of basin-fill deposits that accumulated in the Pliocene and Miocene as the Portland Basin subsided. The site is situated along the eastern edge of the Portland basin, as the slopes begin to ascend into the Southern Cascade Range. Some, such as Evarts and O'Connor (2008) have divided the Troutdale formation into informal members, and the site is classified as underlain by the Hyaloclastic sandstone member of the Troutdale Formation. Additionally, the site is situated just past the unconformable contact between the underlying hyaloclastic sandstone member of the Troutdale Formation and an overlaying unnamed Conglomerate basin-fill deposit.

Geologic History

The subject site is tucked along the easternmost edge of the forearc basin of the Cascadia subduction system on slopes rising into the Cascade Range (volcanic arc), in an area informally referred to as the Troutdale Bench.

The Southern Cascade Province of Washington State is part of the Cascades Volcanic Arc, an active range that has formed over the past 40 million years. Prior to the formation of the volcanic arc, roughly 200 million years ago, the Farallon oceanic began subducting below the

1 http://www.oregongeology.org/geologicmap/

2 Burns, W.J., Mickelson, K.A., and Duplantis, S., 2012, Landslide inventory maps of the Camas quadrangle, Multnomah County, Oregon, and Clark County, Washington: Oregon Department of Geology and Mineral Industries, Interpretive Map Series 43, scale 1:8,000.

3 Evarts, R.C., and O'Connor, J.E., 2008, Geologic map of the Camas quadrangle, Clark County, Washington, and Multnomah County, Oregon: U.S. Geological Survey, Scientific Investigations Map SIM-3017, scale 1:24,000.

4 Mundorff, M.J., 1964, Geology and ground-water conditions of Clark County, Washington, with a description of a major alluvial aquifer along the Columbia River: U.S. Geological Survey, Water-Supply Paper 1600, scale 1:48,000.

5 Fiksdal, A.J., 1975, Sand and gravel in Clark County, Washington: Washington Division of Geology and Earth Resources, Open File Report 75-11, scale 1:62,500.

6 Trimble, D.E., 1957, Geology of the Portland quadrangle, Oregon-Washington: U.S. Geological Survey, Geologic Quadrangle Map GQ-104, scale 1:62,500.

7 Trimble, D.E., 1963, Geology of Portland, Oregon and adjacent areas: U.S. Geological Survey, Bulletin 1119, scale 1:62,500.

8 Phillips, W.M., 1987, Geologic map of the Vancouver quadrangle, Washington: Washington Division of Geology and Earth Resources, Open File Report 87-10, scale 1:100,000.

more buoyant continent of North America. This convergent plate boundary produced terrain accretion, transferring ocean floor sediments, volcanic island chains and basalts from underwater volcanoes from the surface of the sub-ducting plate to the edge of the continental plate. During the late Eocene the earliest Cascade Range volcanoes began erupting (43-37 million years ago – Northcraft volcanoes) onto the coastal plain environment that has formed during the earlier Eocene (55-43 million ears ago). Much of this volcanism emplaced mafic lavas (basalt & andesite) but some produced felsic lava and ash. Volcanic activity continued as the early Cascade volcanic arc began erupting at a fast pace, producing massive outpourings of lava, ash and various rock fragments and building up the mountain range. A short lull in volcanic activity occurred between 21 and 18 million years ago, which was followed by the Columbia River Basalt Group flows. Modern Cascade volcanism began roughly 500,000 years ago and formed the recognizable peaks that dot the regional skyline.

Descending to the west of the Cascade Range, the slopes plunge below the Portland Basin. This basin is one of several topographic and structural depressions that collectively constitute the Puget-Willamette forearc trough. This topographic and structural basin generally has low topographic relief. The basin formed due to tectonic compressional stress that both intimated the basin's formation and produced prolonged the enlargement of the basin. As the Portland Basin continued to subside during the late Miocene and Pliocene, it filled with continental fluvial and lacustrine sediments that were transported through the Cascade Range by the ancestral Columbia River as well as with locally derived detritus carried in by tributaries draining the surrounding highlands. This resulted in a thick accumulation of material preserving a complex record of deposition and erosion (aggradation and incision). The Troutdale formation is part of this complicated accumulation of fluvial material. The modern Columbia River has carved a channel through the current-day basin. In the lowland areas of the basin the deposits laid down by ancient rivers are buried beneath the thick deposit of catastrophic flood deposits, but along the northern and eastern edges of the basin an uplifted area, referred to as the Troutdale Bench, exposes the conglomeratic basin-fill deposit.

At the end of the last glacial maximum, an ice dam in western Montana began to melt. The periodic failure of the ice dam retaining Glacial Lake Missoula resulted in dozens of gigantic floods that stretched from their origin in Montana generally following the Columbia River and eventually reaching the Pacific Ocean. The hydraulically restrictive Oregon Coast Range causes the sediment filled waters to temporarily pond across much of the Willamette forearc trough including the Portland, Tualatin and Willamette basins. The floodwaters, which reached an elevation of 400 feet above sea level, soured many areas down to bedrock and buried others beneath thick layers of gravel, sand and silt that can be divided into a fine-grained and course-grained units. Dramatic scour features and giant bars can be seen within the Portland Basin, and demonstrate the great influence the floodwaters had on shaping the Quaternary geomorphology of the region. The sediments are generally comprised of unconsolidated silt, sand, and gravels were emplaced between about 21,000 to 12,000 years ago.

Site Geology

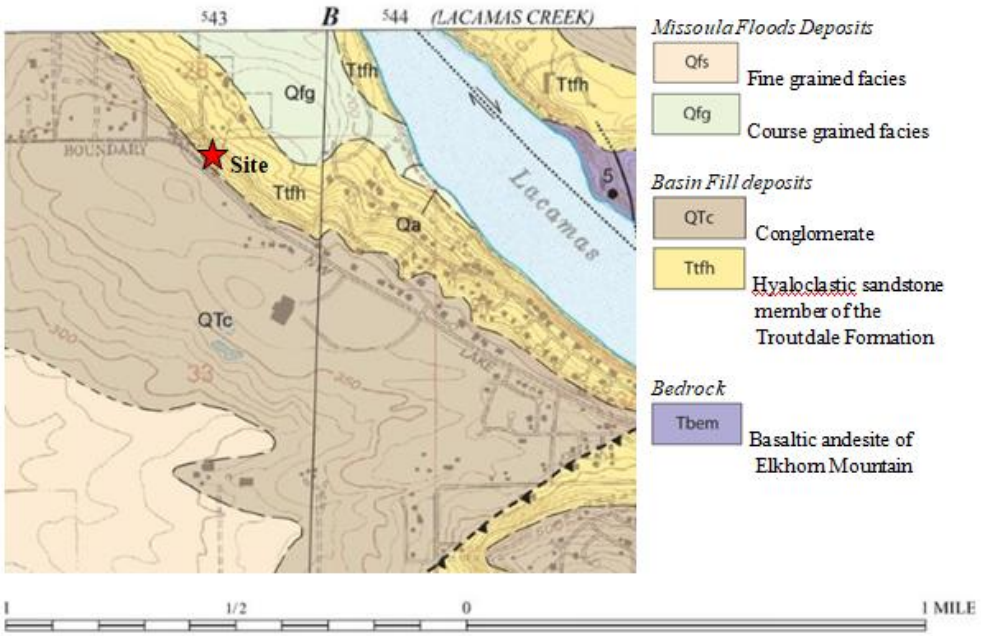
The structural depression that is the Portland Basin is floored by late Eocene and Oligocene

rocks and filled with Neogene deposits. The Troutdale formation is one of these basin-fill deposits and is generally composed of three characteristic sedimentary rock types: basaltic clast conglomerate, arkosic sandstone, and basaltic vitric sandstone. At the subject site the deposits are classified as falling within the Hyaloclastic sandstone member of the Troutdale Formation.

Generally, the Troutdale formation is described as a semi-consolidated, massive to crudely stratified, pebbly and cobbly conglomerate with sparse lenses of friable sandstone. It is moderately to well-sorted and typically clast supported with a sandstone matrix. The clasts are well rounded and the clast population is dominated by cobbles of basalt form the Columbia River Basalt Group, but typically includes light-colored granitic and quatzofeldspathic metamorphic rocks and distinctive, white to light-gray, iron-oxide stained quartzite. Sparse interbeds of volcanic lithic and micaceous quartzofeldspathic sandstone have been noted. In some places the upper several meters of the Troutdale deposits have weathered into a reddish-brown clayey soil where scattered quartzite pebbles in the soil is the only indication of the original conglomeratic texture.

The Hyaloclastic sandstone member of the Troutdale formation (Trimble, 1963 and Tolan & Beeson, 1984: vitric sandstone) is described as a fluvial sedimentary strata. It can be distinguished as an indurated, course sandstone composed of abundant grains of basalt and conglomerate. It consists largely to entirely of angular to subrounded fragments 2-6 mm in diameter and primarily comprised of basalt. Weathering has turned much of the dark-green rock into a distinctive yellowish-brown color. The sandstone ranges from poorly sorted to well sorted and contains dispersed pebbles and cobbles of olivine-bearing basalt. Interbedded conglomerates are sometimes present and often contain well rounded to subrounded pebbles and cobbles.

The upper slopes at the subject site transition into an unconsolidated to cemented, thick bedded, pebble to boulder conglomerate with minor beds and lenses of basaltic and quartzofeldspathic sandstone. This conglomerate unit of the basin fill deposits unconformably overlays the Troutdale formation. The unit varies from well sorted, clast-supported to poorly sorted. It is generally deeply weathered. While not mapped at the subject site, a thin deposit appears to be present in the uppermost slopes, underlying the proposed surface parking.



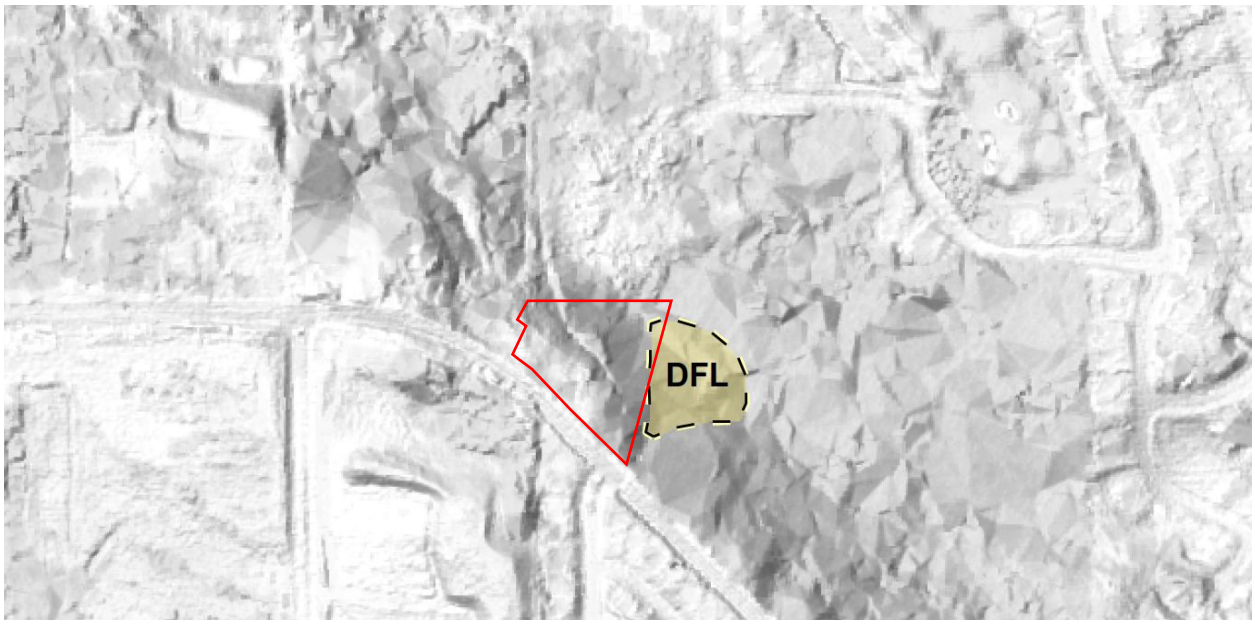
Geohazard Review

The Washington State Department of Natural Resources Division of Geology and Earth Resources' Interactive Natural Hazards map[9], Clark County Maps Online[10], and IMS-43 were accessed on 16 May 2018 to investigate mapped geologic hazards. This review indicates that the subject site is situated outside the 500-year floodplain. The Site Class Map of Clark County, Washington[11] as presented by Clark County Maps Online, indicates that the site contains a National Earthquake Hazards Reduction Program (NEHRP) soil site class of 'C', indicating an average shear wave velocity in the upper 100 feet of between 1200 and 2500 feet per second. The interactive DNR maps present a similar NEHRP soil site classification for the subject site, with the contact between the 'C to D', indicating an average shear wave velocity in the upper 100 feet corresponding to a 'C' site class and a mean shear wave velocity minus one standard deviation falls within a 'D' site class (600-1,200 ft/s). A 'C' site class corresponds to very dense soil and soft rock while a 'D' site class corresponds to stiff soil profile. The liquefaction susceptibility at the subject site[12], as presented by Clark County Maps Online, is classified as 'very low'. DNR also presents a liquefaction hazard of 'very low'. The slopes on site are classified as exceeding 15%, but Clark County Maps Online does not further classify the steeply sloping areas as an 'area of potential instability'. The lower slopes at the subject site are classified as counting a severe erosion hazard. There are no mapped landslides on the subject site. A debris flow is mapped descending from the draw that descends southeastward from the southern/southeastern corner of the subject site. This old debris flow (older than 150 years) extends along the eastern edge of the subject site.

See new hazard figure #4. That the time of the intial explorations the building was

9 https://fortress.wa.gov/dnr/geology/?Theme=natural_hazards
10 http://gis.clark.wa.gov/mapsonline/
11 ftp://ww4.dnr.wa.gov/geology/pubs/ofr04-20/ofr2004-20_sheet12_clark_nehrp.pdf
12 ftp://ww4.dnr.wa.gov/geology/pubs/ofr04-20/ofr2004-20_sheet11_clark_liq.pdf

much smaller. It has grown in size but is still above the hazard line on the lot. When the final orientation is determined RSS will explore the area with several more test holes.



Field Exploration and subsurface conditions

Four (4) hand augur borings were excavated to in the area of the new **adult care** facility and one Wildcat drive probe was conducted next to HA#1. Please see figure 3, in the appendix for the location of the borings. Hand augur logs detailing materials encountered can be found in the appendix. The logs were created using the Unified Soil Classification and Visual Manual Procedure (ASTM-D 2488). A geologist in training (GIT) logged these borings on site and complied the logs, which were reviewed by registered professional geotechnical engineer. The logs were created using the Unified Soil Classification and Visual Manual Procedure (ASTM-D 2488). Samples were transported to the laboratory for further classification in sealed bags. Please see appendix for further laboratory results. The soil conditions in the upper slopes were found to be medium dense silty GRAVELS underlain by silty CLAY, followed by a stiff fine grained sandy SILT to a depth of 7ft; borings did not exceed 7 ft deep. Observed soil conditions changed in the lower elevation borings; in the lowest boring RSS observed sandy GRAVELS to silty SAND likely derived from highly weathered Troutdale formation deposits. Moisture content varied from 27.7% to 32.9% . Groundwater was not encountered.

Adjacent to the hand augur boring HA#1, we also conducted a Wild Cat, Dynamic Cone Penetrometer (DCP) exploration to determine strength of soils. The soil conditions near the surface were soft, transition to very stiff SILT with depth. The readings from the Wildcat, N values directly correlate soils and water levels and placement of the drilling locations and conditions of the slope. The WILDCAT log, in the appendix, describes the soils in the subgrade as ‘stiff to hard’ at a depth of 21.3 feet; WILDCAT refusal was encountered at a depth of 21.3 feet.

The USDA Natural Resources Conservation Service’s Web Soil Survey classifies the soils

within the subject site as primarily comprised of Hesson clay loam (0-8% slopes in the western half, 30-55% slopes in the eastern half). The Hesson clay loam forms on terraces from alluvium. It is classified as well drained with a water table typically found at depths greater than 80 inches. The typical profile is comprised of clay loam (H1: 0"-12") and clay (H2: 12"-60"). The suitability and limitations rating for the site, as presented by the USDA, indicates that new development could be negatively impacted by a possible shrink-swell potential that the mapped soil type is classified as containing (0.42 on a scale were 1.00 is the greatest negative impact and 0.00 indicates no limitations for the proposed application). ***Laboratory findings for the soils collected from the site by RSS describe soils as having a liquid limit that is below a possible shrink/swell condition. See the appendix for results of samples on site.***

Seismic Design Criteria

The seismic design criteria for this project found herein is based on the IBC 2015 and IRC 2015. A summary of IBC seismic design criterion is below it is generated from the USGS web site for earthquake hazards using Latitude: 45.621024 and Longitude: -122.444525 using site class D.

	Short Period	**1 Second**
Maximum Credible Earthquake Spectral Acceleration	Ss = 0.896g	S1 = 0.377g
Adjusted Spectral Acceleration	Sms = 1.023	Sm1 = 0.621g
Design Spectral Response Acceleration Perimeters	Sds = 0.682g	Sd1= 0.414g

Excavations

Excavations can be accomplished with conventional excavating equipment. All excavations for footings and subgrades in the sand should be performed by an excavator or backhoe equipped with a smooth-faced bucket (no teeth).

Because of safety considerations and the nature of temporary excavations, the Contractor should be made responsible for maintaining safe temporary cut slopes and supports for utility trenches, etc. We recommend that the Contractor incorporate all pertinent safety codes during construction, including the latest OSHA revised excavation requirements, and based on soil conditions and groundwater evidenced in cuts made during construction.

Structural Fills

Depending upon finished building pad elevations, structural fills may be required to raise the site grades. Additionally, fill may be required for the backfilling of the proposed new foundation walls. Native or imported material may be used for fill, provided the soil is free of organics, cobbles larger than 6 inches in maximum diameter, or other deleterious matter; native fill must also be of low plasticity and at the proper water content.

Fills should be placed on level benches in thin lifts and compacted to a dry density of at least 92% of its Maximum Dry Density (MDD) as determined by the Modified Proctor Test

(ASTM D-1557). ***Lift height to be determined during construction based upon fill materials utilized and methods for compaction utilized by the earth work contractor.***
For any over-excavation completed in the area of footings or slabs, the backfill material shall consist of free-draining, well-graded, crushed aggregate base with a maximum particle size of ¾ inch. The rock shall not contain more than 5% fines (material passing the No. 200 sieve, as tested by ASTM D-1140). The rock shall be compacted to a dry density of at least 92% of its MDD.

Foundation Design
Based on the field exploration, and our experience with this soil formation, it is our opinion that the foundation should consist of conventional spread footings. Footing excavations should be evaluated by the Engineer to confirm suitable bearing conditions. Observations should also confirm that all loose or soft material, organics, unsuitable fill, prior topsoil zones, and softened subgrades, if present, have been removed. Localized deepening of footing excavations may be required to penetrate through the upper, softer site soils.

If the bases of the footing excavations are disturbed by workers or equipment, the bases should be compacted to a smooth, unyielding surface with a plate compactor.

All concrete footings should be founded at least 1.0 feet below the lowest exterior grade, and 16 inches below the finished floor elevation, whichever is deeper. Interior footings may also be founded at a depth of 12 inches below the finished floor elevation. There may be traces of small construction debris from past houses on the site. ***Please allow for at least 48 hours notice for site inspections to ensure that all past construction debris is removed from the site.***

The new footings should be designed for a maximum allowable bearing pressure of 2,000 pounds per square foot (psf) as per scribed in 2012 IBC code book under section 1804.2 Table 2 Allowable Foundation and Lateral Pressures. When sizing footings for ***seismic considerations***, ***the allowable bearing pressure may be increased by 1.33.*** Lateral pressures may be resisted by friction between the bases of the footings and the underlying ground surface.

Retaining walls and embedded basement walls
Default lateral soil load for the design of basement and retaining walls supporting level backfill shall be 40 psf/ft for laterally unrestrained retaining walls and 60 psf/ft for laterally restrained retaining walls. ***If a greater capacity is required 1ft of soils shall be excavated and replaced with compacted ¾" minus rock. See table below.***

For embedded building walls, a superimposed seismic lateral force should be calculated based on a dynamic force of $5H^2$ pounds per lineal foot of wall, where H is the height of the wall in feet, and applied at 1/3 H from the base of the wall. The wall footings should be designed in accordance with the guidelines provided in the "Foundation Design" section of

this report. These design parameters have been provided assuming that back-of-wall drains will be installed to prevent buildup of hydrostatic pressures behind all walls.
The backfill material placed behind the walls and extending a horizontal distance equal to at least half of the height of the retaining wall should consist of granular retaining wall backfill as specified in the "Structural Fill" section of this report. The wall backfill should be compacted to a minimum of 95 percent of the maximum dry density, as determined by ASTM D698. However, backfill located within a horizontal distance of 3 feet from the retaining walls should only be compacted to approximately 92 percent of the maximum dry density, as determined by ASTM D698. Backfill placed within 3 feet of the wall should be compacted in lifts less than 6 inches thick using hand-operated tamping equipment (e.g., jumping jack or vibratory plate compactors). If flat work (e.g., sidewalks or pavements) will be placed atop the wall backfill, we recommend that the upper 2 feet of material be compacted to 95 percent of the maximum dry density, as determined by ASTM D698.

A minimum 12-inch-wide zone of drain rock, extending from the base of the wall to within 6 inches of finished grade, should be placed against the back of all retaining walls. Perforated collector pipes should be embedded at the base of the drain rock. The drain rock should meet the requirements provided in the "Structural Fill" section of this report. The perforated collector pipes should discharge at an appropriate location away from the base of the wall. The discharge pipe(s) should not be tied directly into storm water drain systems, unless measures are taken to prevent backflow into the wall's drainage system.

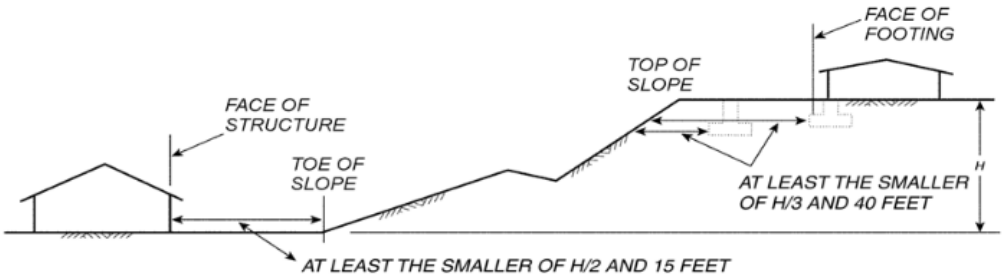
Settlements of up to 1 percent of the wall height commonly occur immediately adjacent to the wall as the wall rotates and develops active lateral earth pressures.

Engineering values summary

Bearing capacity soil	2,000psf
Bearing capacity of rock ¾" minus	3,000psf
Coefficient of friction soil	0.30
Coefficient of friction rock	0.45
Active pressure	40pcf
Passive pressure	300pcf

Slope setbacks

Placement of the adult care facility shall follow the prescribed below figure. By benching the facility into the existing slopes, the minimum setback requirements, as laid out in the below figure, can be meet. From the updated site plan, the rear walls of the facility will need to be embedded into the slope to meet the minimum setback requirements; please see figure below.



ot = 304.8 mm.

FIGURE 1808.7.1
FOUNDATION CLEARANCES FROM SLOPES

Settlement

Based on our knowledge of the project scope, and for footings designed as described in the preceding paragraphs, maximum settlement should not exceed 1 inch. Differential settlement should be on the order of 50 to 75% of the maximum settlement over 50 feet. Our settlement estimate assumes that no disturbance to the foundation soils would be permitted during excavation and construction, and that footings are prepared as described in the preceding paragraphs.

Drainage

Storm water review has reviewed the preliminary drawings site plans by AAI. In my professional opinion take any issue with the two small drainage swales located close to NW Lake Road. Please note these are still preliminary drawings. RSS will review the final location when the infiltration facilities are finalized.

The Contractor should be made responsible for temporary drainage of surface water and groundwater as necessary to prevent standing water and/or erosion at the working surface.

The ground surface around the structure should be sloped to create a minimum gradient of 2% away from the building foundations for a distance of at least 5 feet. Surface water should be directed away from all buildings into drainage swales or into a storm drainage system. “Trapped” planting areas should not be created next to any buildings without providing means for drainage. Storm water for this site will be directed towards the street.

Limitations

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials and contractors to ensure correct implementation of the recommendations.

The opinions, comments and conclusions presented in this report were based upon information derived from our literature review, field investigation and laboratory testing. Conditions between, or beyond, my exploratory hand augur holes may vary from those encountered. Unanticipated soil conditions and seasonal soil moisture variations are

commonly encountered and cannot be fully determined by merely taking soil samples. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

CONCLUSIONS AND RECOMMENDATIONS

In my opinion, a structure with footings founded on and keyed into competent native soil with proper embedment into the ground as written above. RSS recommends that we are retainined by the developer for the onsite inspections.

Limitations

This report has been prepared for the exclusive use of the addressee, and their architects and engineers for aiding in the design and construction of the proposed development. It is the addressee's responsibility to provide this report to the appropriate design professionals, building officials, and contractors to ensure correct implementation of the recommendations. The opinions, comments and conclusions presented in this report were based upon information derived from our literature review, field investigation, and laboratory testing. Conditions between, or beyond, our exploratory borings may vary from those encountered. Unanticipated soil conditions and seasonal soil moisture variations are commonly encountered and cannot be fully determined by merely taking soil samples or soil borings. Such variations may result in changes to our recommendations and may require that additional expenditures be made to attain a properly constructed project. Therefore, some contingency fund is recommended to accommodate such potential extra costs.

If there is more than 2 years time between the submission of this report and the start of work at the site; if conditions have changed due to natural causes or construction operations at, or adjacent to, the site; or, if the basic project scheme is significantly modified from that assumed, it is recommended this report be reviewed to determine the applicability of the conclusions and recommendations.

The work has been conducted in general conformance with the standard of care in the field of geotechnical engineering currently in practice in the Pacific Northwest for projects of this nature and magnitude. No warranty, express or implied, exists on the information presented in this report. By utilizing the design recommendations within this report, the addressee acknowledges and accepts the risks and limitations of development at the site, as outlined within the report.

APPENDIX

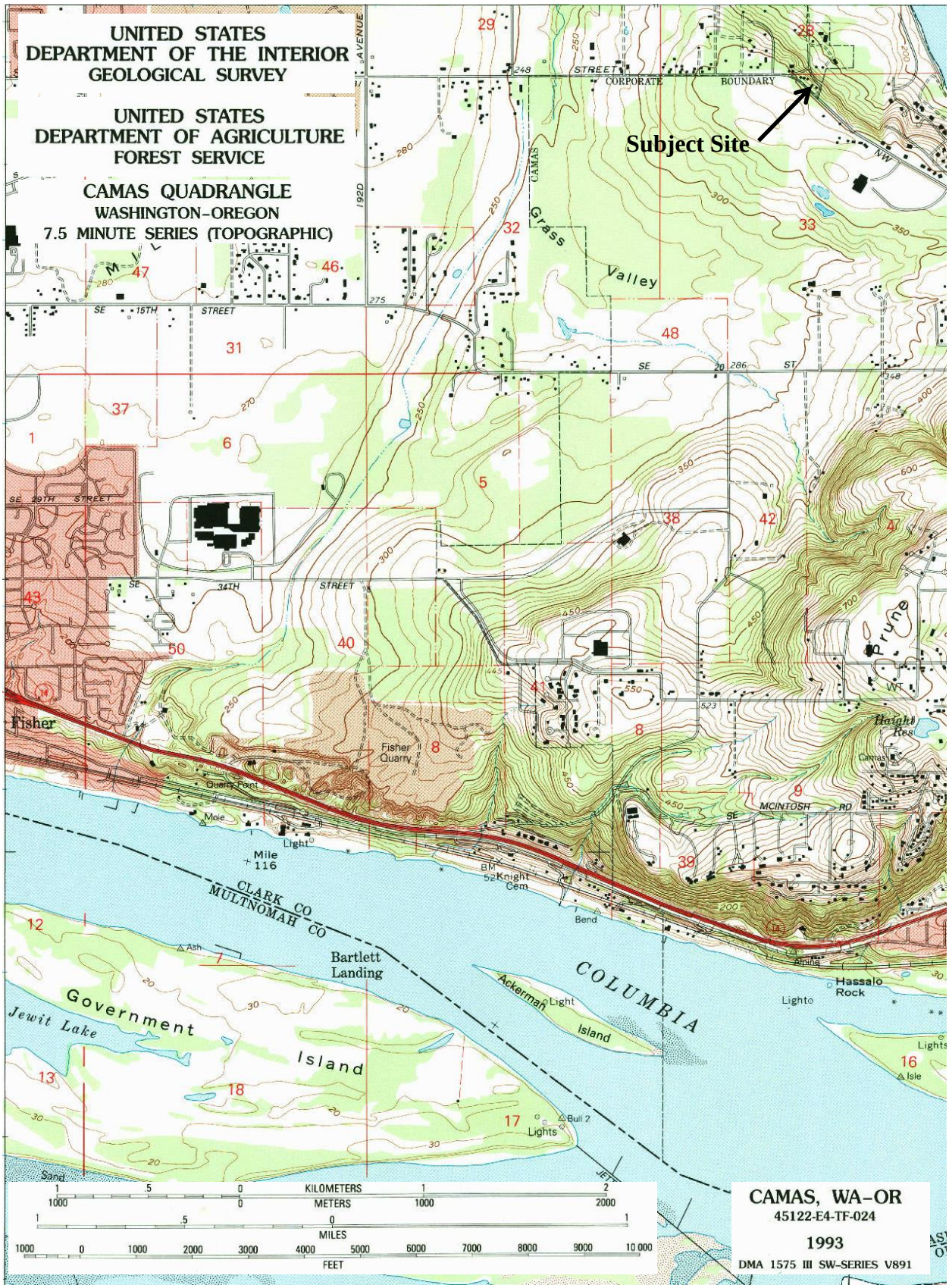


Figure 1: Subject site location on the NW quarter of the Camas quadrangle

NE Qtr of Section 33 T2N R3E WM

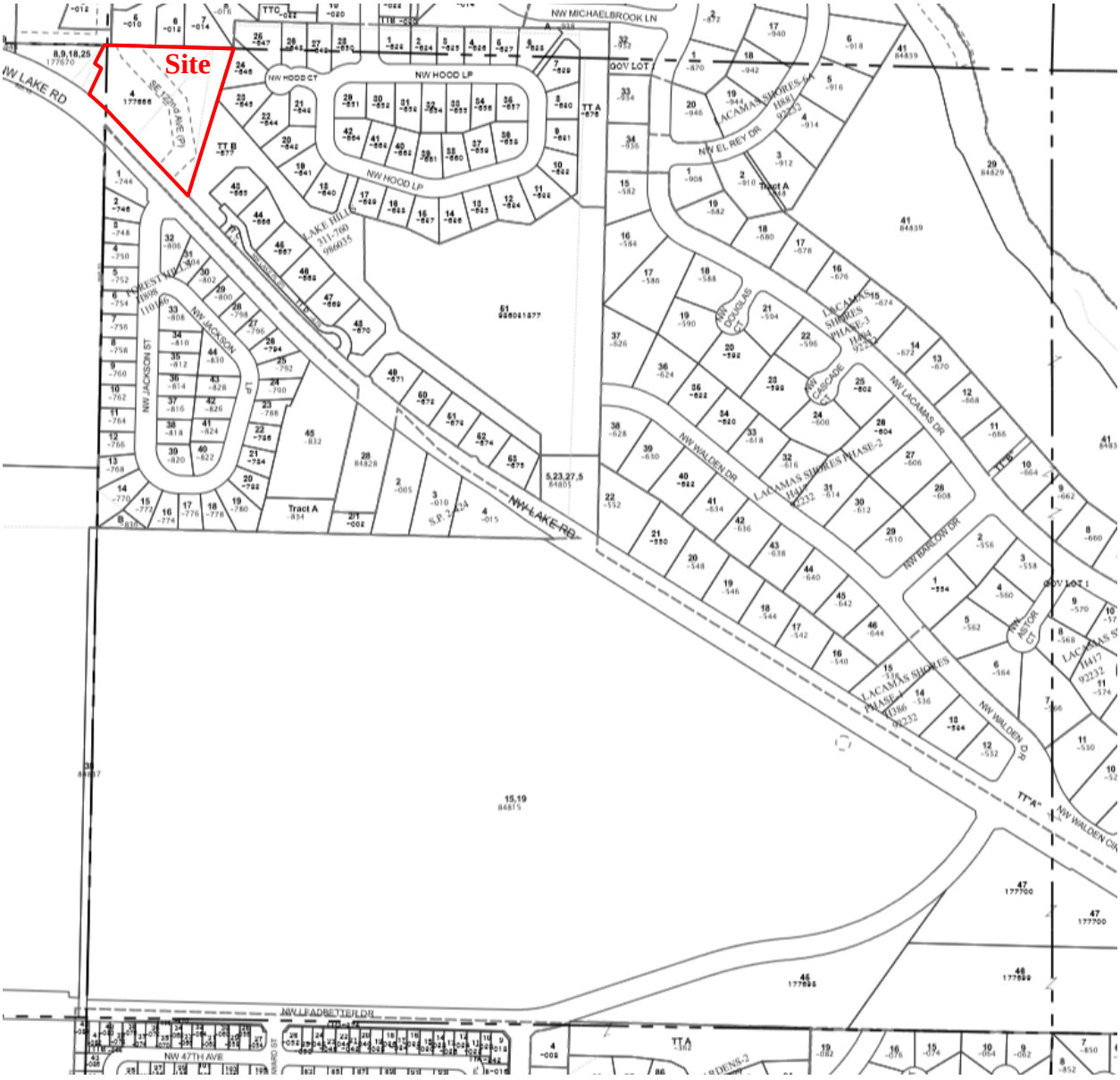
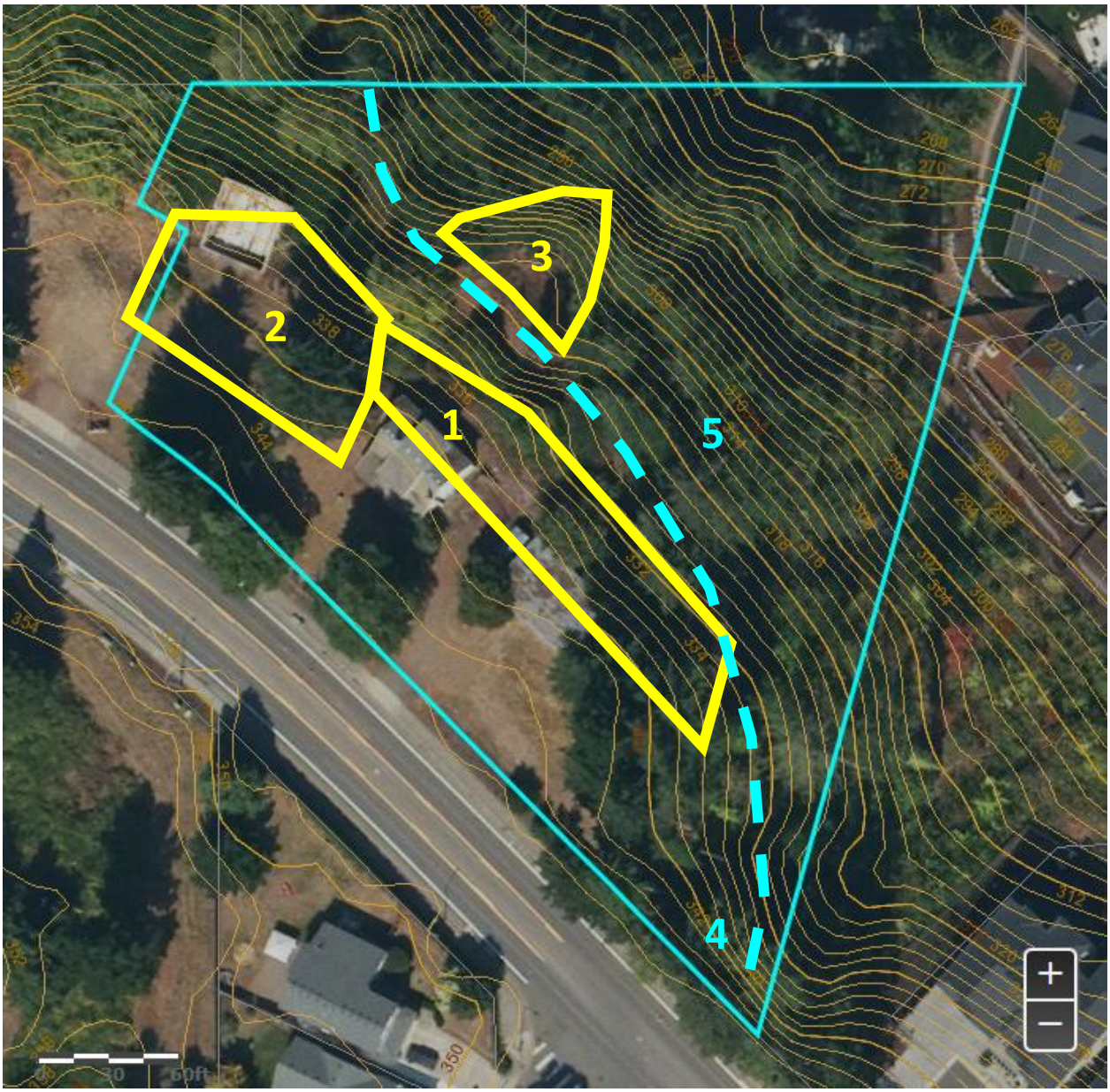


Figure 2: Subject site location on the Clark County Assessor's Map

Figure 3: Subject site, 2016 aerial image, 2-foot contours, approximate proposed new building location and approximate boring locations



1) Fill – Debris filled fill to an unknown depth. Will require removal during construction.
2) Fill – Fine grained fill to a depth of at least 2'. Fill underlain by organic material. Both will require removal.
3) Fill – unknown material and depth.
4) Cut gravel driveway. Materials appear to be side-cast to the northeastern side of driveway. Oversteepening slopes.
5) Slopes below (northeast of) the driveway are steep and susceptible to erosion and sliding. Locally slopes mapped by Clark County GIS are measured as exceeding 60%, with the average slope closer to 45%. On site investigations below the driveway were not conducted by RSS.

Slope areas extending from the southern edges of the existing structures to the roadway contain a combination of cut slopes and fill slopes. This area is a slope hazard area and a slide hazard area.

Figure 4 -Site Hazards

Lab Results

Project Name: 3401 NW Lake Rd Sample Date 5/10/2018

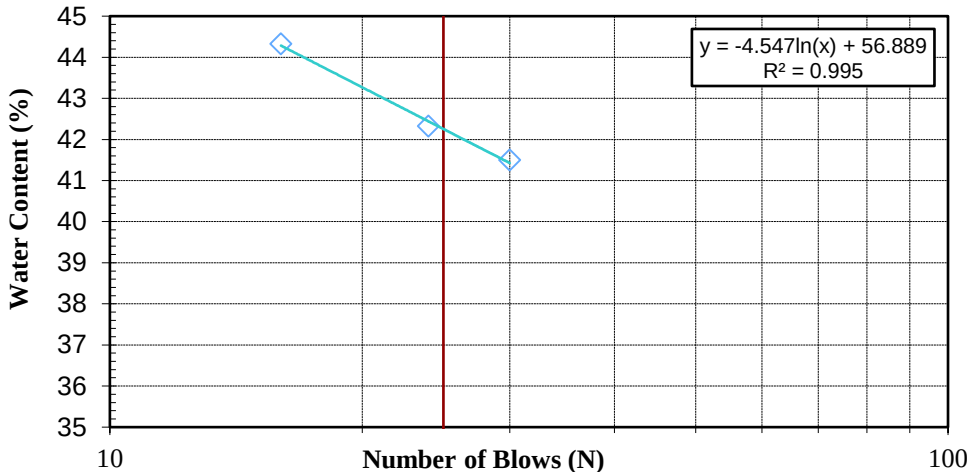
Moisture

	Sample number	HA#1	HA#2A	HA#2B	HA#3	
1	Date and time in oven	5/10/18 1:45 PM	5/10/18 1:45 PM	5/10/18 1:45 PM	5/10/18 1:45 PM	
2	Date and time out of oven	5/14/18 8:00 AM	5/14/18 8:00 AM	5/14/18 8:00 AM	5/14/18 8:00 AM	
3	Depth (ft)	4	4	7	2	
4	Tare No.	3	4	5	6	
5	Tare Mass	234	230	233	232	
6	Tare plus sample moist	1054	1256	1493	914	
7	Tare plus sample dry	876	1002	1194	756	
8	Mass of water (g)	178	254	299	158	
9	Mass of soil (g)	642	772	961	524	
10	Water Content (%)	27.73	32.90	31.11	30.15	

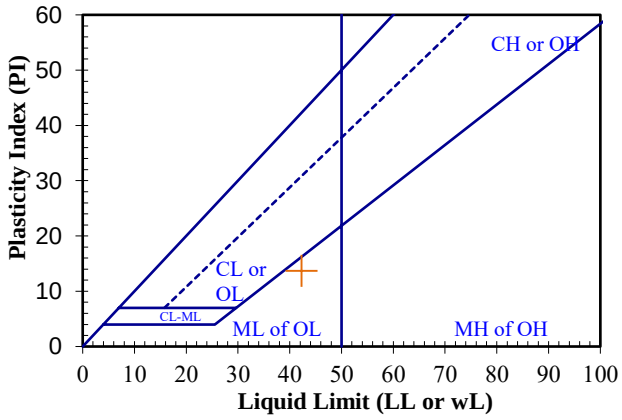
Atterberg Limit Test

Sample Number: HA#2A Depth: 4'

		Liquid Limit			Plastic Limit	
		1	2	3	1	2
1	Tare No.	D#3.1	D#3.2	D#3.3	R#3.1	R#3.2
2	Tare Mass (g)	39.49	39.59	40.51	39.27	42.33
3	Tare Plus Wet Soil (g)	75.7	71.57	75.35	52.5	53.17
4	Tare Plus Dry Soil (g)	65.08	62.06	64.65	49.55	50.77
5	Mass of Water (g)	10.62	9.51	10.7	2.95	2.4
6	Mass of Soil (g)	25.59	22.47	24.14	10.28	8.44
7	Water Content (%)	41.50	42.32	44.32	28.70	28.44
8	No. Blows	30	24	16		



Liquid Limit (%) **42.25**
Plastic Limit (%) **28.57**
Plasticity Index (%) **13.69**
USCS Classification **ML**



Rapid Soil Solutions LLC

Lab Results

Project Name: 3401 NW Lake Rd

Sample Date 5/10/2018

Grain Size Analysis

Dry Seive Method

HA#1 Depth: 4'

Total Sample Weight (g): 245.29

Sieve #	Weight (g)	% Retained
>1/4"	21.22	8.65
1/4" to #40	93.25	38.02
#40 to #200	67.64	27.58
< #200	63.18	25.76
> #200	182.11	74.24

HA#2B Depth: 7'

Total Sample Weight (g): 518.06

Sieve #	Weight (g)	% Retained
>1/4"	300.54	58.01
1/4" to #40	158.03	30.50
#40 to #200	40.14	7.75
< #200	19.35	3.74
> #200	498.71	96.26

HA#1

Surface Elevation:
Boring Date: 05/10/2018
Boring Location: Camas, WA
Drilling Method: Hand Auger

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table		
0						GWT not encountered	GM	Medium desnse, medium brown, course grained, silty GRAVEL, dry. Gravels are rounded, semi spherical, hard rock, mostly small gravels with some large gravels. Broken bottle at 1.5' deep. Sloughed off above slope.
1								
2							ML	Medium stiff, reddish brown, fine grained, clayey SILT to silty CLAY with some small rounded gravels, damp to moist.
3							ML-CL	Medium stiff, medium tan brown with a slight orange hue, fine grained, silty CLAY to clayey SILT with some rounded gravels, damp to moist. Medium-high plasticity.
4	8% gravels, 38% course & medium sand, 28% fine sand, 26% fines	27.7					SM	Dense, tan orange with various colored individual grains, course grained, silty SAND with gravels, damp. Highly weathered sedimentary unit, Troutdale Fm.
								Boring completed at depth of 4 ft.
5								
6								
7								

LOG OF BORING

Rapid Soil Solutions	**3401 NW Lake Road**	**Plate 1**

HA#2

Surface Elevation:
Boring Date: 05/10/2018
Boring Location: Camas, WA
Drilling Method: Hand Auger

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table		
0						GWT not encountered	ML	Medium stuff, medium brown, fine grained, SILT with some gravels, damp to dry. Locally derived fill, potentially from dwelling construction. Boring located at down slope edge of 15' bench behind house.
2							ML	Medium stiff to soft, medium rich brown, fine grained, SILT with abundant roots and trace carbonized material, damp to dry. Old top/subsoil horizon.
							ML	Medium stiff to stiff, medium brown, fine grained, SILT with gravels, dry. Gravels are small, rounded to subrounded.
4	LL=42, PI=14	32.9					GM	Dense, medium brown with a slight red hue, course grained, GRAVEL with a silty clay to clayey silt matrix and sand, dry. Gravels are large and highly weathered, various colored individual clasts, clast supported.
							GP	
6								Dense, multicolored, course grained, sandy GRAVEL, damp. Gravels are rounded, sand is subrounded to angular. Poorly consolidated, can dig with hand auger. Weathered sedimentary bedrock, Troutdale Fm.
	58% gravel, 30% course and medium sand, 8% fine sand, 4% fines	31.1						
8								Boring completed at depth of 7 ft. Auger refusal on a gravel or cobble.
10								
12								
14								

LOG OF BORING

HA#3

Surface Elevation:
Boring Date: 05/10/2018
Boring Location: Camas, WA
Drilling Method: Hand Auger

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table		
0						GWT not encountered	GM	Medium dense to dense, medium brown, course grained, silty GRAVEL, dry. Abundant roots.
1								
2		30.1						Boring completed at depth of 2 ft. Auger refusal.
3								
4								
5								
6								
7								

LOG OF BORING

Rapid Soil Solutions	**3401 NW Lake Road**	**Plate 3**

HA#4

Surface Elevation:
Boring Date: 05/10/2018
Boring Location: Camas, WA
Drilling Method: Hand Auger

Depth	Remarks	Moisture (%)	Dry Density	Blow Counts	Sample Type	Water Table		
0						GWT not encountered	GM	Medium dense, medium brown, course grained, silty GRAVEL, dry. Gravels are hard, large and rounded. First attempt encountered auger refusal on asphault chunks at 1'. Second attempt encoutnered auger refusal on a concrete block at 1.5'
1								
2								
3								
4								
5								
6								
7								

Boring completed at depth of 1.5 ft.

LOG OF BORING

Rapid Soil Solutions	**3401 NW Lake Road**	**Plate 4**

PROJECT NO.:
PROJECT NAME:
PROJECT ADDRESS: 3401 NW Lake Road
PROJECT CITY, STATE: Camas, WA

HOLE NUMBER: RAP-1
CREW: Mia & Rachel
DATE STARTED: 05-10-2018
DATE COMPLETED: 05-10-2018
SURFACE ELEVATION: 326
WATER ON COMPL.: Not Evident

TOTAL DEPTH (cm): 710

FILENAME: ☐ Display the full path with Filename

CONSISTENCY ALPHA VALUES:			
GRANULAR:		COHESIVE:	
0	VERY LOOSE	0	VERY SOFT
5	LOOSE	2	SOFT
11	MEDIUM DENSE	5	MEDIUM STIFF
31	DENSE	9	STIFF
51	VERY DENSE	16	VERY STIFF
		31	HARD

GRAPH FACTOR: 3.3

HIGH ADHESION CORRECTIION FACTOR: 1

DISPLAY FULL PATH:

DEPTH	BLOWS PER 10 cm	TORQUE (ft.-lbs.)	DEPTH (cm)	FACTOR	ADHESION (Kg/cm²)	UN-FACTORED CONE RESISTANCE (Kg/cm²)	UN-FACTORED ADHESION RATIO (%)	CORRECTED CONE RESISTANCE (Kg/cm²)	CORRECTED ADHESION RATIO (%)	ABSOLUTE N'	SOIL TYPE	INFERRED SOIL DESCRIPTION
10 cm	1		10	4.44								
20 cm	2		20	4.44								
30 cm	5		30	4.44								
40 cm	3		40	4.44								
50 cm	3	0	50	4.44	0.00	13.3	0.00	13.32	0.00	2	GRANULAR	VERY LOOSE GRANULAR
60 cm	3		60	4.44								
70 cm	3		70	4.44								
80 cm	3		80	4.44								
90 cm	2		90	4.44								
100 cm	4	2.5	100	4.44	0.60	17.8	3.39	17.76	3.39	3	SILT	VERY LOOSE SILT
110 cm	9		110	3.86								
120 cm	10		120	3.86								
130 cm	16		130	3.86								
140 cm	16		140	3.86								
150 cm	14	5	150	3.86	1.21	54.0	2.23	54.04	2.23	10	GRANULAR	LOOSE GRANULAR
160 cm	13		160	3.86								
170 cm	11		170	3.86								
180 cm	10		180	3.86								
190 cm	13		190	3.86								
200 cm	12	5	200	3.86	1.21	46.3	2.60	46.32	2.60	8	SILT	LOOSE SILT
210 cm	16		210	3.42								
220 cm	15		220	3.42								
230 cm	14		230	3.42								
240 cm	18		240	3.42								
250 cm	17	5	250	3.42	1.21	58.1	2.07	58.14	2.07	10	GRANULAR	LOOSE GRANULAR
260 cm	16		260	3.42								
270 cm	14		270	3.42								
280 cm	14		280	3.42								
290 cm	16		290	3.42								
300 cm	20	5	300	3.42	1.21	68.4	1.76	68.40	1.76	12	GRANULAR	MEDIUM DENSE GRANULAR
310 cm	17		310	3.06								
320 cm	19		320	3.06								
330 cm	20		330	3.06								
340 cm	17		340	3.06								
350 cm	17	7.5	350	3.06	1.81	52.0	3.47	52.02	3.47	9	SILT	LOOSE SILT
360 cm	17		360	3.06								
370 cm	15		370	3.06								
380 cm	15		380	3.06								
390 cm	18		390	3.06								
400 cm	22	7.5	400	3.06	1.81	67.3	2.68	67.32	2.68	12	SILT	MEDIUM DENSE SILT
410 cm	50		410	2.77								

420 cm	40		420	2.77								
430 cm	26		430	2.77								
440 cm	35		440	2.77								
450 cm	36	12.5	450	2.77	3.01	99.7	3.02	99.72	3.02	18	SILT	MEDIUM DENSE SILT
460 cm	32		460	2.77								
470 cm	40		470	2.77								
480 cm	42		480	2.77								
490 cm	32		490	2.77								
500 cm	30	7.5	500	2.77	1.81	83.1	2.18	83.10	2.18	15	GRANULAR	MEDIUM DENSE GRANULAR
510 cm	28		510	2.54								
520 cm	26		520	2.54								
530 cm	27		530	2.54								
540 cm	26		540	2.54								
550 cm	26	15	550	2.54	3.62	66.0	5.47	66.04	5.47	12	CLAY	STIFF CLAY
560 cm	23		560	2.54								
570 cm	23		570	2.54								
580 cm	26		580	2.54								
590 cm	26		590	2.54								
600 cm	30	15	600	2.54	3.62	76.2	4.74	76.20	4.74	14	SILT	MEDIUM DENSE SILT
610 cm	32		610	2.33								
620 cm	30		620	2.33								
630 cm	60		630	2.33								
640 cm	60		640	2.33								
650 cm	70	15	650	2.33	3.62	163.1	2.22	163.10	2.22	30	GRANULAR	MEDIUM DENSE GRANULAR

EXHIBIT 17

Earth Engineers, Inc.

2411 Southeast 8th Avenue ● Camas ● WA 98607
Phone: 360-567-1806 ● Fax: 360-253-8624
www.earth-engineers.com

March 6, 2019

City of Camas
Community Development Department
616 Northeast 4th Avenue
Camas, Washington 98607
Attention: Lauren Hollenbeck, Senior Planner

Phone: 360-817-1568
E-mail: lhollenbeck@cityofcamas.us

Subject: **Geotechnical Peer Review**
Proposed Lacamas View Residential Care Facility
3401 Northwest Lake Road
Camas, Clark County, Washington
EEI Report No. 19-025-1

Dear Ms. Hollenbeck:

Per your request, **Earth Engineers, Inc. (EEI)** has completed a geotechnical review of the project referenced above. Our services for this project are being conducted in accordance with EEI Proposal No. 19-P054 dated February 17, 2019, which was authorized by Robert Maul, Planning Manager for the City of Camas on February 19, 2019.

PROJECT BACKGROUND INFORMATION

Our understanding of the project is based on the following information that you provided to us.

- **May 23, 2018 report by Rapid Soil Solutions (RSS) titled "Geotechnical Report, 3401 NW Lake Road, Camas, Washington."** The report was performed for Peter Anca, the applicant for the project.

- **October 31, 2018 drawing (Sheet SD1.1, "Site Plan") by BAMA Architecture and Design titled "Lacamas View Residential Care Facility, 3401 NW Lake Rd., Camas, WA 98607."** A note on this drawing states that it is for "Land Use Review."

- **September 5, 2018 drawing (Sheet 1 of 1) by Minister-Glaeser Surveying Inc. titled "Existing Conditions Survey, in a Portion of the NE ¼ and NW ¼ of Section 33, T. 2 N., R. 3 E., W.M., City of Camas, Clark County, Washington, Sheet 1 of 1."**

- **October 30, 2018 civil drawing set (C0.1, C1.0, C2.0, C3.0, C3.1, and C3.2) by AAI Engineering titled "Camas RCF, 3401 NW Lake Road, Camas, WA 98607."** A note on the drawings indicate they are for "10/30/18 – Design Review." Based on the Sheet List Table on Sheet C0.1, we have not been provided all of the drawings. We are missing C0.2, C0.3, C0.4, C4.0, C4.1, C4.2, and C4.3.

- **October 25, 2018 landscape drawing set (L1.0, L1.1, and L2.0) by AAI Engineering titled "Camas RCF, Camas, Washington."** A note on the drawings indicate they are for "10/29/18 – Design Review Submittal."

- **October 30, 2018 parking lot lighting plan (sheet 1 of 1) by Visual titled "Camas Residential Care."**

- **October 31, 2018 architectural drawing set (A1.1, A2.1, and A2.2) titled "Lacamas View Residential Care Facility, 3401 NW Lake Rd., Camas, WA 98607."**

Briefly, we understand that the project consists of constructing a new, single story residential care facility after the existing residential buildings on the property are demolished.

PURPOSE AND SCOPE OF SERVICES

The purpose of our geotechnical review was to assess the documents provided to us and provide a professional opinion on whether the geotechnical report by RSS meets the geotechnical standard of care and Camas Municipal Code (CMC) Chapter 16.59.060—Critical Area Report Requirements for Geologically Hazardous Areas. A report complying with CMC 16.59 must address the following hazards:

- Erosion hazard
- Landslide hazard
- Seismic hazard
- Other geological events including mass wasting, debris flows, rock falls and differential settlement.

It is our understanding that this site qualifies as a geologically hazardous area due to its proximity to steep slopes (i.e. erosion and landslide hazard).

REVIEW COMMENTS

After reviewing the RSS report, we offer the following comments:

1. It does not appear that RSS has been provided with the most current drawings (i.e. referenced above). For example, the figures in their geotechnical report show a different footprint for the proposed building than the current drawings provided to us. We

recommend that RSS be provided a complete set of all the most current drawings and update their report accordingly.

2. Drawing C3.0 shows 2 stormwater ponds and what appear to be subsurface storm chambers to be installed beneath the parking lot and drive lane. These stormwater features are located very close to the new building footings and also very close to steep site slopes. As required by CMC 16.59.060.C.1.b.iv, RSS should evaluate the influence of the stormwater system on the new building's footings as well as the adjacent slope stability. Typically, there can be increased risk if infiltrating stormwater into the ground adjacent footings and slopes.

   In addition, the overflow for the 2 storm ponds does not appear to have been defined. We recommend that the overflow method selected by the Civil Engineer be shown on the drawings and RSS should evaluate this to make sure it won't destabilize the new building footings or slopes on the property. Ideally, the overflow would be hard piped to the City's storm system rather than disposing of (i.e. infiltrating) on site.

   Finally, RSS should review the infiltration rate used to size the stormwater system and determine whether it is appropriate or not. RSS may need to perform infiltration testing in the areas of the system in order to provide a professional opinion. We have not been provided any documents indicating RSS (or anyone else for that matter) has performed infiltration testing.

3. No structural drawings (i.e. for foundations) were included in the drawings provided to us for review. Because the proposed building will be located on an oversteepened slope, it is critical that the geotechnical engineer understand how the foundations will be placed on the slope. As such, the structural drawings for the project should be provided to RSS for review.

4. In the RSS report, there are several areas where the slopes on the property are described. The steepest slope in the report is noted as 40 percent (i.e. less than 2H:1V). However, we have checked slopes on Sheet 2.0 and it appears that some of the slope immediately south and north of the private graveled driveway north of the existing house (labeled as "SE 122nd Ave (P)" on Figure 2 of the RSS report) is oversteepened (i.e. greater than 50 percent, or 2H:1V). We recommend that RSS re-check the site slopes and update their report as necessary. They should pay particular attention to identifying oversteepened slope areas on the property greater than 50 percent. This is important because Sheet C2.0 shows the new building will be supported by foundations bearing on the slopes north and south of the private drive.

5. RSS states in their report (page 3) that the forested, descending slope northeast of the private drive will remain unaltered. This does not appear to be accurate based on Sheet C2.0. It appears construction will encroach onto that lower slope below the private drive. RSS should review this and revise their report as necessary.

6. Page 8 of the RSS report states that a “new car facility” will be constructed on the property. This is not correct.

7. On page 8 they also state that they performed a Wild Cat Dynamic Cone Penetrometer (DCP) test to evaluate the conditions of the slope “after the slide.” They need to provide further clarification on what slide they are talking about.

8. On page 9 they indicate the site soils have “some shrink-swell potential,” but they do not provide any discussion about whether expansive soil mitigation recommendations are necessary.

9. Also on page 9, they recommend that structural fill be placed “in thin lifts.” RSS should quantify the maximum thickness of structural fill lifts.

10. On page 10, RSS notes that “there may be traces of small construction debris from past houses on the site.” RSS should provide geotechnical recommendations related to mitigating the presence of construction debris as it could have an impact on the new construction.

11. Also on page 10, RSS provides an allowable foundation bearing pressure of 2,000 psf. Then they later say in the same paragraph that the allowable bearing pressure can be increased by 1/3 to 2,000 psf. One of these numbers is not correct and RSS should correct it.

12. In the “Retaining walls and embedded basement walls” section on page 10 and 11 of the report, there are several inconsistencies. The friction coefficient lateral earth pressures in the text do not match the values in the table on page 11.

13. On page 11, RSS states that they have applied a factor of safety of 1.5 to the recommended allowable soil bearing capacity of 2,000 psf. This is not in compliance with the standard of practice. The factor of safety should be no less than 3.

14. In the “Slope setbacks” section on page 11, the report references a “house” that will be constructed on the property. We are not aware of any houses planned for construction.

15. In the “Limitations” section on page 12, the report references “test pits.” If test pits have been performed for the project by RSS staff, those logs should be included in the report. If not, the report should be corrected.

16. Based on Figure 3 in the RSS report, it does not appear that any explorations were performed on the downhill side (north) of the existing private graveled drive. This is significant because some of the new building’s footings will be located on that steep slope. We recommend RSS consider performing additional explorations that evaluate that particular slope.

17. The report text and exploration logs are not explicit in noting that surficial fill soils (and a buried topsoil zone) were encountered by RSS in some of their hand auger borings. It

should be made abundantly clear that here is undocumented, debris fill on the property, and geotechnical recommendations for mitigating the existing fill soils should be provided.

The influence of the existing fill soils on slope stability should also be considered. We have some concern that the oversteepened slope on the south side of the private driveway may contain a significant thickness of fill (i.e. several feet) that may not be stable enough to support the proposed building on it. Supplemental explorations and engineering evaluation should identify the total thickness of existing fill on the property and provide mitigation recommendations.

18. Four hand auger borings were performed on the property for the proposed project. Two of the hand auger borings were terminated in what we interpret to be native soils (based on RSS's log descriptions of encountering a weathered sedimentary unit—the Troutdale Formation) at depths of 4 and 8 feet. But the other 2 explorations did not appear to penetrate through an existing fill layer and into native soil. We have a couple of concerns. First, the depth of the existing fill soils is not fully defined as it should be in the geotechnical report. Secondly, the exploration depths for 3 of the hand auger borings are so shallow that it's unlikely that they went deep enough to evaluate the soil influence zone beneath the proposed building footings. Trying to use hand auger borings alone to evaluate the subsurface soil conditions at this property is not likely sufficient. We recommend that RSS perform deeper explorations that encompass the influence zone of the proposed footings (i.e. typically 2 to 3 times the footing widths), as well as the influence zone of the steep slopes (i.e. typically the height of the slope). RSS should consider performing drilled borings with a drill rig or test pits with an excavator to get to sufficient exploration depth.

19. Section C.1.a of CMC 16.59.060 requires that the geotechnical report identify the geologically hazardous areas on the property, including the type and extent of the geological hazard. This is typically a figure in the geotechnical report. We recommend that RSS add this.

20. Section C.1.b.ii of CMC 16.59.060 requires that the geotechnical report describe the proposed grading. This is not included in the existing report. Given that a level, single story building is going to be constructed out over a steep slope, we envision that there could be quite a bit of site grading (i.e. large cuts and fills) and retaining walls.

21. Section C.1.b.iii of CMC 16.59.060 requires that the geotechnical report describe areas that are approved for stockpiling materials. This is especially important for this project as we envision that there could be a significant amount of stockpiled soil on the steep slopes on the north half of the property.

22. We did not see in the report a requirement that the Geotechnical Engineer of Record (i.e. RSS) be retained during construction to provide geotechnical special inspection. With all of the soils issues and plan to construct the building on the steep slope, geotechnical inspection should be a requirement of RSS and the City of Camas.

23. Finally, while not imperative, we noted that there are a lot of spelling and grammar issues (i.e. incomplete sentences, etc.) in the report. While we are familiar with reading geotechnical reports and can make sense of what RSS is trying to say, the lay person may get confused. To provide clarity, we recommend that RSS correct their grammar and spelling issues.

With regard to general compliance with Camas Municipal Code (CMC) 16.59.060, it is our professional opinion that the geotechnical report provided to us does not satisfy the intent of the code section. We recommend that RSS be requested to respond to the items above in either a revised or replacement report.

LIMITATIONS

This report has been prepared for the exclusive use of the City of Camas for the specific application to the proposed Lacamas View Care Facility to be constructed at 3401 Northwest Lake Road in Camas, Washington. EEI does not authorize the use of the advice herein nor the reliance upon the report by third parties without prior written authorization by EEI.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

We appreciate the opportunity to perform this geotechnical engineering evaluation. If you have any questions pertaining to this report, or if we may be of further service, please contact Troy Hull at 360-567-1806 (office) or 360-903-2784 (cell).

Sincerely,
Earth Engineers, Inc.

Troy Hull, P.E
Principal Geotechnical Engineer

Reviewed by:

Charles Lane, P.E.
Senior Geotechnical Engineer

EXHIBIT 18

Earth Engineers, Inc.

2411 Southeast 8th Avenue ● Camas ● WA 98607
Phone: 360-567-1806 ● Fax: 360-253-8624
www.earth-engineers.com

May 22, 2019

City of Camas
Community Development Department
616 Northeast 4th Avenue
Camas, Washington 98607
Attention: Lauren Hollenbeck, Senior Planner

Phone: 360-817-1568
E-mail: lhollenbeck@cityofcamas.us

Subject: **Geotechnical Peer Review #2**
Proposed Lacamas View Residential Care Facility
3401 Northwest Lake Road
Camas, Clark County, Washington
EEI Report No. 19-025-2

Dear Ms. Hollenbeck:

Per your request, **Earth Engineers, Inc. (EEI)** has completed a geotechnical review of the project referenced above. Our services for this project are being conducted in accordance with EEI Proposal No. 19-P054 dated February 17, 2019, which was authorized by Robert Maul, Planning Manager for the City of Camas on February 19, 2019.

PROJECT BACKGROUND INFORMATION

We previously issued a geotechnical review report (EEI Report No. 19-025-1 dated March 6, 2019) for this project, which consists of constructing a new, single story residential care facility after the existing residential buildings on the property are demolished. Our review was based on the following documents you provided to us.

- **May 23, 2018 report by Rapid Soil Solutions (RSS) titled "Geotechnical Report, 3401 NW Lake Road, Camas, Washington."** The report was performed for Peter Anca, the applicant for the project.

- **October 31, 2018 drawing (Sheet SD1.1, "Site Plan") by BAMA Architecture and Design titled "Lacamas View Residential Care Facility, 3401 NW Lake Rd., Camas, WA 98607."** A note on this drawing states that it is for "Land Use Review."

- **September 5, 2018 drawing (Sheet 1 of 1) by Minister-Glaeser Surveying Inc. titled "Existing Conditions Survey, in a Portion of the NE ¼ and NW ¼ of Section 33, T. 2 N., R. 3 E., W.M., City of Camas, Clark County, Washington, Sheet 1 of 1."**

- **October 30, 2018 civil drawing set (C0.1, C1.0, C2.0, C3.0, C3.1, and C3.2) by AAI Engineering titled "Camas RCF, 3401 NW Lake Road, Camas, WA 98607."** A note on the drawings indicate they are for "10/30/18 – Design Review." Based on the Sheet List Table on Sheet C0.1, we have not been provided all of the drawings. We are missing C0.2, C0.3, C0.4, C4.0, C4.1, C4.2, and C4.3.

- **October 25, 2018 landscape drawing set (L1.0, L1.1, and L2.0) by AAI Engineering titled "Camas RCF, Camas, Washington."** A note on the drawings indicate they are for "10/29/18 – Design Review Submittal."

- **October 30, 2018 parking lot lighting plan (sheet 1 of 1) by Visual titled "Camas Residential Care."**

- **October 31, 2018 architectural drawing set (A1.1, A2.1, and A2.2) titled "Lacamas View Residential Care Facility, 3401 NW Lake Rd., Camas, WA 98607."**

Our original review report recommended that the geotechnical report by RSS be revised to address a number of concerns we identified.

We have now received the following updated project documents.

- **April 12, 2019 revised report by RSS titled "Geotechnical Report, 3401 NW Lake Road, Camas, Washington."**

- **September 27, 2018 report by RSS titled "Storm water testing at 3401 NW Lake Rd., Camas, WA."**

- **April 12, 2019 report by RSS titled "Check sheet reply."** This report summarizes RSS's responses to each of the comments in our first geotechnical review report.

- **October 30, 2018 civil drawing set (C0.3, C0.4, C1.0, C2.0, C3.0, C3.1, and C3.2) by AAI Engineering titled "Camas RCF, Camas, Washington."** A note on the drawings indicate they are for "05/13/19 – Land Use Resubmittal."

PURPOSE AND SCOPE OF SERVICES

The purpose of our geotechnical review was to assess the documents provided to us and provide a professional opinion on whether the geotechnical report by RSS meets the geotechnical standard of care and Camas Municipal Code (CMC) Chapter 16.59.060—Critical Area Report Requirements for Geologically Hazardous Areas. A report complying with CMC 16.59 must address the following hazards:

- Erosion hazard
- Landslide hazard
- Seismic hazard
- Other geological events including mass wasting, debris flows, rock falls and differential settlement.

It is our understanding that this site qualifies as a geologically hazardous area due to its proximity to steep slopes (i.e. erosion and landslide hazard).

REVIEW COMMENTS

After reviewing the newly provided documents listed above, we offer the following comments:

1. The April 12, 2019 revised geotechnical report is stamped by Mia Mahedy with an Oregon PE stamp. **The revised geotechnical report should be re-issued with her Washington PE stamp.**

2. The figures on page 3 of the April 12, 2019 revised geotechnical report still do not match the currently proposed building footprint. However, RSS has acknowledged they received the most current drawings so we presume their geotechnical conclusions and recommendations are based on the current drawings, not on the outdated figures on page 3 of their report. **No further action recommended.**

3. The Drainage section on page 12 of the April 12, 2019 revised geotechnical report talks about disposing of the site's stormwater in 2 small drainage swales. Based on the updated drawings provided to us (C3.1 and C3.2), stormwater will actually be disposed of in 1,300 lineal feet of 54-inch diameter Contech CMP detention pipe. The RSS report goes on to state that they will review the final locations when the infiltration facilities are finalized. **We recommend the City make it a condition of approval that the Geotechnical Engineer issue a supplemental or revised report addressing the actual stormwater disposal system, once it is finalized by the Civil Engineer. Particular attention should be paid to whether any stormwater is directed to the slope on the north side of the property and whether it could destabilize the slope.**

4. In our professional opinion, the subsurface conditions on the property are still not well defined. The potential hazards and their impact on the proposed development are not fully understood. It appears that RSS recognizes this and in their April 12, 2019 revised geotechnical report, they state that additional geotechnical explorations will need to be completed once the final building orientation is decided. **We recommend the City make it a condition of approval that the Geotechnical Engineer perform additional subsurface explorations prior to issuing any building permits in to better define the subsurface conditions. It is possible that their additional subsurface information could impact the project design.**

5. Section C.1.b.ii of CMC 16.59.060 requires that the geotechnical report describe the proposed grading. This is not included in the existing report. Given that a level, single story building is going to be constructed out over a steep slope, we envision that there could be quite a bit of site grading (i.e. large cuts and fills) and retaining walls. Response #20 from RSS's April 12, 2019 Check Sheet Reply report states that this will be addressed in a future report, once the drawings are complete. **We recommend the City make it a condition of approval that the Geotechnical Engineer issue a supplemental or revised report describing the proposed grading plans and whether the grading is acceptable from a geotechnical standpoint.**

6. Section C.1.b.iii of CMC 16.59.060 requires that the geotechnical report describe areas that are approved for stockpiling materials. This is especially important for this project as we envision that there could be a significant amount of stockpiled soil on the steep slopes on the north half of the property. Response #21 from RSS's April 12, 2019 Check Sheet Reply report states that they will address this in a future report, once the civil plans are complete. **We recommend the City make it a condition of approval that the Geotechnical Engineer issue a supplemental or revised report providing approved areas for stockpiling materials (especially as it pertains to the steeper slopes on the site).**

With regard to general compliance with Camas Municipal Code (CMC) 16.59.060, it is our professional opinion that the geotechnical reports provided to us do not fully satisfy the intent of the code section at this time. We understand the geotechnical engineer plans to more fully address some of the outstanding issues at a later date, once more information is available to them. As such, we recommend the City implement the conditions of approval listed above.

LIMITATIONS

This report has been prepared for the exclusive use of the City of Camas for the specific application to the proposed Lacamas View Care Facility to be constructed at 3401 Northwest Lake Road in Camas, Washington. EEI does not authorize the use of the advice herein nor the reliance upon the report by third parties without prior written authorization by EEI.

The Geotechnical Engineer warrants that the findings, recommendations, specifications, or professional advice contained herein have been made in accordance with generally accepted professional geotechnical engineering practices in the local area. No other warranties are implied or expressed.

We appreciate the opportunity to perform this geotechnical engineering evaluation. If you have any questions pertaining to this report, or if we may be of further service, please contact Troy Hull at 360-567-1806 (office) or 360-903-2784 (cell).

Sincerely,
Earth Engineers, Inc.

Troy Hull, P.E
Principal Geotechnical Engineer

Reviewed by:

Charles Lane, P.E.
Senior Geotechnical Engineer

April 8, 2019

Review by Chris Lopez, Sr. Eng. Tech.

Re: Lacamas View Adult Care TIR and Geotechnical Report Review

The following are items, found during document review, that need to be addressed and/or revised:

TIR

- Condition of approval #18 was not met. Provide justification for deviation of above ground storm facility min 30' setback from roadway.
- Condition of approval #20 was not met. Stormwater is to discharge to the system located in NW Lake Road.
- Infiltration rates cited are not found on Geotechnical Report's body; they come from an appendix to it. Nowhere is it stated whether infiltration is recommended or what infiltration rate should be used for design.
- Water quality is not addressed in WWHM calculations. The TIR states water quality is to be achieved by bioswales but in WWHM they are modeled as gravel trenches.
- Infiltration rate factor of safety should be revised in WWHM calculations.

Geotechnical Report

In addition to third party review comments on the Geotechnical Report, the following are items that need revised:

- Infiltration rates cited are not found on Geotechnical Report's body; they come from an appendix to it. Nowhere is it stated whether infiltration is recommended or what infiltration rate should be used for design.
- "Conclusions and Recommendations" section does not state any conclusion or recommendation.

Check sheet reply

12 April 2019

Peter Anca
503-351-3171
peteremmaanca@gmail.com

Re: 3401 NW Lake Road, Camas, WA
EEI report # 19-025-1

Dear Mr. Anca,

1- Rapid Soil Solutions (RSS) has been given the preliminary civil drawings for the site.

2- See page 12. RSS will review storm water design when it has been completed.

3- RSS will review the structural drawings in conjurction with the grading drawings and make recommendation within the project team and write an addendum to this report regarding site grading operations.

4- A new figure 4 has been added to the report for hazards. The planned building has not been finalized on the site plan and when it has RSS will review. See above comment #3 reply.

5- See above answer to #5.

6- RSS corrected to Care facility, page 8.

7- RSS corrected information on Wildcat and site suitability, see page 8.

8- Corrected.

9- See page 10 structural fills section.

10- See page 10.

11- RSS corrected see page 10.

12- Corrected see page 11.

13- Corrected.

14- Corrected.

15- Corrected.

16- Site explorations were based upon preliminary site plan given 1.5 years ago. See comment #4 for this answer and RSS will dig additional holes when further placement is determined and put in addendum to this report.

17- See answer to #16.

18- See answer to 4 and 16.

19- See new figure #4.

20- See answer to #4.

21- When civil plans are completed RSS will comment on stock pile placement.

22- Added to conclusions on page 13.

23- Review report for typo's.

Thank you,

Mia Mahedy, PE GE

Rapid Soil Solutions INC 503-816-3689 mia@rapidsoilsolutions.com

EXHIBIT 21

Date Published: June 6, 2019

To Whom It May Concern:

Please find enclosed a Mitigated Determination of Non-Significance (MDNS) for the **Lacamas View Residential Care Facility (SEPA18-26)** that was issued pursuant to the State Environmental Policy Act (SEPA) Rules, Chapter 197-11, Washington Administrative Code. The enclosed review comments reflect evaluation of the environmental checklist by the lead agency as required by WAC 197-11-330(1)(a)(i).

The following materials were submitted with the initial application:

- **Application and Fees**
- **Narrative**
- **Pre-Application Notes**
- **SEPA Checklist**
- **Geotechnical Report**
- **Archaeological Predetermination**
- **Traffic Study**
- **Preliminary stormwater report**
- **Engineer's Cost Estimates**
- **Exterior Lighting Specifications**

The application materials are available for review upon request from the Community Development Department.

Written comments may be submitted on this determination within fourteen (14) days of its issuance, after which the MDNS will be reconsidered in light of the comments received.

Please address all correspondence to:

City of Camas, SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607
communitydevelopment@cityofcamas.us

Distribution:

Applicant
Bureau of Indian Affairs
C-Tran
Camas School District
Camas City Administrator, Peter Capell
Camas Building Official, Bob Cunningham
Camas Community Development Director, Phil Bourquin
Camas Engineering Department Managers & Staff
Camas Fire Department, Randy Miller
Camas Finance Director, Cathy Huber Nickerson
Camas Mayor and City Council Members
Camas Parks and Recreation, Jerry Acheson
Camas Planning Hearings Examiner
Camas Planning Manager and Staff
Camas Police Chief, Mitch Lackey
Camas Public Works Director, Steve Wall
Camas Public Library, Connie Urquhart
Camas-Washougal Post Record
Chinook Indian Nation
Cultural Resource Program, Cowlitz Indian Tribe
Cultural Resource Program, Yakama Indian Nation
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Clark County Public Works – Development Engineering Program
Clark County Department of Transportation
Clark County Natural Resources Council
Clark Public Utilities
Department of Ecology
Department of Fish and Wildlife, Region 5
Department of Natural Resources, SEPA Center
Southwest Clean Air Agency
US Army Corps of Engineers
Vancouver-Clark Parks and Recreation
Washington Office of Archaeology & Historic Preservation
Washington State Department of Transportation
Washington State Parks and Recreation Commission, Environmental Program
Property Owners within 300 feet *(project actions are sent the SEPA Determination & map)*

State Environmental Policy Act
Mitigated Determination of Non-Significance

CASE NO: SEPA18-26 Lacamas View Residential Care Facility

APPLICANT: BAMA Architecture – Mildred White
7350 SE Milwaukie Ave.
Portland, OR. 97202

REQUEST: The applicant proposes to construct a new 36 bed residential care facility with associated parking.

Location: **3401 NW Lake Rd. Camas, WA. 98607**

Legal Description: **NE ¼ of Section 33, Township 2 North, Range 3 East, of the Willamette Meridian; and described as tax parcel 177666-000.**

SEPA Determination: Mitigated Determination of Non-Significance (MDNS)

Comment Deadline: **June 20, 2019, at 5:00 p.m.**

As lead agency under the State Environmental Policy Act (SEPA) Rules [Chapter 197-11, Washington Administrative Code (WAC)], the City of Camas must determine if there are possible significant adverse environmental impacts associated with this proposal. The options include the following:

- DS = Determination of Significance (The impacts cannot be mitigated through conditions of approval and, therefore, requiring the preparation of an Environmental Impact Statement (EIS).
- MDNS = Mitigated Determination of Non-Significance (The impacts can be addressed through conditions of approval), or;
- DNS = Determination of Non-Significance (The impacts can be addressed by applying the Camas Municipal Code).

Published in the Post Record on June 6, 2019 Legal publication No. 212700
Posted on bulletin boards at Camas City Hall, Camas Library and on the City's website.

Determination:

Mitigated Determination of Non-Significance (MDNS). The City of Camas, as lead agency for review of this proposal, has determined that this proposal does not have a probable significant adverse impact on the environment. An Environmental Impact Statement (EIS) is not required under RCW 43.21C.030(2)(e). This decision was made after review of a completed environmental checklist, and other information on file with the City of Camas.

Date of Publication & Comment Period:

Publication date of this MDNS is **June 6, 2019**, and is issued under WAC 197-11-350. The lead agency will not act on this proposal until the close of the 14-day comment period which ends on **June 20, 2019**. Comments may be sent by email to communitydevelopment@cityofcamas.us.

SEPA Appeal Process:

An appeal of this SEPA determination and any required mitigation, must be filed with the Community Development Department within fourteen (14) calendar days following the last day of the comment period. The letter of appeal should contain the following information.

1. The case number designated by the City of Camas and the name of the applicant; and,
2. The name and signature of each person or group (petitioners) and a statement showing that each petitioner is entitled to file an appeal as described under Section 16.31.060 of the Camas Municipal Code. If multiple parties file a single petition for review, the petition shall designate one party as the contact representative with the City Planner. All contact with the City Planner regarding the petition, including notice, shall be with this contact person.

The appeal request and appropriate fee of **$383.00** must be submitted to the Community Development Department between 8:00 a.m., and 5:00 p.m., Monday through Friday, at the address listed below:

Appeal to the City of Camas SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas, Washington 98607

Responsible Official: Robert Maul (360) 817-1568

Robert Maul, Planning Manager and Responsible Official

June 6, 2019
Date of publication

Published in the Post Record on June 6, 2019 Legal publication No. 212700
Posted on bulletin boards at Camas City Hall, Camas Library and on the City's website.

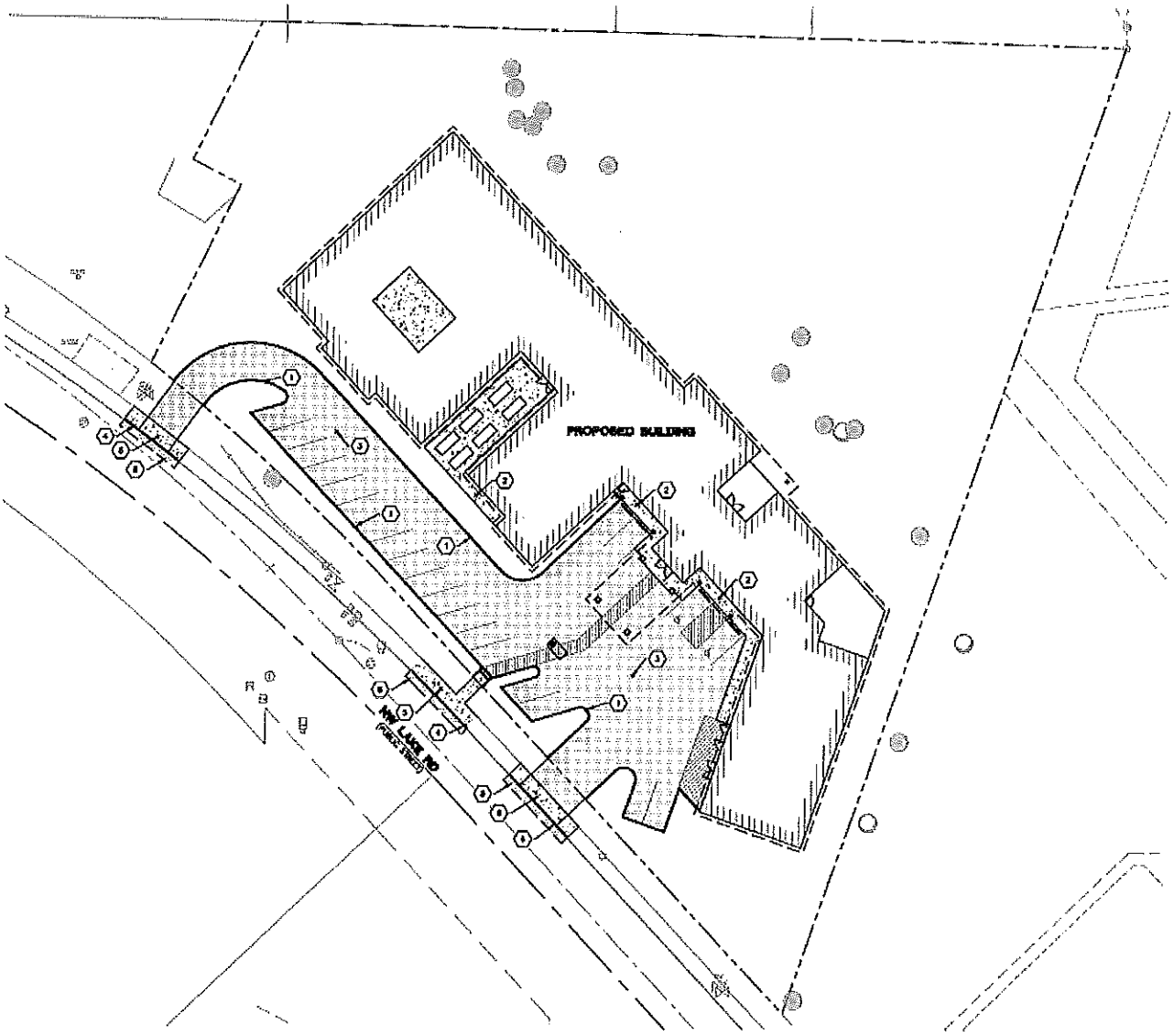
SEPA Mitigation Measures for Lacamas View Care Facility (SEPA18-26)

B. Environmental Elements

1. Earth
   Geologically hazardous areas (i.e. steep slopes) are identified with slopes at 19% in the southern portion of the property and 33% slopes on the northern portion of the property.
   a. The applicant shall retain a Geotechnical Engineer to issue a supplemental Geotechnical report that addresses the following:
      i. Describe actual stormwater treatment, detention, and discharge system, as soon as it is designed by the Civil Engineer. Stormwater shall be discharged into the existing stormwater main located in NW Lake Road. Roof drains and surface runoff shall not be directed to the slope on the north side of the property.
      ii. Describe the proposed grading plans and whether the grading is acceptable from a geotechnical standpoint.
      iii. Identify approved areas for stockpiling materials.
   b. Prior to issuance of building permit approval, the applicant shall retain a Geotechnical Engineer to perform additional subsurface explorations to better define the subsurface conditions and provide results to the City for review.
   c. Prior to engineering plan approval, the applicant shall submit a final grading plan that shows the location, height and addresses the construction of any proposed retaining walls and/or foundation piers.

Published in the Post Record on June 6, 2019 Legal publication No. 212700
Posted on bulletin boards at Camas City Hall, Camas Library and on the City's website.

Lacamas View Residential Care Facility (CUP18-02)



Published in the Post Record on June 6, 2019 Legal publication No. 212700
Posted on bulletin boards at Camas City Hall, Camas Library and on the City's website.

Lauren Hollenbeck (LH)
Senior Planner

City of Camas WASHINGTON

Community Development
616 NE Fourth Avenue • Camas, WA 98607
(360) 817-1568
http://www.cityofcamas.us

SEPA ENVIRONMENTAL CHECKLIST

UPDATED 2016

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

Community Development
616 NE Fourth Avenue • Camas, WA 98607
(360) 817-1568
http://www.cityofcamas.us

A. BACKGROUND

1. Name of proposed project, if applicable:
   - *RCF Camas*
   -
2. Name of applicant:
   - *BAMA Architecture*
3. Address and phone number of applicant and contact person:
   - *7350 SE Milwaukie Avenue,*
     Portland, OR 97202
     CONTACT: Mildred White - 503-253-4283
4. Date checklist prepared:
   - *10/27/2018*
5. Agency requesting checklist:
   - *City of Camas, WA*
6. Proposed timing or schedule (including phasing, if applicable):
   - *The project will begin construction Summer 2019.*
   - *The construction is expected to take approximately 18 months*
   - *The project is seeking approvals for a single building residential care facility.*
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
   - *There area no further development plans for the site beyond those discussed above under No. 6.*
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
   - *Site Plan Review (City of Camas)*
   - *Geotechnical Report (Rapid Soil Solutions)*
   - *Archeological Pre-determination Survey*
   - *Drainage and Stormwater Management Plan (AAI)*
9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.
   - *This SEPA Checklist is part of a Land Use application for the City of Camas.*
10. List any government approvals or permits that will be needed for your proposal, if known.
    - *City of Camas - Land Use, Engineering and Building Permits*

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)
    - *This project proposes an approximately 19,000 SF, 36 bed residential care facility with common dinning room, social and recreational areas, with associated parking, utilities and landscape.*
    - *The project site is 2.23 acres in size, although only about 50% of the property will be developed.*

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.
    - *NE1/4 Section 33, Township 2N, Range 3E.*
    - *Tax Parcel #177666000*
    - *3401 NW Lake Road, Camas, WA.*

B. ENVIRONMENTAL ELEMENTS

1. Earth

a. General description of the site
(circle one): Flat, rolling, hilly, steep slopes, mountainous,
other
- *The site is can be divided into four categories; the level yard and building area along the edge of the right-of-way, a slope descending from the rear of the existing dwelling to a private graveled road (SE 122nd Ave.), the level bench of the private graveled driveway and the forested slopes descending to the northern-most corner of the site.*

b. What is the steepest slope on the site (approximate percent slope)?
- *The steepest existing slope on site is approximately 35% (the area of the site that will not be developed).*

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.
- *The USDA Natural Resources Conservation Services Web Soil Survey classifies the soils within the subject site as primarily comprised of Hesson clay loam.*

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.
- *There are no surface indicators or known history of unstable soils on or adjacent to this site.*

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.
   - *The project site is approximately 97,139 SF / 2.23 acres.*
   - *Approximately 50% of the property will be graded to allow the construction of a residential assisted living facility, with associated parking, utilities and landscape.*
   - *The northern most corner of the property contains a steep, forested area which will not be touched. Limited intrusion for the construction of footings is the only anticipated disturbance in this area.*
   - *The project proposes a CUT volume of approximately 29 CY and a FILL volume of approximately 16,030 CY*
   - *The fill will be imported to the site from an approved source.*

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.
   - *Erosion could potentially occur as a result of grading and construction. Most of the site will have exposed soil during site grading. The duration will be limited to that which is necessary to prepare the site for construction. Standard best management practices (BMPs) including erosion control measures will be implemented during construction to minimize the potential for off-site transport of sediment. Particular attention will be paid to any exposed steep slopes.*

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?
   - Total Site = 97,138.8 SF
   - Disturbed area = +/- 48,307 SF (49.7% of the total site area)
   - *+/- SF impervious area (after construction) = 33,671 SF (+/-35% of the total site area)*

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any
   - *Erosion control measures include temporary silt fences, inlet sediment control silt sacks, standard construction entrance, plastic sheeting to protect stockpiles.*

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.
   - *Short term and temporary air emissions will be generated during demolition and construction.*
   - *Typical emissions generated during construction include diesel exhaust and dust. Odors will be produced during asphalt paving and painting.*
   - *Anticipated construction duration is 18 months.*
   - *No long term generation of air emissions are anticipated from the completed project.*
   - *Implementation of the project will not affect regional air quality such that ambient air quality standards promulgated under Chapter 173-470 Washington Administrative Code (WAC) would be exceeded.*

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
   - *No. There are no surrounding uses within 500-feet of the site that produce noxious or other pollutants that affect air quality which could impact our proposal. (Source: Google Maps and Site Investigation visit)*

c. Proposed measures to reduce or control emissions or other impacts to air, if any:
   - *Construction practices will incorporate measures to reduce windblown dust and construction equipment exhaust, such as use of water trucks and minimizing equipment idling.*

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.
   - *The closest water body is Lacamas Lake, which is located approximately 0.5 miles due east of the project site.*
   - *A Wetland Report was completed by the Potter subdivision, short plat which identified a Level 1 wetland rating. This short plat is located to the northwest of the subject site. https://www.cityofcamas.us/images/DOCS/MAPS/wetlandsmap.pdf*

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.
   - *No.*

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.
   - *Not Applicable. No fill and dredge material will be placed in or removed from surface water or wetlands.*

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.
   - *No*

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.
   - *The site does not lie within the floodplain, per State of Washington, Dept. of Ecology; Coastal Atlas website. https://fortress.wa.gov/ecy/coastalatlas/tools/FloodMap.aspx*
   - *Also as detailed in the project Drainage Report and Grading Plan.*

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.
   - *No waste materials will be discharged to surface waters.*

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.
   - *No ground water will be used.*
   - *The project will connect to the public water system.*

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.
   - *No waste water will be discharged into the ground.*
   - *The project will connect to public sewer system.*

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.
   - *A stormwater collection system which includes conveyance piping, two bioretention swales and corrugated metal pipe for stormwater retention is proposed.*
   - *Runoff will not leave the site.*
   - *Please refer to the Preliminary Technical Information report. (TIR)*

2) Could waste materials enter ground or surface waters? If so, generally describe.
   - *It is not anticipated that any waste materials will enter ground or surface waters.*
   - *Standard construction BMPs will include erosion and sediment control, and spill prevention countermeasures.*

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
   - *No significant affects to drainage patterns in the vicinity are anticipated because no water will leave the site to affect patterns in the vicinity.*
   - *We are detaining flows to meet current code.*
   - *We are utilizing the existing point of connection to the public storm system.*
   - *This can be verified via the Survey of existing conditions and the Proposed Grading Plan, as well as the Site Management Report,*

4) Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
   - Standard construction BMPs to reduce or control offsite migration of sediment or chemicals may include, but not be limited to, silt fencing, straw waddles, compost, berms, hydroseeding, and plastic sheeting.

4. Plants

a. Check the types of vegetation found on the site:
__X__deciduous tree: alder, maple, aspen, other
__X__evergreen tree: fir, cedar, pine, other
__X__shrubs
__X__grass
____pasture
____crop or grain
____Orchards, vineyards or other permanent crops.
____wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
____water plants: water lily, eelgrass, milfoil, other
__X__other types of vegetation

b. What kind and amount of vegetation will be removed or altered?
   - *Existing evergreen and deciduous trees, lawn and shrubs will be removed.*
   - *There are a total of 50 trees with a DBH greater than 8". Thirty-five of these trees are to be removed as a result of the development. Please refer to the tree density tables on L1.0.*

c. List threatened and endangered species known to be on or near the site.
   - *None.*

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
   - *As proposed, the Landscape plan includes drought tolerant plant materials including shrubs, groundcovers and the small turf area which is specified with a low water use mix.*
   - *As proposed, approximately 55% of all the specified trees and shrubs are native.*
   - *As proposed, approximately 35% of all the specified trees an shrubs are drought tolerant and 68% are evergreen.*

e. List all noxious weeds and invasive species known to be on or near the site.
   - *Per site visits (October 24, 2018), the site is over grown with blackberries, grassy weeds and ivy.*

5. Animals

a. List any birds and <u>other</u> animals which have been observed on or near the site or are known to be on or near the site. Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

- *Per a site visit (October 25, 2018), the only bird or animal of any kind observed at the site, was the American Crow, although it should be assumed that seasonal songbirds would also be present.*

b. List any threatened and endangered species known to be on or near the site.
   - *WAC 232-12-297, Sections 2.5 and 2.4 list the Washington State threatened and endangered species. Of the animals on these lists, various Gophers, the Western Grey Squirrel (threatened), Columbian White-tailed Deer, Northern Leopard Frog, Oregon Spotted Frog, Northern Spotted Owl, Streaked Horned Lark and the Taylor's Checkerspot butterfly (endangered), have been found within the general vicinity of inland, Washington.*
   - *This site is located within a relatively rural area of Washington State. There is a clustering of single-family subdivisions between the project site and Lacamas Lake. WaferTech has a large facility approximately a mile to the west of the site, just off of NW Lake Road. There is a great deal of undeveloped land in this area.*
   - *However, none of the above referenced threatened or endangered species or evidence of presence have been observer at the site.*

c. Is the site part of a migration route? If so, explain.
   - *Yes, the Pacific Flyway extends through Washington State. However, the site does not include significant habitat elements that would attract migrating species. Additionally, the Lacamas Lake is located within a mile of this site, which would provide a much more attractive habitat for migrating birds.*
   - *However, per the Audubon Washington IBA Program, the City of Camas area, and Lacamas Lake specifically is not identified as an important bird area.*

d. Proposed measures to preserve or enhance wildlife, if any:
   - *The project proposes leaving approximately 50% of the site in it's current/natural state. This area is densly populated with evergreen trres, which could provide habitat for various wildlife.*

e. List any invasive animal species known to be on or near the site.
   - *Per the WISE (Washington Invasive Species Education) list, available on their website, https://wise.wa.gov/invasivespecies/index.aspx, only a few invasive animals are tracked in Washington State. These are the Feral Swine and Nutria, however, neither of these were observed on-site.*

6. Energy and natural resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.
   - *The completed project will require electricity and natural gas.*
   - *No manufacturing is proposed.*

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.
   - *The portion of the site which will be developed, is a long linear strip of the site (east - west),abutting the NW Lake Road right-of-way, with tall evergreen trees (to remain) to the north and east. The existing trees currently impact solar access tot he north and east. The proposed single story structure will produce virtually no additional impacts to solar access by adjacent properties.*

c. What kinds of energy conservation features are included in the plans of this proposal?
   List other proposed measures to reduce or control energy impacts, if any:
   - *The project proposes high insulation, window standards, and ductless mini units for residential heating and cooling.*

7. Environmental health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe.
   - *This proposal will not result in any environmental health hazards such as exposure to toxic chemicals, risk of fire and explosion, spill or hazardous waste.*

1) Describe any known or possible contamination at the site from present or past uses.
   - *The property is currently vacant and there is no mention of contaminants found during the soils investigation or Archaeological Survey.*

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.
   - *No known existing hazardous chemicals/conditions have been identified that might affect the proposed project.*
   - *There are no underground hazardous liquid or gas transmission pipelines in the immediate vicinity.*

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.
   - *No toxic or hazardous chemicals will be stored, used or produced by this project.*
   - *Normal construction material and chemicals will be onsite for use during construction*

4) Describe special emergency services that might be required.
   - *The project will not require any special emergency services.*

5) Proposed measures to reduce or control environmental health hazards, if any:
   - *Standard construction BMPs will include spill prevention and cleanup kits which will be kept onsite during construction.*

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?
   - *Minimal traffic noise is anticipated from adjacent street. however, this will have no impact on this project.*

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.
   - *Construction activities will generate additional temporary, short term noise during normal daylight construction hours.*
   - *Because all operations will take place within the proposed building, long term noise will be minimal.*
   - This is not a manufacturing use or industrial use.

3) Proposed measures to reduce or control noise impacts, if any:
   - *Construction equipment will include noise-muffling devices. No other noise reduction or control measures are anticipated to be necessary for the project.*

8. Land and shoreline use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.
   - *The site is currently developed with a single family home structure, a shop and a barn.*
   - *The property is zoned Residential (R-10)*
   - *The semiconductor fabrication plant (Wafer Tech LLC) is located less than a mile from the site.*
   - *The land adjacent to t he southwest of the site is currently a vacant grassy field with some trees. The properties surrounding the subject site on all other sides are zoned R-7.5, R-10 and R-15. These are all low and medium density single family home districts.*
   - *The proposal is not anticipated to affect current or future land uses on nearby or adjacent properties.*

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?
   - *The project site has been developed and used as a single family home. It is not being used as working farmland or working forest land, and shows no indication of having been used as such.*

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:
   - *There are no working farm or forest farming business within the immediate vicinity of this property, therefore, this does not apply.*

c. Describe any structures on the site.
   - *The site is currently developed with a single family home (the home is vacant/boarded closed), a detached garage structure and a old dilapidated wooden barn.*

d. Will any structures be demolished? If so, what?
   - *All three structures will be removed.*

e. What is the current zoning classification of the site?
   - *Residential (R-10)*

f. What is the current comprehensive plan designation of the site?
   - *Residential (SFM)*

g. If applicable, what is the current shoreline master program designation of the site?
   - *This is not applicable to the project site. There is no shoreline master program designation associated with this site.*

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.
   - *The site does not contain critical area classifications.*

i. Approximately how many people would reside or work in the completed project?
   - *It is anticipated that 3 people will work at the residential care facility*
   - *A maximum total of 36 people will reside at the residential care facility.*

j. Approximately how many people would the completed project displace?
   - *The project site currently contains a vacant single family home, therefore no one will be displaced.*

k. Proposed measures to avoid or reduce displacement impacts, if any:
   - *None needed.*

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
   - *This project proposes retaining a large steeply sloped area of mature evergreen trees which separate and buffer this development from the existing single family subdivisions to the north and east.*

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any:
   - *None needed.*

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
   - *The project proposes a 49 bed residential care facility, aimed at middle income users.*

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

- *The project site contains a single home. However, the structure is vacant, dilapidated and boarded up.*
- *The home most likely provided middle income housing. Existing, surrounding housing developments appear to be upper-middle income housing.*

c. Proposed measures to reduce or control housing impacts, if any:

- *None needed.*

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

- *The project proposes a building that will be approximately 26-feet in height.*
- *The street facing facade will be brick, Hardi-panel, and a possible accent horizontal wood siding. The rear of the building will be Hardi-lap, and brick.*

b. What views in the immediate vicinity would be altered or obstructed?

- *None of the views in the immediate vicinity will be impacted by this development of this residential care facility.*
- *This project will fit in with the surrounding development very nicely.*

c. Proposed measures to reduce or control aesthetic impacts, if any:

- *None needed*

11. Light and glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

- *The project will not produce significant glare. Proposed site lighting will be the minimal required for safety. There will be minimal exterior evening or night use.*

b. Could light or glare from the finished project be a safety hazard or interfere with views?

- *No*

c. What existing off-site sources of light or glare may affect your proposal?

- *The project does not anticipate being affected by off-site light or glare.*
- *Street lighting and car head lights may produce insignificant levels of light and glare.*

d. Proposed measures to reduce or control light and glare impacts, if any:

- *None needed.*

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?
   - *The Lacamas Heritage trail runs along the west side of Lacamas Lake.*
   - *There is also a large triangular, densely wooded piece of land to the south east of the subject site, which is designated as Open Space on the City of Camas's Zoning map. www.cityofcamas.us/images/DOCS/MAPS/zoningmap.pdf*

b. Would the proposed project displace any existing recreational uses? If so, describe.
   - *No recreational opportunities would be displaced by the proposed development.*

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:
   - *There are no public recreational opportunities provided on-site. A small outdoor courtyard will be developed for use by the residents of the facility.*

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe.
   - *Of the current listings on the National Register of Historic Places in Clark County, Washington, which are 45 years old or older, none are closer than 3 miles to this project site, the closest being the John Roffler House located at 1437 NE Everett Street in Camas WA. . https://en.wikipedia.org/wiki/National_Register_of_Historic_Places_listings_in_Clark_County,_Washington.*

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.
   - *Clark County routes all development review applications for review through the Department of Archeology and Historical Preservation. Additional research on the DAHP website revealed no indication of any landmarks, features, or other evidence of Indian or historic use on or near this site.*
   - *A Archeological Site Survey will be completed with results forwarded to DAPH as part of the Land Use application process.*

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.
   - *Research on DAHP website which included review of both 'A Field Guide to Washington State Archeology' and the 'Washington Statewide Archaeological Predictive Model Report'.*
   - *Additional internet research of American Indian burial ground in the Pacific NW.*
   - *The City of Camas Archaeological Probability map designates the subject site that has a Low-Moderate (20 - 40 percent) Archaeological Probability.*

     http://www.ci.camas.wa.us/images/DOCS/MAPS/archaeologicalmap.pdf

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.
   - *None at this time.*

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.
   - *The project abuts and takes access from NW Lake Road, which is an Arterial road with 3 motor vehicle travel lanes, including a continuous two-way left turn lane that becomes a dedicated left turn lane at intersections.*
   - *The project proposes 2 driveway access points. The proposed eastern access is entrance-only and the western access is exit-only.*

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?
   - *The site is not served by public transportation.*

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?
   - *This project proposes 13 parking spaces. Currently the site facilitates parking for a single family residence. Therefore, the project will not eliminate any public parking spaces.*

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d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).
   - *NW Lake Road is fully improved with curb, gutter, sidewalks and planter strips. No such off-site (public) improvements are required or proposed.*

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.
   - *No.*

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates?
   - *The development is anticipated to generate 66 daily, 1 AM peak hour, and 5 PM peak hour net new motor vehicle trips.*
   - *Development trip generation was determined using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition*

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.
   - *There are limited agriculture and forest products being moved though this area, therefore, there will be no significant impacts.*

h. Proposed measures to reduce or control transportation impacts, if any.
   - *There are no measures proposed or needed to reduce transportation impacts at this time.*

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.
   - *It is not anticipated that this project will increase the need for any public service.*

b. Proposed measures to reduce or control direct impacts on public services, if any.
   - *There are no measures proposed or needed to reduce impacts on public services.*

16. Utilities

a. Circle (highlight/bold) utilities currently available at the site:
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.
   - *Water and Sewer services are both provided by the City of Camas. The project proposed connecting to the existing public water and sewer lines.*
   - *Electrical lines appear to be underground along NW Lake Road. There are several mechanical boxes along the frontage which will be accommodated or moved as required by the construction of the project.*

Community Development
616 NE Fourth Avenue • Camas, WA 98607
(360) 817-1568
http://www.cityofcamas.us

C. SIGNATURE

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____

Name of signee: Beth Zaunar

Position and Agency/Organization: Land Use Planner / AAI

Date Submitted: 10/28/2018

EXHIBIT 22

SWCAA
Southwest Clean Air Agency

11815 NE 99th Street, Suite 1294
Vancouver, WA 98682
(360) 574-3058
www.swcleanair.org

June 18, 2019

Attn: City of Camas, SEPA Official
Community Development Department
616 NE Fourth Avenue
Camas WA 98607

RE: Lacamas View Residential Care Facility; SEPA18-26

Dear SEPA Official:

The Southwest Clean Air Agency (SWCAA) was recently notified that your agency has issued/will issue a SEPA Determination for the above project. Please be advised that SWCAA administers/enforces a number of regulations that may apply to the proposed project. The applicability of these regulations depends on the exact nature of the project in question. The following sections provide brief summaries of the requirements for the general types of activity that may be affected by this project.

Demolition / Asbestos [SWCAA 476]:

- Prior to **demolition or renovation** of a structure, a thorough asbestos inspection must be conducted by an AHERA-certified inspector in order to determine the presence of asbestos containing material (ACM) in all affected structure(s) or area(s).
  A copy of the AHERA asbestos inspection report must be posted for viewing at the project site.

Asbestos Containing Material PRESENT	Asbestos Containing Material NOT PRESENT
If the asbestos inspection reveals ACM to be present in the affected structure(s) or area(s) – *Required documents/reports:* (for each structure) • **Notification of Demolition** • **Notice of Intent to Remove Asbestos** • **AHERA asbestos inspection report** There is a 10-calendar day waiting period from the time the notices are submitted before asbestos removal or structure demolition may begin. All asbestos must be completely removed from the affected structure(s) or area(s) prior to structure demolition taking place. ACM must be removed by certified personnel in full accordance with the Southwest Clean Air Agency's Regulations SWCAA 476 (Standards for Asbestos Control) and with 40 CFR Part 61 Subpart M (National Emission Standards for Asbestos).	**If the asbestos inspection does not reveal ACM to be present in the affected structure(s) or area(s)…** **…and the structure is to be demolished –** *Required documents/reports:* • **Notification of Demolition** • **AHERA asbestos inspection report** There is a 10-calendar day waiting period from the time the notification is submitted before the demolition may begin. **…and the project involves only renovation and that renovation does not involve the removal of load bearing walls –** *Required documents/reports:* none

Construction Dust [SWCAA 400: General Regulations for Air Pollution Sources]:

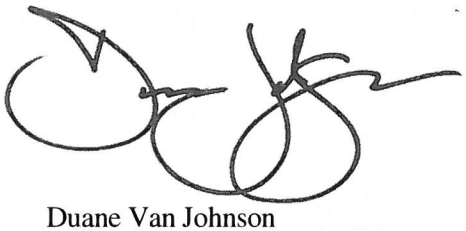
- Construction and earthmoving activities have the potential to generate excessive dust emissions if reasonable control measures are not implemented. SWCAA Regulation 400-040(2) requires that "no person shall cause or permit the emission of particulate matter from any stationary source to be deposited beyond the property under direct control of the owner or operator of the stationary source in sufficient quantity to interfere unreasonably with the use and enjoyment of the property upon which the material is deposited". Furthermore,

SWCAA Regulation 400-040(8)(a) requires that "the owner or operator of any source of fugitive dust shall take reasonable precautions to prevent fugitive dust from becoming airborne and shall maintain and operate the source to minimize emissions".

- Common control measures to mitigate the emission of dust from construction and earthmoving activities include: application of water before and during earthmoving operations, application of water to disturbed surface areas (including access roads and staging areas) after earthmoving operations, application of chemical dust control products and/or surfactants, limiting access to open/disturbed areas, reducing equipment/vehicle speeds, establishing vegetative cover on inactive areas and ceasing operations altogether during high wind events.
- Violations of SWCAA Regulation 400-040 may result in civil penalties being assessed against the project operator and/or property owner.

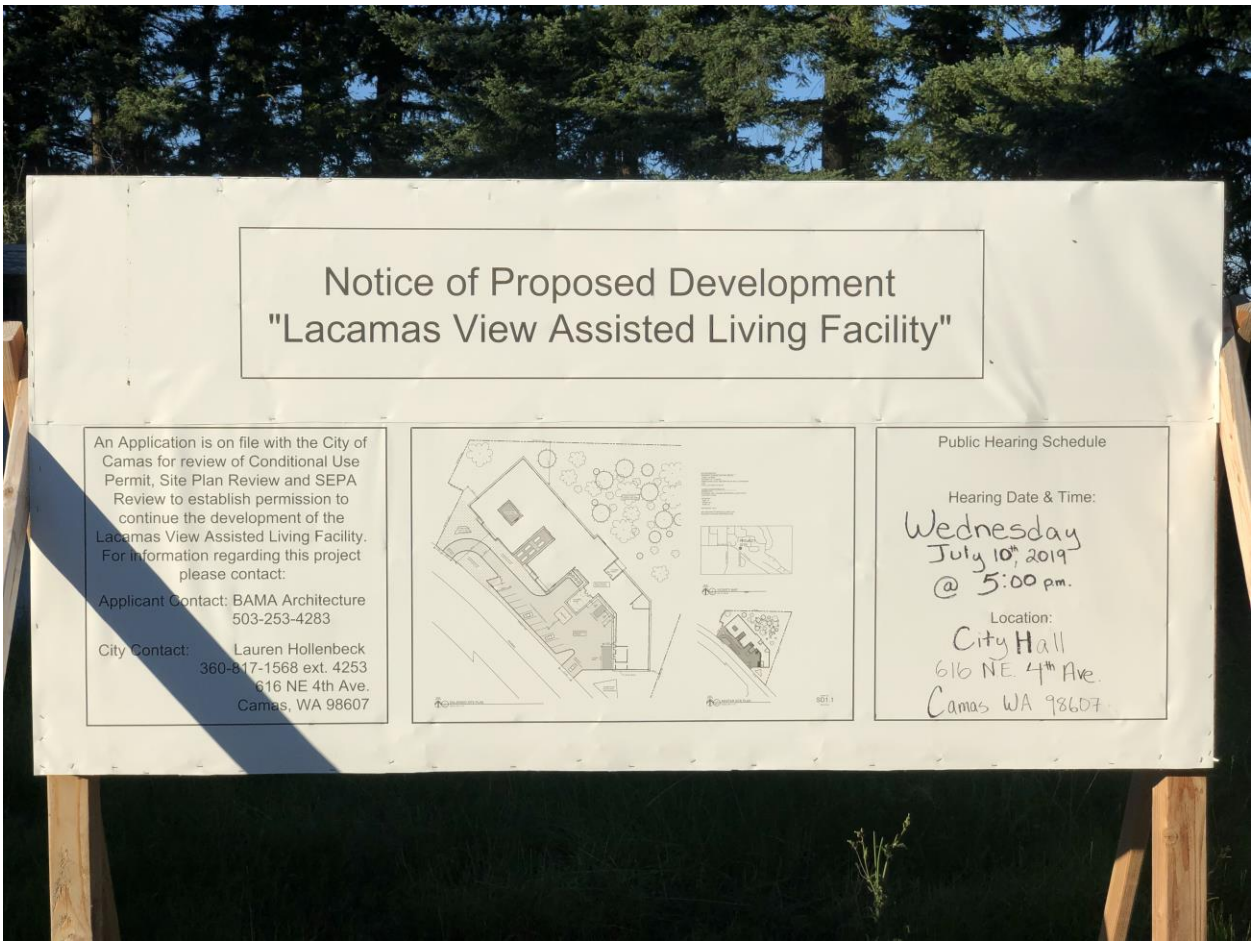
The proponent of this project may contact SWCAA at 360-574-3058 for more information regarding the agency's requirements. Notification forms, permit applications, agency regulations and other information are available on the internet at **http://www.swcleanair.org** .

Sincerely,



Duane Van Johnson
Air Quality Specialist II

EXHIBIT 23


Notice of Proposed Development
"Lacamas View Assisted Living Facility"
An Application is on file with the City of Camas for review of Conditional Use Permit, Site Plan Review and SEPA Review to establish permission to continue the development of the Lacamas View Assisted Living Facility. For information regarding this project please contact:
Applicant Contact: BAMA Architecture 503-253-4283
City Contact: Lauren Hollenbeck 360-817-1568 ext. 4253 616 NE 4th Ave. Camas, WA 98607
Public Hearing Schedule
Hearing Date & Time:
Wednesday July 10th, 2019 @ 5:00 pm.
Location:
City Hall 616 NE 4th Ave. Camas WA 98607

November 26th, 2018

Mildred White
BAMA Architecture and Design
7350 SE Milwaukie Ave.
Portland, OR 97202
mildred@bamadesign.com

RE: Lacamas View Residential Care Facility (CUP18-02)

Dear Mildred White,

Thank you for your application submittal for the Lacamas View Residential Care Facility. There are items that remain to be addressed with your application. The purpose of this letter is to inform you that the above application submitted on November 1st, 2018, has been deemed incomplete in accordance with Camas Municipal Code (CMC) Section 18.55.130. You have 180 days from the date of application to submit the missing information pursuant to CMC 18.55.130.C. If the below requested information is submitted, staff will again verify whether the application is complete.

Items necessary for completeness:

1. Per CMC 18.55.110(H), Prior to an application being deemed complete and Type III applications are scheduled for public hearing, the applicant shall post one four-foot by eight-foot sign per road frontage. The sign shall be attached to the ground with a minimum of two four-inch by four-inch posts or better. An example is attached. Provide proof of posting via email.
2. Per CMC 16.31.100.A and CMC 16.31.160, provide proof the archaeological predetermination report was sent to the State Department of Archaeology and Historic Preservation (DAHP) and the tribes.
3. The tree survey shall include an assessment of the tree health, a recommendation for preservation or removal and an evaluation of hazardous trees per CMC 18.13.045 (c-e).
4. A color rendering of the building and material samples for the Design Review Committee.

Other preliminary project issues noted by staff to be addressed:

1. Throughout all of the application materials, the proposal is referred to as a Residential Care facility. As stated in the pre-application notes and defined by code, a Residential Care facility serves no more than 15 persons. However, **your proposal includes serving more than 16 persons, which is defined as an Assisted Living facility and should be referenced as such.**
2. Per CMC 18.11.130, one off-street parking space is required per 2 beds including one off-street parking space per day shift employee. How many day shift employees are there? Your SEPA indicates 15 people will be employed.
3. Per CMC 18.18.040.E, the circulation plan should show how the traffic flows (i.e. one-way?) and the pedestrian circulation from the building to the right-of-way.
4. The grading plan needs to show the height and location of any proposed retaining walls.
5. Per the Fire Marshall's office, a full coverage fire sprinkler system including the attics will be required.
6. As noted in the pre-application notes, a deviation request from complying with the minimum

access spacing requirement is required.

7. Your proposal includes infiltration, rather than discharging into the stormwater system in Lake Road, which is not acceptable. While the Geotechnical report discussed not hitting groundwater in their test wells, the report does not address any potential down slope issues that might impact the residents at the bottom of the steep slope. There have already been ground water complaints.
8. Revise TIS to remove references to Clark County and City of Vancouver.
9. Stormwater detention & treatment is per latest Ecology SWMMWW (2014), not the City 2016 manual (this doesn't exist).
10. Fully address Min. Requirement #5, List #2 for on-site stormwater management (Vol. 1, Chapter 2, Page 57).
11. Provide an Erosion Control Bond and obtain an NPDES Construction Stormwater General Permit.

Please note, additional comments will be provided during further review of your application. If you have any questions, please contact me at (360) 817-7253.

Respectfully,

Lauren Hollenbeck

Lauren Hollenbeck
Senior Planner

EXHIBIT 25

City of Camas
WASHINGTON
Community Development Department

Mildred White
BAMA Architecture and Design
7350 SE Milwaukie Ave.
Portland, OR 97202
Sent via email:
mildred@bamadesign.com
peteremmaanca@gmail.com

February 8, 2019

RE: Lacamas View Residential Care Facility (file #CUP18-02)

Dear Mildred White,

The purpose of this letter is to inform you that the above application submitted on November 1, 2018 has been deemed complete in accordance with Camas Municipal Code (CMC) Section 18.55.130. Staff will begin reviewing the application and contact you should we have questions/comments.

If you have any questions, please contact me at (360) 817-7237.

Sincerely,

Madeline Sutherland,
Assistant Planner

EXHIBIT 26

Community Development Department

Notice of Application

Lacamas View Residential Care Facility

File No. CUP18-02, DR18-11, SEPA18-26

"NOTICE IS HEREBY GIVEN" that an application for "Lacamas View Residential Care Facility" a 36 bed residential care facility with associated parking requesting a conditional use permit approval was received on November 1, 2018, and deemed technically complete on February 8, 2019. A public hearing is required for the Conditional Use Permit, and will be scheduled at a later time. A separate public notice will be mailed to all property owners within 300-feet of the subject development and published in the Post Record.

LOCATION: The 2.23 acre site is zoned single-family residential (R-10) and located at 3401 NW Lake Road in the NE 1/4 of Section 33, Township 2 North, Range 3 East; Camas, WA. Parcel Number includes 177666000.

APPLICATION MATERIALS: The application included the following: project narrative, geotechnical report, traffic study and circulation plan, SEPA checklist, stormwater report, tree survey, preliminary plans, building renderings and other required submittal documents. These documents are available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8am-5pm.

Questions/Comments: For questions related to this application, please contact Lauren Hollenbeck, Senior Planner, at (360) 817-1568 or by email at communitydevelopment@cityofcamas.us.

Published in the Post Record on February 14, 2019 Legal Publication # 139400
Posted at Camas City Hall, Camas Library, City of Camas web site at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on February 14, 2019

CUP18-02 Lacamas View Residential Care Facility

EXHIBIT 27

300ft neighbor mailing list

ALBRAHIM JABER S & ALBRAHIM
3229 NW Lake Pl
CAMAS WA, 98607

ANCA PETRISOR & ANCA EMANUELA
PO BOX 87651
VANCOUVER WA, 98687

ASHCRAFT DAVID
3222 NW 59TH CIR
CAMAS WA, 98607

BAY ADAM DENNIS
5528 NW JACKSON LOOP
CAMAS WA, 98607

BUNCH JACOB M
5631 NW JACKSON ST
CAMAS WA, 98607

BURNETT JENNIFER C & BURNETT
5830 NW INGLEWOOD CT
CAMAS WA, 98607

CRAIG ROBERT & CRAIG KIMBERLY
3228 NW 59TH CIR
CAMAS WA, 98607

CRILL SUSAN
5542 NW JACKSON LOOP
CAMAS WA, 98607

FAIRBROTHER WINSTON J &
5829 NW Hood St.
CAMAS WA, 98607

FILUK BLAIR & WHITTAM KARLI
5904 NW INGLEWOOD CT
CAMAS WA, 98607

FOREST GLEN HOMEOWNERS
7200 NE 41ST ST
VANCOUVER WA, 98665

GRANT BRYAN C & GRANT ELIZABETH
5827 NW INGLEWOOD CT
CAMAS WA, 98607

HEIL PHILIP E & HEIL NANCY P
5903 NW INGLEWOOD CT
CAMAS WA, 98607

JANG WEL-MING & LIN YUN-CHIEN
5534 NW JACKSON LOOP
CAMAS WA, 98607

JENSEN JOSHUA G & JENSEN KELLIE N
3231 NW 59TH CIR
CAMAS WA, 98607

JOHNSON ANDREAS MICHAEL &
3233 NW Hood Ct
CAMAS WA, 98607

KAMENKO DARKO & KAMENKO
5524 NW JACKSON LOOP
CAMAS WA, 98607

KNIGHT CHAD K
5751 NW HOOD LP
CAMAS WA, 98607

KORUM GEORGE M IV & KORUM
5905 NW JACKSON CT
CAMAS WA, 98607

KYNE ROBERT & KYNE AMI
3239 NW HOOD LOOP
CAMAS WA, 98607

LACAMAS GROVE HOMEOWNER
6228 NW EL REY DR
CAMAS WA, 98607

LAKE HILLS HOA
4822 SW SCHOLLS FERRY RD
PORTLAND OR, 97225

LARKSPUR ESTATES HOMEOWNERS
4317 NE THRUSTON WAY #100
VANCOUVER WA, 98662

LEGG MATTHEW R & LEGG CAROLYN
3220 NW HOOD CT
CAMAS WA, 98607

LEONARDI JOSEPH R & LEONARDI
5918 NW INGLEWOOD CT
CAMAS WA, 98607

LITTLE CARL J & LITTLE JANA L P
3443 NW LAKE RD
CAMAS WA, 98607

LYMAN JUSTIN & LYMAN ELIZABETH
5805 NW HOOD ST
CAMAS WA, 98607

MACDONALRD AARON GARRETT &
5831 NW JACKSON CT
CAMAS WA, 98607

MALLETT CLIFTON GEORGE &
5915 NW Jackson Ct.
CAMAS WA, 98607

MCENRY GEORGIA
5619 NW JACKSON ST
CAMAS WA, 98607

MENDOZA EDWIN F & ORTEGA
5753 NW HOOD LP
CAMAS WA, 98607

NAIDU RAJ & NAIDU BEATRIZ
3231 NW LAKE PL
CAMAS WA, 98607

NW LAKE LLC
27606 NE 182ND AVE
BATTLE GROUND WA, 98604

PICULELL ARTHUR C JR & PICULELL
9808 NW 2ND AVE
VANCOUVER WA, 98665

REIMER CHRISTINE E & REIMER MARC
5823 NW INGLEWOOD COURT
CAMAS WA, 98607

SCHUCK HENRY L & SCHUCK JESSICA
3210 NW HOOD CT
CAMAS WA, 98607

SERHAN MARVIN T & SERHAN LAURIE
5835 NW INGLEWOOD CT
CAMAS WA, 98607

SHOEMAKER WARREN & BECKER
5547 NW JACKSON ST
CAMAS WA, 98607

SILVA RYAN J & SILVA SUMMER L
5915 NW INGLEWOOD CT
CAMAS WA, 98607

STANCHFIELD JASON & STANCHFIELD
5826 NW INGLEWOOD CT
CAMAS WA, 98607

STERN DIANE & STERN MARC
3221 NW LAKE PL
CAMAS WA, 98607

STINE MATTHEW
5535 NW JACKSON ST
CAMAS WA, 98607

SUNDBY BERNICE & SUNDBY MICHAEL
5525 NW JACKSON LOOP
CAMAS WA, 98607

SUSI DOMINIC & SORENSEN BRYTEN
5791 NW HOOD LP
CAMAS WA, 98607

TAYLOR RICK & TAYLOR ANGIE
3228 NW HOOD CT
CAMAS WA, 98607

TRACHUK ROMAN & TRACHUK SOPHIA
3234 NW HOOD CT
CAMAS WA, 98607

WAFERTECH LLC
5509 NW PARKER ST
CAMAS WA, 98607

WALTERS JERRY B & WALTERS
3515 NW LAKE RD
CAMAS WA, 98607

WAX CHRISTOPHER M & WAX MANDY
5523 NW JACKSON ST
CAMAS WA, 98607

WHITE PATRICK M & WHITE DEENA M
5611 NW JACKSON ST
CAMAS WA, 98607

ZEITHAML BRIAN J & ZEITHAML
5838 NW INGLEWOOD CT
CAMAS WA, 98607

ZHANG ZHUNIAN & PIAO JING
3221 NW HOOD CT
CAMAS WA, 98607

EXHIBIT 28

Community Development Department

Notice of Public Hearing

Lacamas View Residential Care Facility

File No. CUP18-02

A public hearing will be held on **Wednesday, July 10, 2019 at 5:00 p.m.,** or soon thereafter, before the City's Hearings Examiner to consider the conditional use permit application for the Lacamas View Residential Care Facility. The public hearing will be held at City Hall, 616 NE 4th Avenue, Camas, WA 98607. The applicant proposes to construct a 36 bed residential care facility with associated parking and landscaping. The 2.23-acre site is located at 3401 NW Lake Road in the NE ¼ of Section 33, Township 2 North, Range 3 East; Camas, WA. Parcel Number includes 177666000. The application was determined technically complete on February 8, 2019.

Questions/Comments: The public hearing will follow the quasi-judicial process described within Camas Municipal Code §18.55.180. Comments related to this development may be submitted as follows: (1) In person by testifying at the public hearing; (2) by regular mail to Community Development Department staff, Lauren Hollenbeck, Senior Planner, at Camas City Hall, 616 Northeast Fourth Avenue, Camas, WA 98607; (3) by phone at (360) 817-7253; or (4) by email to: communitydevelopment@cityofcamas.us. It is preferable that written comments be received at least five working days prior to the public hearing, in order to be available with the online agenda and materials. After the agenda has been posted online, all other written comments must be received no later than noon (12:00 p.m.) the day of the hearing, in order for those comments to be handed to the Hearings Examiner by Staff. Written and oral comments may also be submitted in person during the hearing.

Application Materials: The application included the following: project narrative; environmental studies; engineering reports, and site development plans, as required for a complete application pursuant to Camas Municipal Code (CMC) §18.55.110. The application materials are also available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8 a.m-5 p.m.

Participate: All citizens are entitled to have equal access to the services, benefits and programs of the City of Camas. Please contact the **City Clerk at (360) 817-1591** for special accommodations if needed. The City will provide translators for non-English speaking persons who request assistance at least three working days prior to a public meeting or hearing.

More Information: The public hearing agenda and supporting documents will be available for review on the City's website at the "Minutes, Agendas & Videos" link within the drop-down menu that is labeled "Your Government" or follow this link: http://www.cityofcamas.us/yourgovernment/minuteagendavideo.

Published in the Post Record on June 20, 2019 [Legal Publication #221500]
Posted at Camas City Hall, Camas Library, City of Camas web site at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on June 19, 2019

Excerpt from Conditional Use Permit Application
Lacamas View Residential Care Facility (File #CUP 18-02)

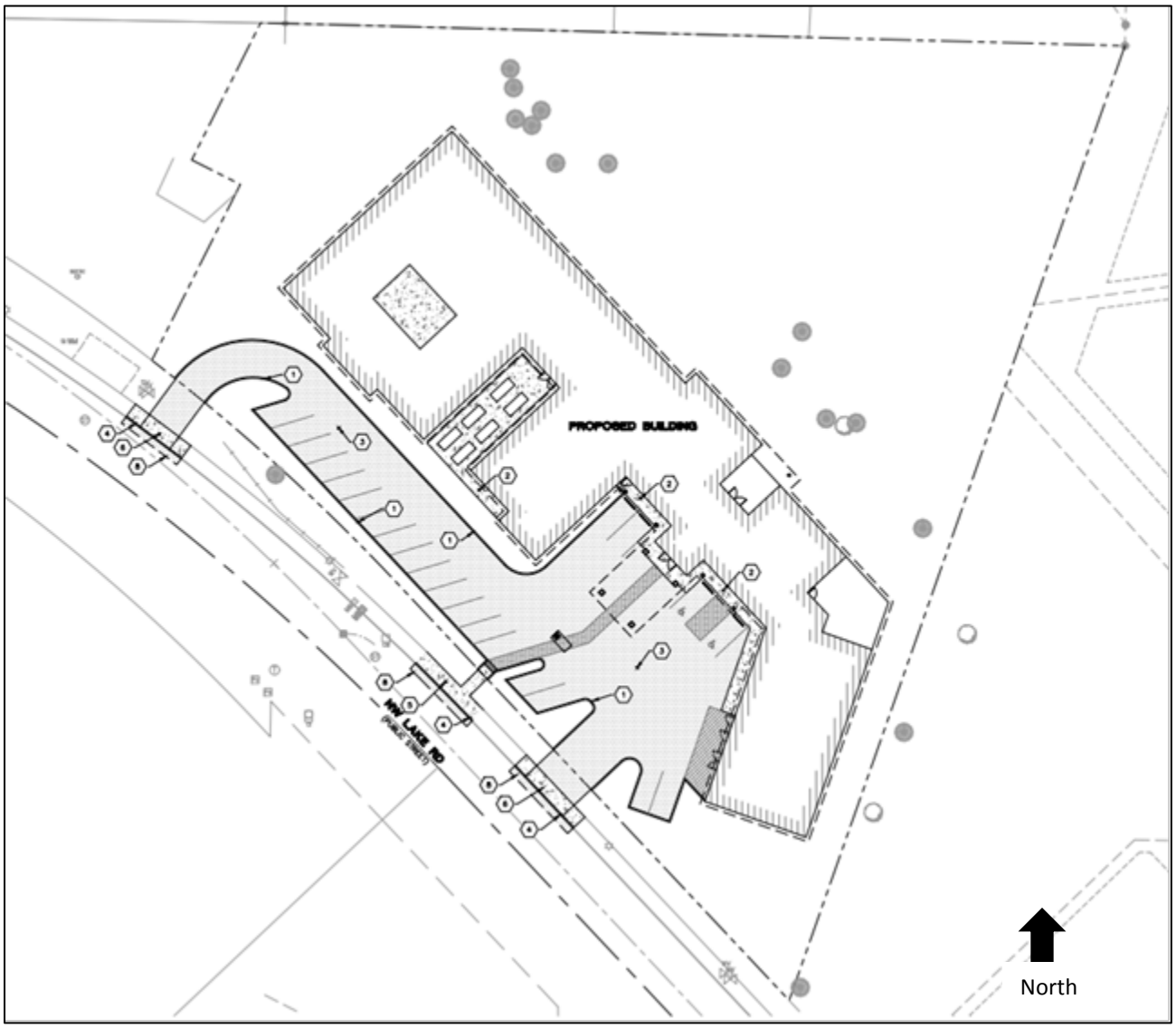
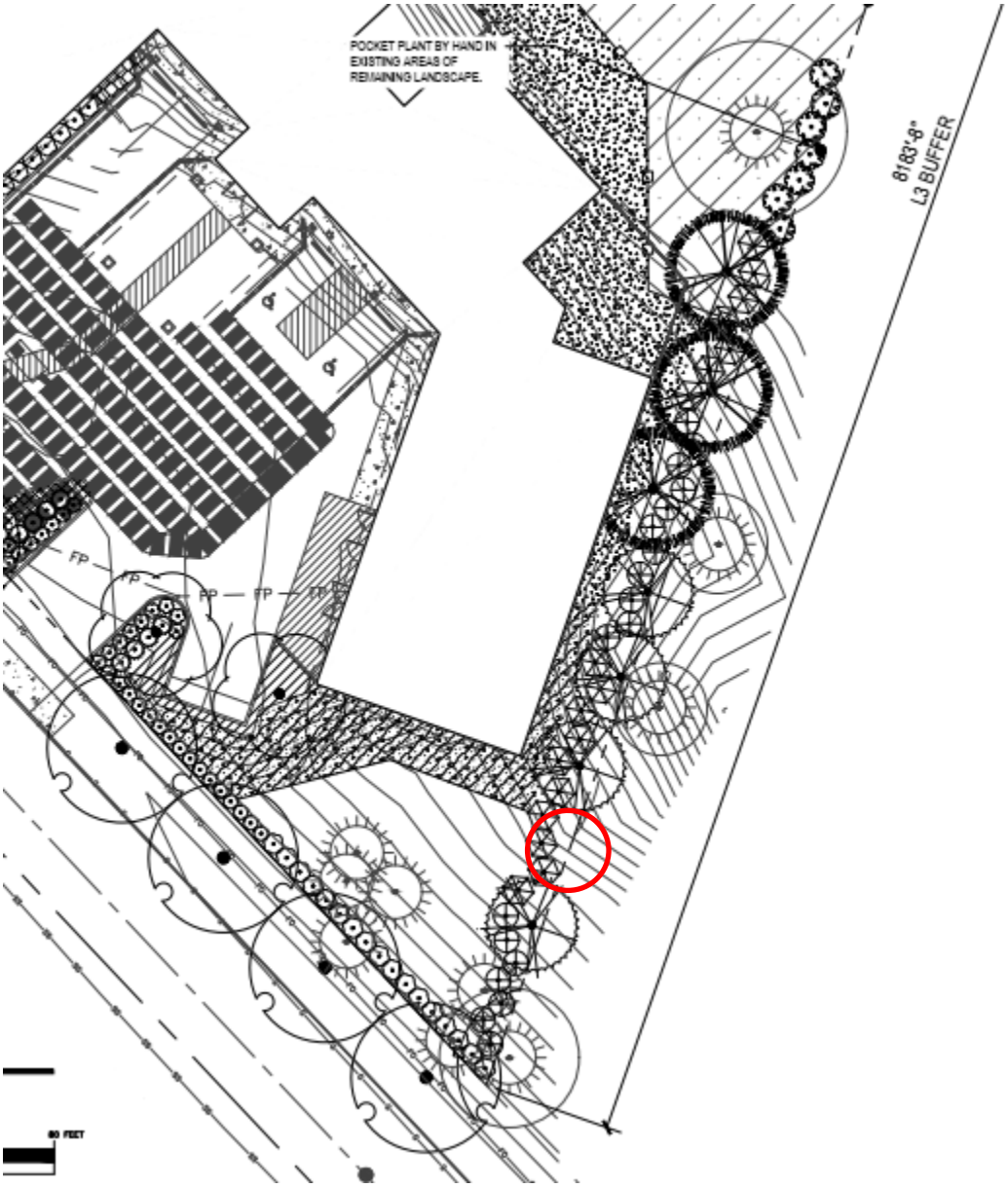


EXHIBIT 31


POCKET PLANT BY HAND IN EXISTING AREAS OF REMAINING LANDSCAPE.
8183'-8"
L3 BUFFER
FP
FP
FP
FP
FP
60 FEET

Index of Exhibits for Lacamas View Residential Care Facility (CUP18-02)

Exhibit	Title	Date
1	Application	11/1/2018
2	Revised Applicant's Narrative	5/13/2019
3	Vicinty Map	7/1/2019
4	Pre-Application Report	4/19/2018
5	Original Development Plans	11/1/2018
6	Revised Site Plan	5/13/2019
7	Revised Civil Plans	5/13/2019
8	Revised Landscape Plans	5/13/2019
9	Building Elevations and Floor Plan	11/1/2018
10	Building Rendorings and Materials	11/1/2018
11	Exterior Lighting Specifications	11/1/2018
12	Revised Arborist Report & Tree Removal and Protection Plan	5/11/2019
13	Revised Traffic Report	2/8/2019
14	Stormwater Infiltration Report	9/27/2018
15	Revised Stormwater Report	5/13/2019
16	Revised Geotechnical Report	4/12/2019
17	Earth Engineers Inc (EEI) Geotechnical Review #1	3/6/2019
18	EEI Geotechnical Review #2	5/22/2019
19	City Staff TIR and Geotechnical Review	4/8/2019
20	Rapid Soil Solution Response to EEI Review #1	4/12/2019
21	SEPA Mitigated Determination Non Significance and Checklist	6/6/2019
22	SWCAA_SEPA comment	6/18/2019
23	Development Sign	12/1/2018
24	Incompleteness Review Letter	11/26/2018
25	Completeness Review Letter	2/8/2019
26	Notice of Development Application	2/14/2019
27	Mailing Labels for Property Owners	2/14/2019
28	Notice of Public Hearing	6/20/2019
29	DAHP_SEPA comment *[exempt from public disclosure RCW 42.56.300]*	6/19/2019
30	Archaeological Report [*exempt from public disclosure RCW 42.56.300]*	9/19/2018
31	Landscape revision	7/2/2019

STAFF REPORT
Lon Combs duplex
CUP19-01
(Related files: BLA18-03, SEPA18-23, CA18-14)
Type III
Staff Report Date: July 3, 2019

TO:	Hearings Examiner	HEARING DATE:	July 10, 2019
PROPOSAL:	To request conditional use approval to construct a duplex residential structure on a single-family residential lot		
LOCATION:	The site is located at 1605 NW Drake Street in the NE ¼ of Section 10, Township 2 North, Range 3 East, of the Willamette Meridian; and described as tax parcel #85148000		
APPLICANT/OWNER:	Lon Combs 7905 NE 173rd Avenue Vancouver, WA 98682		
APPLICATION SUBMITTED:	March 12, 2019	APPLICATION COMPLETE:	April 8, 2019
STATE ENVIRONMENTAL POLICY ACT (SEPA):	The City issued a SEPA Mitigated Determination of Non-significance (MDNS) October 18, 2018 (SEPA File# SEPA18-23). Legal publication #54230.		
PUBLIC NOTICES:	Notice of Application was mailed to property owners within 300 feet of the site and published in the Post Record on April 18, 2019. Legal publication #182370. Notice of public hearing was mailed to property owners June 19, 2019 and published in the Post Record on June 20, 2019. Legal publication #221490.		

APPLICABLE LAW: The application was submitted **on March 12, 2019**, and the applicable codes are those codes that were in effect at the date of application. Camas Municipal Code Chapters (CMC): Title 16 Environment, Title 17 Land Development; and Title 18 Zoning; Specifically (not limited to): Chapter 17.19 Design & Improvement Standards; Chapter 18.07 Use Authorization; Chapter 18.09 Density and Dimensions; Chapter 18.11 Parking; Chapter 18.13 Landscaping; Chapter 18.19 Design Review; Chapter 18.43 Conditional Use Permits; and Chapter 18.55 Administrative Provisions.

CONTENTS

SUMMARY

The applicant has proposed to construct a duplex on an 8,400 square foot vacant lot zoned Single-Family Residential (R-7.5). Duplex developments are an allowed use subject to conditional use permit approval per CMC 18.07.040- Table 2.

The property abuts the west side of NW Drake Street. Adjacent properties are also zoned R-7.5 with a mix of styles, sizes and densities (i.e. single-family and multi-family). The application materials include photos of surrounding properties and a map of nearby multifamily properties (Exhibit 8). There is a fourplex located directly to the southeast and several duplexes east of the property off of NW 17th Avenue. The duplex properties within the nearby neighborhood are approximately 6,000 square feet.

The project received previous approval from the City on October 18, 2018 for a Boundary Line Adjustment (BLA18-03), Critical Areas Review- geologically hazardous areas (CA18-14) and SEPA (SEPA18-23). A copy of this decision is attached as (Exhibit 9).

The property is characterized by steep slopes that was previously forested. Based on the recorded survey (Exhibit 10), a conservation tract (recording number 5582729) is located west of the property and no structure is allowed to be placed 25-feet of the east line of the conservation tract.

FINDINGS

Title 18 Zoning

CONDITIONAL USE PERMIT (CUP19-01)	CMC CHAPTER 18.45

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

CMC 18.03.040 Definitions, defines duplex as *"a structure containing two dwelling units on one lot."* The applicant has proposed a structure with two dwelling units, which is consistent with this definition. The project is a development in a single-family zone, but is a use than can be conditionally allowed.

The Applicant's narrative further states the building will be designed in compliance with current building code and geotechnical engineer report prepared for the proposed development.

FINDING: The proposed development as a duplex is allowed with approval of a conditional use permit per CMC Chapter 18.07 Use Authorization and will not be detrimental to the public or adjacent uses given the existing uses in the vicinity.

B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;

Development standards at CMC 18.09.040 Tables 1 and 2, for a single family lot include building setback minimums, maximum height standards, and maximum building lot coverage standards. Parking and landscaping requirements are found in CMC Chapter 18.11 and 18.13, respectively. There are also specific building design standards for duplexes within CMC Chapter 18.19 Design Review and the Camas Design Review Manual discussed in further detail below of this staff report.

Setbacks

Building setbacks are based on lot sizes per CMC 18.09.040 Table 2. The proposed lot size is approximately 8,500 square feet. The setback standards for a lot that is between 5,000 sq. ft. and 11,999 sq. ft. are as follows: Front yard is 20-feet; Side yard is 5-feet; Rear yard is 25-feet. Further, no structure is permitted within the 25-foot rear yard per the recorded survey (See Exhibit 10). The applicant's proposed site plan demonstrates compliance with these setback requirements (Exhibit 5).

Parking

New and expanded commercial uses must provide adequate off-street parking pursuant to CMC Chapter 18.11.130 *Standards*. A "duplex" use requires two off-street parking spaces per unit. The floor plan (Exhibit 7) indicates each garage includes two parking spaces, including two parking spaces within the driveway, and therefore meets this requirement.

Landscaping

Per the landscape plan, the applicant is proposing a tree in the front yard of each dwelling unit in compliance with CMC 17.19.030.F.1 which states, *"Each dwelling unit within a new development shall be landscaped with at least one tree in the planting strip of the right-of-way, or similar location in the front yard of each dwelling unit, with the exception of flag lots and lots accessed by tracts. Required trees shall be a minimum two-inch diameter at breast height (dbh) to create a uniform streetscape (dbh is four and one-half above the ground as measured from upside of tree)".* The proposed tree in front of each unit complies within this standard.

[Landscape buffers]:

The proposal must also comply with the applicable landscaping standards in CMC Chapter 18.13. The applicant has focused the planting areas within the front yard adjacent to the driveways (Exhibit 6). Per CMC 18.13.055(A) Table 1- Landscape Buffers, a 5-foot (L1) landscape buffer is required for multi-family uses (i.e. duplexes) abutting residentially zoned property. Residentially zoned properties abut the subject site to the north and south. The preliminary landscape plan shows lawn in those areas. For compliance with this standard, trees and shrubs should be provided per CMC 18.13.055.B.1 or a fully sight-obscuring fence be installed per CMC 18.13.055.B.4.b and conditioned as such. A conservation tract (recording number 5582729) containing steep slopes and existing vegetation is located at the rear (west) property line and as such a landscape buffer at this location is not required.

[Tree Density/Tree Survey]:

Trees are not proposed for removal for the duplex. However, Per CMC 18.13.051(A) Table 1- Required Tree Density, a minimum of 20 tree units (TU) per net (developable) acre is required to be incorporated into the overall landscape plan. The property is 0.19 acres and as such requires three tree units. The applicant includes two Dogwood trees and one Cherry tree to meet this requirement.

A final landscape plan consistent with the landscaping standards in CMC Chapter 18.13 and the Camas Design Manual planting specifications and landscape notes should be submitted to the City for review and approval prior to engineering plan approval. Irrigation and landscaping should be installed or bonded for prior to final acceptance and conditioned as such.

> **FINDING:** Staff finds the proposed development as conditioned can or will meet the development standards that are required in the zoning district.

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;

Traffic and Pedestrian Circulation

[Roads]

NW Drake Street is a local road that was originally constructed in the early 1900's. The right-of-way on NW Drake Street varies from 20-feet to 40-feet from NW 12th Avenue north to NW 17th Avenue. The section of NW Drake Street fronting the proposed development is one of the segments consisting of a 20-foot right-of-way with a 12-foot wide paved surface between NW 16th Avenue and NW 17th Avenue that consists of existing curb on the west side with curb and sidewalk on the east side. Additionally, there is a regulatory sign at the corner of NW 16th Avenue and NW Drake Street that reads "*Caution One-Lane Road Vehicles Must Yield To Oncoming Traffic Before Proceeding*".

> **FINDING:** Due to the extremely low traffic counts and the current signage for northbound traffic at NW 16th Avenue, the City Engineer recommends approval of the deviation from the standard City street section.

Dedication of additional rights-of-way will not be required, however, the applicant will be conditioned to construct a curb tight sidewalk along the frontage, replace any worn or damaged curb along the frontage, construct an ADA compliant curb ramp on the west side with a new ADA compliant receiving curb ramp on the east side, remove the existing non-compliant curb ramp on the northeast corner of NW 16th Avenue and replace with a standard sidewalk section, and construct an ADA compliant receiving curb ramp on the southeast corner of NW 16th Avenue. Due to the existing narrow roadway 'No Parking' signs are to be installed on both sides of the roadway and conditioned as such.

> **FINDING:** Staff finds that the right-of-way requirements discussed above, as conditioned, are feasible and compatible with the neighboring properties.

Density, Building and Site Design

The subject property is located in a residential neighborhood with a mix of designs and densities to include several duplexes and fourplexes (Exhibit 7). The design of the building is influenced by the existing character of the neighborhood to include architectural features and materials consistent with that of a residential use. The design of the building is discussed in further detail below.

> **FINDING:** The development design is generally compatible with the surrounding land uses.

[Water]:

There is an existing 10-inch steel water main located on the west side of NW Drake Street. Applicant is proposing to provide two individual services to be tapped at the main for each unit. The Applicant will be required to extend these services to the right-of-way and install a double detector check valve and water meters and will be conditioned as such. All lines beyond the meters will be privately owned and maintained by the Applicant.

[Sanitary Sewer]:
There is an existing sanitary manhole at the intersection of NW Drake Street and NW 16th Avenue. The manhole is at the beginning of the 8-inch gravity sewer main located in NW 16th Avenue. There is an existing 6-inch sewer lateral that extends from the sanitary manhole to the right-of-way.

The applicant is proposing to extend the existing 6-inch sewer line west and outside of the right-of-way, in order to provide sanitary laterals to the new development. The extended sewer line, which will be located outside of the City's right-of-way, is to be placed in an easement with ownership and maintenance to be the responsibility of the property owner and will be conditioned as such.

[Stormwater]:
The proposed improvements are less than 5,000 sq. ft. of impervious surface, therefore treatment and detention are not required. However, the applicant has not indicated any provisions to provide for roof downspout control. Stormwater from downspouts is not to be directed onto adjoining parcels. Prior to final engineering approval, the applicant is to provide for roof downspout controls in accordance with Ecology's latest edition of the Stormwater Management Manual for Western Washington (SWMMWW) and conditioned as such.

> **FINDING:** Staff finds that, as conditioned, adequate provisions for water, sanitary sewer, and stormwater to the site can be provided.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

The proposed use as a duplex should, if designed properly, blend into the surrounding neighborhood. Staff has proposed conditions in regard to landscape and roadway improvements that should mitigate any potential adverse impacts of the project.

> **FINDING:** Staff has proposed conditions of approval to minimize potential adverse impacts.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

The citywide land use policy, Policy LU-1.3 requires compatibility of use and design of the surrounding and built environment for new development. Also, policy LU-1.5, states, *"Where compatible with surrounding uses, encourage redevelopment or infill development to support the efficient use of urban land*." The proposed project being a duplex supports the policy of "efficient use of urban land".

Policy H-1.6, states, *"Encourage in-fill development on vacant or underutilized sites, subject to design review guidelines, that have adequate urban services, and ensure that the development is compatible with the surrounding neighborhood."* Analysis of the surrounding neighborhood is provided within the Applicant's submittal. Staff finds that the in-fill development is compatible.

> **FINDING:** Staff finds the development is consistent with the comprehensive plan.

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan;

> **FINDING:** After conducting a public hearing and deliberating over the evidence, the Hearings Examiner may include any additional conditions or criteria necessary to carry out the intent of the CMC and the Comprehensive Plan.

According to CMC18.19.050, *"The principles are provided in the DDM or DRM are mandatory and must be demonstrated to have been satisfied in overall intent in order for approval of a design review application to be granted. Standard principles shall apply to all commercial, mixed use, or multifamily uses. Specific principles are used in addition to the standard principles for gateways and corridors, commercial, mixed uses, and multifamily (e.g. apartments, townhomes, **duplexes**)."*

CMC§18.19.050 (A) Standard Principles.

1. Landscaping shall be done with a purpose. It shall be used as a tool to integrate the proposed development into the surrounding environment.

FINDING: Landscaping should be provided to visually screen and buffer the use from adjoining less intense uses including parking. As such, a 5-foot landscape buffer is required to buffer the adjacent single-family residences along the northern and southern property lines to include trees and shrubs with groundcover and grass in between consistent with CMC 18.13.055 Table 1 Landscape buffers. Landscaping is provided along the site's frontage NW Drake Street. Landscaping should consist of native, low maintenance plantings.

2. All attempts shall be made at minimizing the removal of significant natural features. Significant natural features shall be integrated into the overall site plan.

FINDING: The site does not have any mature landscaping or trees. The site grading will be minimal and will comply with the 25-foot setback from the conservation tract as discussed above.

3. Buildings shall have a "finished" look. Any use of panelized materials shall be integrated into the development in a manner that achieves a seamless appearance.

FINDING: The proposed duplex is architecturally designed with a 3-story "tuck under" garage and shed style roof. The elevation drawings include fiber cement siding at the garage door level, board and batten at the main floor, and metal siding at the upper floor which are carried to all sides of the building that exhibit a seamless appearance (Exhibit 7). Color and material samples were not provided with the application therefore should be submitted to the City for review and approval prior to building permit approval.

4. A proposed development shall attempt to incorporate or enhance historic/heritage elements related to the specific site or surrounding area.

FINDING: The surrounding area has been residentially developed and no other historic elements are warranted.

CMC§18.19.050 (B) Specific Principles, Subsection (3) Multifamily

c. Duplex, Triplex and Four-Plex.

i. Garages shall account for less than fifty percent of the front face of the structure. Garages visible from the street shall be articulated by architectural features, such as windows, to avoid a blank look.

FINDING: The sides of the building visible from the street are articulated with wrapped windows and differing panel siding between the floors to avoid a blank look. The garages doors will have windows and are less than 50% of the front façade.

CONCLUSION

Based on the above findings and discussion provided in this staff report, staff concludes the conditional use permit application for the Combs Duplex (File # CUP19-01) should be approved, because it does or can comply with the applicable standards if all of the conditions of approval are met.

RECOMMENDATION

Staff recommends APPROVAL of the Combs Duplex (Consolidated File #CUP19-01) subject to the following conditions of approval in addition to the conditions of the Consolidated Decision (File Nos. SEPA18-23, CA18-14 and BLA18-03).

STANDARD CONDITIONS OF APPROVAL

1. Site improvement plans for work within the right-of-way; street, water, sanitary sewer and stormwater improvements shall be prepared in accordance with Camas Design Standards Manual (CDSM) and City Standards.
2. The plans shall be prepared by a licensed civil engineer in Washington State and submitted to the City's Engineering Department for review and approval.
3. A 3% construction plan review and inspection fee shall be required for all civil site work for this development. The fee will be based on an engineer's estimate or construction bid. The specific estimate will be submitted to the City's Engineering Department for review and approval. The fee shall be paid prior to the construction plans being signed and released to the applicant. Under no circumstances will the applicant be allowed to begin construction prior to approval of the construction plans.
4. Regulations for installation of public improvements, improvement agreements, bonding, final platting, and final acceptance shall be found in CMC 17.21.
5. In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease and the applicant shall notify the Public Works Department and DAHP.
6. The applicant shall remove all temporary erosion prevention and sediment control measures from the site at completion of all site improvements, including stabilization of all disturbed soil, unless otherwise directed by the Public Works Director.
7. Final as-built construction drawing submittals shall meet the requirements of CMC 17.01.050 and the Camas Design Standards Manual (CDSM) for engineering as-built submittals.

SPECIAL CONDITIONS OF APPROVAL

8. The following setbacks shall apply to the duplex: Front yard 20-feet, Side yard 5-feet, Rear yard 25-feet. No structure is permitted within the 25-foot rear yard per recorded survey (recording number 5582729).
9. Prior to engineering plan approval, a final landscape plan consistent with the landscaping standards in CMC 18.13.050 and the Camas Design Manual planting specifications shall be submitted to the city for review and approval to include the following but not limited to:
    a. A 5-foot landscape buffer is required to buffer the adjacent single-family residences along the northern and southern property lines to include trees and shrubs with

groundcover and grass in between consistent with CMC 18.13.055 Table 1 *Landscape buffers* or a 6-foot high fully sight-obscuring fence shall be installed per CMC 18.13.055.B.4.b.

10. The approved landscaping shall be maintained in a manner as to ensure plant survival for three years after installation. If plantings fail to survive, they must be replaced promptly.
11. Landscaping and irrigation shall be installed or bonded for prior to final acceptance.
12. The applicant shall construct a 5-ft. wide curb tight sidewalk along the frontage, construct an ADA compliant curb ramp on the west side with an ADA compliant receiving ramp on the east side, and replace any worn or damaged curb along the frontage.
13. The applicant shall install 'No Parking' signs on both sides of the roadway between NW 16th Avenue and NW 17th Avenue.
14. The applicant shall extend the water services to the right-of-way and install a double detector check valve and water meters. All lines beyond the meters will be privately owned and maintained.
15. The extended sewer line, which will be located outside of the City's right-of-way, is to be placed into an easement with ownership and maintenance to be the responsibility of the property owner.
16. The applicant shall provide for roof downspout controls in accordance with Ecology's latest edition of the Stormwater Management Manual for Western Washington (SWMMWW), prior to final engineering approval.
17. Prior to building permit approval, a sample of building materials and colors shall be submitted to the City for review and approval.
18. Windows shall be installed in the garage doors to avoid a blank look.
19. This permit shall expire in two years of the date of the final decision per CMC§18.55.260, if no building plans are submitted.
20. The conditions of approval of the Consolidated Decision (File Nos. SEPA18-23, CA18-14 and BLA18-03) shall be complied with.

EXHIBIT 1

City of Camas WASHINGTON

Community Development Department | Planning
616 NE Fourth Avenue | Camas, WA 98607
(360) 817-1568
communitydevelopment@cityofcamas.us

General Application Form

Case Number: CUP19-01

Applicant Information

Applicant/Contact:: Lon Combs — Phone: (360) 253-7810

Address: 7905 NE 173rd ave — loncombs@icloud.com
Street Address — *E-mail Address*

Vancouver, WA — 98682
City — *State* — *ZIP Code*

Property Information

Property Address: 1605 NW Drake St — Tax Lot 85148000
Street Address — *County Assessor # / Parcel #*

Camas — WA — 98607
City — *State* — *ZIP Code*

Zoning District: Residential-7,500 (R-7.5) — Site Size: 8,500 sq ft

Description of Project

Brief description:

Would like a conditional use permit to build a Duplex on the lot

Are you requesting a consolidated review per CMC 18.55.020(B)? YES ☐ NO ☐

Permits Requested: ☐ Type I ☐ Type II ☐ Type III ☑ Type IV, BOA, Other

Property Owner or Contract Purchaser

Owner's Name: Combs, Lon (Last, First) — Phone: (360) 253-7810

E mail Address: Street Address: 7905 NE 173rd ave — Apartment/Unit #

City: Vancouver — State: WA — Zip: 98682

Signature

I authorize the applicant to make this application. Further, I grant permission for city staff to conduct site inspections of the property.

Signature: [signature] **Date:** 3/6/19

Note: If multiple property owners are party to the application, an additional application form must be signed by each owner. If it is impractical to obtain a property owner signature, then a letter of authorization from the owner is required.

Date Submitted: 3-12-19 — Pre-Application Date:

Staff: — Related Cases # — ☐ Electronic Copy Submitted

$3483.00 #481429
Validation of Fees

Revised: 01/22/2019

EXHIBIT 2

R. Lon Combs *Memo*

Date: 3/12/19
No. of pages: 1
US Fax: 360-253-7811
Email: lcombs@ienterjapan.com

7905 NE 173rd Ave., Vancouver, WA USA 98682 Tel: 360-253-7810

Commuinity Development Department
Camas, WA 98607

RE: Request for Conditional Use Permit for Duplex in single family zone

This is to formally request a Conditional Use Permit to build the attached duplex at the lot located at 1605 NW Drake street in Camas. This duplex is being built for my married children to give them a start in home ownership in Camas. In preparation for this request we prepared the following details for your review:

1. Extra care was taken to make sure the proposed duplex will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which it will be situated. This was accomplished by designing a new structure that up to date with building codes. It was designed with the site in mind to make good use of the slopes and both structural engineers and a geotech were used to ensure the safety of the structure.

2. As a part of the above goal, we have worked hard to meet or exceed the development standards that are required in the zoning district where the duplex will be located. This includes designing a simple modern structure with a shed roof—as drawn in the attached renderings. Also, there is more than adequate off-street parking both within and in front of the garage This will accommodate two cars in each garage and two parking places infront of the garage—for a capacity of 8 cars with the off-street parking.

3. The proposed duplex is compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design. Even with the zoning restriction being for single-family homes, there are no less than 7 duplexes and 4 fourplexes in the neighborhood—see attached GIS map with their nearby locations indicated and pictures.

4. As directed by the city of Camas, measures have been taken to minimize the possible adverse impacts that the duplex may have on the area in which it will be located. This includes landscaping to screen the use and trees, shrubs and grass cover at least 10% of the site area with the goal of minimizing the impacts.

5. The proposed use is consistent with the goals and policies expressed in the comprehensive plan. This includes:

a. It is a creative way to meet the City's in-fill goals and make efficient use of a larger older lot with two family residences.
b. It is an efficient way to expand housing diversity and affordability.
c. Provides housing for varied economic segments and helps with the availability of affordable housing to economic segments of the population.
d. It also helps with the promotion of a variety of residential densities and housing types.

Regarding the required administrative design review, we have worked hard to accomplish the following:

1. Landscaping was designed to integrate the proposed development into the surrounding environment. This was accomplished by using trees, grass and shrubs that match the surrounding landscapes.

2. We have minimized the removal of significant natural features by separating a large portion of the back of the lot and turning it into a conservation tract.

3. Significant natural features have been integrated into the overall site plan by retaining much of the natural slope and natural vegetation on the back of the lot.

4. As depicted in the attached drawings, the building will have a finished look and will add to the quality of the neighborhood.

5. Garages account for less than 30% percent of the front face of the duplex. Garages visible from the street as shown will be articulated the architectural features of windows, to avoid a blank look that the city does want.

Thank you for your consideration of the above you I look forward to your guidance and support as we move forward with this project.

Sincerely,

Lon Combs

VICINITY MAP

1605 NW Drake Street

Pre-Application Meeting Notes
Combs / Hochhalter Duplex
File PA 18-11

Thursday, February 1, 2018
Public Works Conference Room
616 NE Fourth Avenue, Camas, WA 98607

Applicant: Lon Combs
4601 NE Ingle Road
Camas, WA 98607

Property Owner: Ben and Juanita Hochhalter
2718 NW Fargo St
Camas, WA 98607

Representing City of Camas: Sarah Fox, Sr. Planner
Randy Miller, Fire Marshal
Norm Wurzer, Engineer
Bob Cunningham, Building Official

Location: Terminus of NW 16th Ave and intersection of NW Drake Street

Tax Accounts: 85146-000 (33,541 sq. ft. lot)
85148-000 (23,958 sq. ft. lot)

Zoning: R-7.5

Description: Applicant proposes to build a single family home on one lot and a duplex on the other lot

NOTICE: Notwithstanding any representation by City staff at a pre-application conference, staff is not authorized to waive any requirement of the City Code. Any omission or failure by staff to recite to an applicant all relevant applicable code requirements shall not constitute a waiver by the City of any standard or requirement. [CMC 18.55.060 (C)] This pre-application conference shall be valid for a period of 180 days from the date it is held. If no application is filed within 180 days of the conference or meeting, the applicant must schedule and attend another conference before the City will accept a permit application. [CMC 18.55.060 (D)] Any changes to the code or other applicable laws, which take effect between the pre-application conference and submittal of an application, shall be applicable. [CMC 18.55.060 (D)]. **A link to the Camas Municipal Code (CMC) can be found on the City of Camas website, http://www.cityofcamas.us/ on the main page under "Business and Development".**

PLANNING DIVISION — Sarah Fox | 817-7269

Applicable codes for this development include Title 16 Environment, Title 17 Land Development, and Title 18 Zoning of the Camas Municipal Code ("CMC"). The applicant is responsible for reviewing the code and addressing the applicable provisions. A duplex development in a single family zone requires Conditional Use Permit approval.

Type III Permit	Fee
Conditional Use Permit	$3167 + $99/per unit
Design Review – minor	$401
Critical Areas	
SEPA	

Application Materials:

1. **General application** materials are listed at CMC18.55.110 (A through G).

   Include a site plan with the applicable setbacks, building footprint and elevations. New construction must meet the following setbacks (based on lot sizes of over 15,000 square feet):

   - Front setbacks: 30 feet
   - Rear setbacks: 35 feet
   - Side setbacks: 15 feet
   - Maximum building coverage is 40% of lot area

2. A development sign will need to be installed on the property, which is within view of the road. The sign must be four feet by eight feet and remain on site until a decision has been rendered. An example is included at the end of this report.
3. Arborist report. The site has mature trees and as such, an arborist report should be included that will assess the condition of the trees, distance to future development, and their ability to remain. Refer to CMC Section 18.31.080 Tree Preservation.
4. Critical Areas and SEPA (there are slopes 25-40% at the back of the property. There should be notes in regard to these requirements (added 8/2018)

~~3.~~5. **Conditional Use Permit (CUP).** The duplex requires a CUP, which includes a public hearing before the city's Hearings Examiner. The public hearings are scheduled as needed and require a minimum of two week notice prior to the hearing date.

The application narrative must include a response to the CUP approval criteria at CMC§18.43.050 Criteria (A through F, below). *"The hearings examiner shall be guided by all of the following criteria in granting or denying a conditional use permit:*

A. The proposed use will not be materially detrimental to the public welfare, or injurious to the property or improvements in the vicinity of the proposed use, or in the district in which the subject property is situated;

B. The proposed use shall meet or exceed the development standards that are required in the zoning district in which the subject property is situated;

Note: Development standards applicable to a duplex include describing the building style and site plan. Also indicate where parking is provided on the site. Duplexes must include two (2) off-street parking spaces per unit. Per CMC18.11.100, "*Residential off-street parking space shall consist of a parking strip, driveway, garage, or a combination thereof, and shall be located on the lot they are intended to serve*."

C. The proposed use shall be compatible with the surrounding land uses in terms of traffic and pedestrian circulation, density, building, and site design;

Note: Application should include photos of surrounding properties. Narrative should describe surrounding homes and how the proposal will be compatible.

D. Appropriate measures have been taken to minimize the possible adverse impacts that the proposed use may have on the area in which it is located;

Note: Conditional uses must provide landscaping to screen the use per CMC18.13.020, "*For conditional uses permitted in residential and multifamily districts... the standards for landscaping will be the same as the landscaping standards in community commercial zones."* This means that the development must include landscaping of trees and shrubs for 10% of the site area with the intent to minimize impacts of the development.

E. The proposed use is consistent with the goals and policies expressed in the comprehensive plan;

F. Any special conditions and criteria established for the proposed use have been satisfied. In granting a conditional use permit the hearings examiner may stipulate additional requirements to carry out the intent of the Camas Municipal Code and comprehensive plan.

~~4.~~6. **Design Review (Minor).** The duplex requires administrative design review approval. There are specific principles that must be included in the design of the duplex. Submit elevation drawings of the exterior of the structure, along with material and colors.

The requirements from Chapter 18.19 Design Review include:

- Landscaping should integrate the proposed development into the surrounding environment.
- Minimize the removal of significant natural features. Significant natural features shall be integrated into the overall site plan.
- Buildings shall have a "finished" look.
- Garages shall account for less than fifty percent of the front face of the structure (linear measurement). Garages visible from the street shall be articulated by architectural features, such as windows, to avoid a blank look

BUILDING DIVISION — Bob Cunningham | 817-1568

1. The structures will be reviewed under the most current building codes as adopted by the State of Washington.
2. The duplex shall be constructed in accordance with section R302.3 of the international Residential Code.

3. A geotechnical engineer's report shall be required, the report shall address the stability of the slope, the location/placement of the structures and any potential impacts to the ROW above.
4. The structural drawings and calculations shall be prepared and stamped by a Professional Engineer licensed by the State of Washington.
5. Required fire distance between buildings and from property line
6. The code required fire suppression system shall be in accordance with IRC and other applicable codes standards and shall be reviewed and permitted by the Camas Fire Marshal's office.
7. System Development Charges and Impact fees shall be assessed prior to permits
8. Storm sewer disposal/connections
9. Verify Water and sewer availability with the public works department
10. Storm water from existing developments that slope towards the newly proposed developments should be taken into consideration.

ENGINEERING DIVISION — Norm Wurzer | 817-1561

Streets:

- Construction plans shall be prepared by a licensed Washington State engineer in accordance with City of Camas standards.
- A 3% plan review and inspection fee will be required. The fee will be based on an engineer's estimate or construction bid for site work.
- Construction activities within the Right-of-Way shall be performed by licensed and bonded in the State of Washington contractor and will require an encroachment permit.
- The applicant shall install an ADA compliant sidewalk full length of street frontage (both lots).
- The applicant to install two ADA ramps opposite of existing ramps on NW Drake.
- The applicant will be responsible for all traffic control signs, street name signs, pavement markings and street lighting per CMC 17.19.030 (I) (J). This may include but is not limited to "One Way" and "No Parking".

Storm-water:

- Per CMC 14.02 stormwater treatment and runoff control, if triggered (5,000 SF of impervious surface), shall be designed in accordance with the 2014 (or latest edition) Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.

Utilities:

- The applicant will be responsible for the design and submittal of the utility plan showing the locations for all underground utilities.

Water:

- There is a 10" Steel water mainline on NW Drake.

Sanitary:

- There is an 8" gravity sewer manhole at the west end of NW 15th, 16th and 17th.

- Applicant to submit a sanitary tie-in plan to the city for review and approval prior to starting work.

2018 Impact Fees and System Development Charges (2018 SDCs)

Duplex;

TIF	$ 4,628.00 (South, Duplex both sides)
School Impact Fee	$ 5,371.00 (Camas, X 2)
¾" Water System SDC	$ 4,778.00 (South X 2)
Water Meter install Fee	$ 380.00 (X 2)
Sewer SDC	$ 2,493.00 (South X 2)
Park/O.S. Impact Fee	$ 4,580.00 (South, Duplex both sides)
Fire Impact Fee	$ 0.20/SF

Single family;

TIF	$ 3,233.00 (South)
School Impact Fee	$ 5,371.00 (Camas)
¾" Water System SDC	$ 4,778.00 (South)
Water Meter install Fee	$ 380.00
Sewer SDC	$ 2,493.00 (South)
Park/O.S. Impact Fee	$ 2,290.00
Fire Impact Fee	$ 0.20/SF

FIRE MARSHAL Randy Miller | 834-6191

1) 13D Residential Fire Sprinklers Required in all new dwellings.
2) Confirm with your fire sprinkler contractor the supply line size required prior to any underground work.
3) Addressing to be clearly visible from the street for each residence.
4) Contact the FMO at 360-834-6191 or FMO@cityofcamas.us if you have any questions.

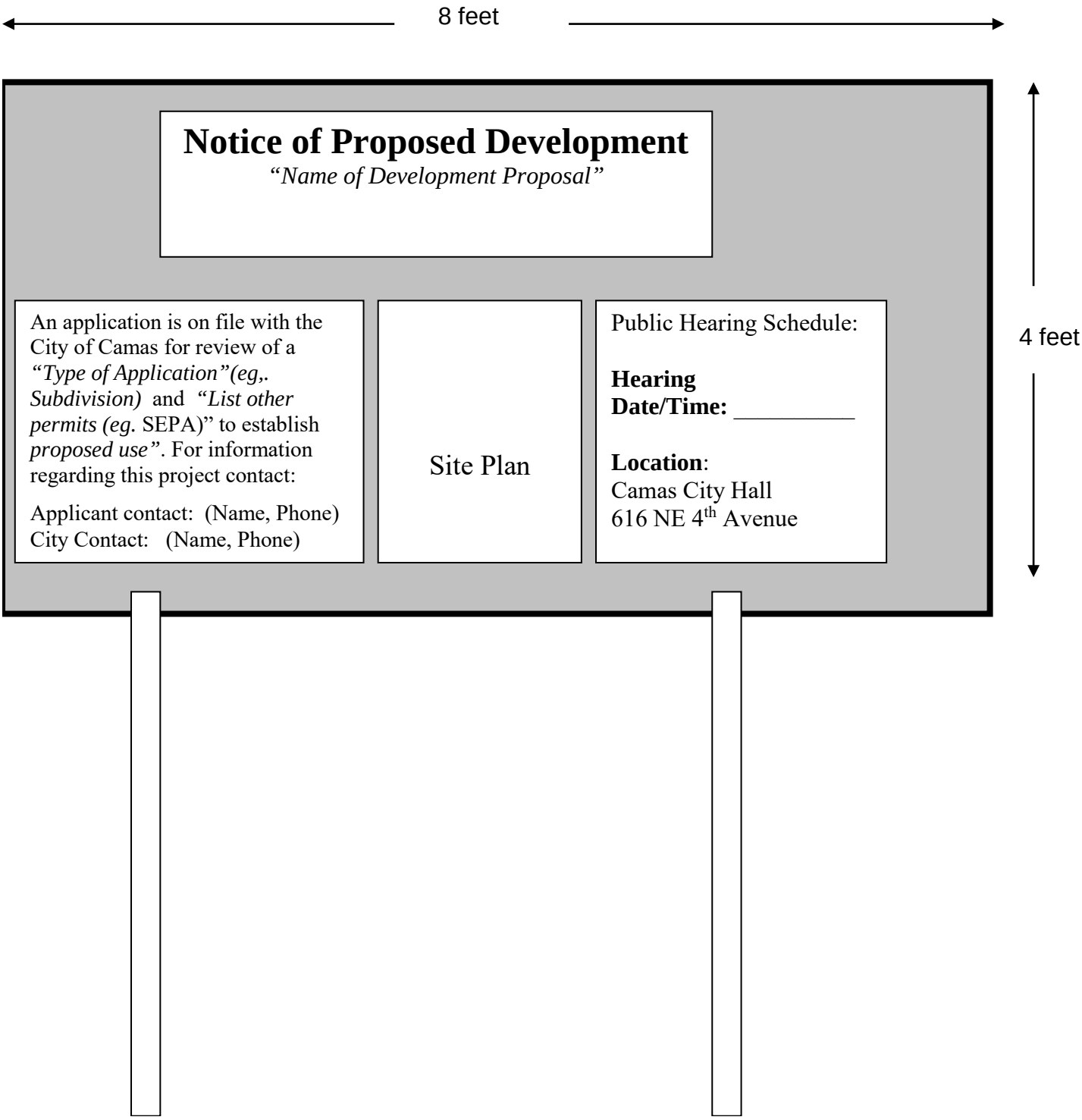

8 feet
4 feet
Notice of Proposed Development
"Name of Development Proposal"
An application is on file with the City of Camas for review of a "Type of Application"(eg,. Subdivision) and "List other permits (eg. SEPA)" to establish proposed use". For information regarding this project contact:
Applicant contact: (Name, Phone)
City Contact: (Name, Phone)
Site Plan
Public Hearing Schedule:
Hearing Date/Time: _____
Location:
Camas City Hall
616 NE 4th Avenue

EXHIBIT 5

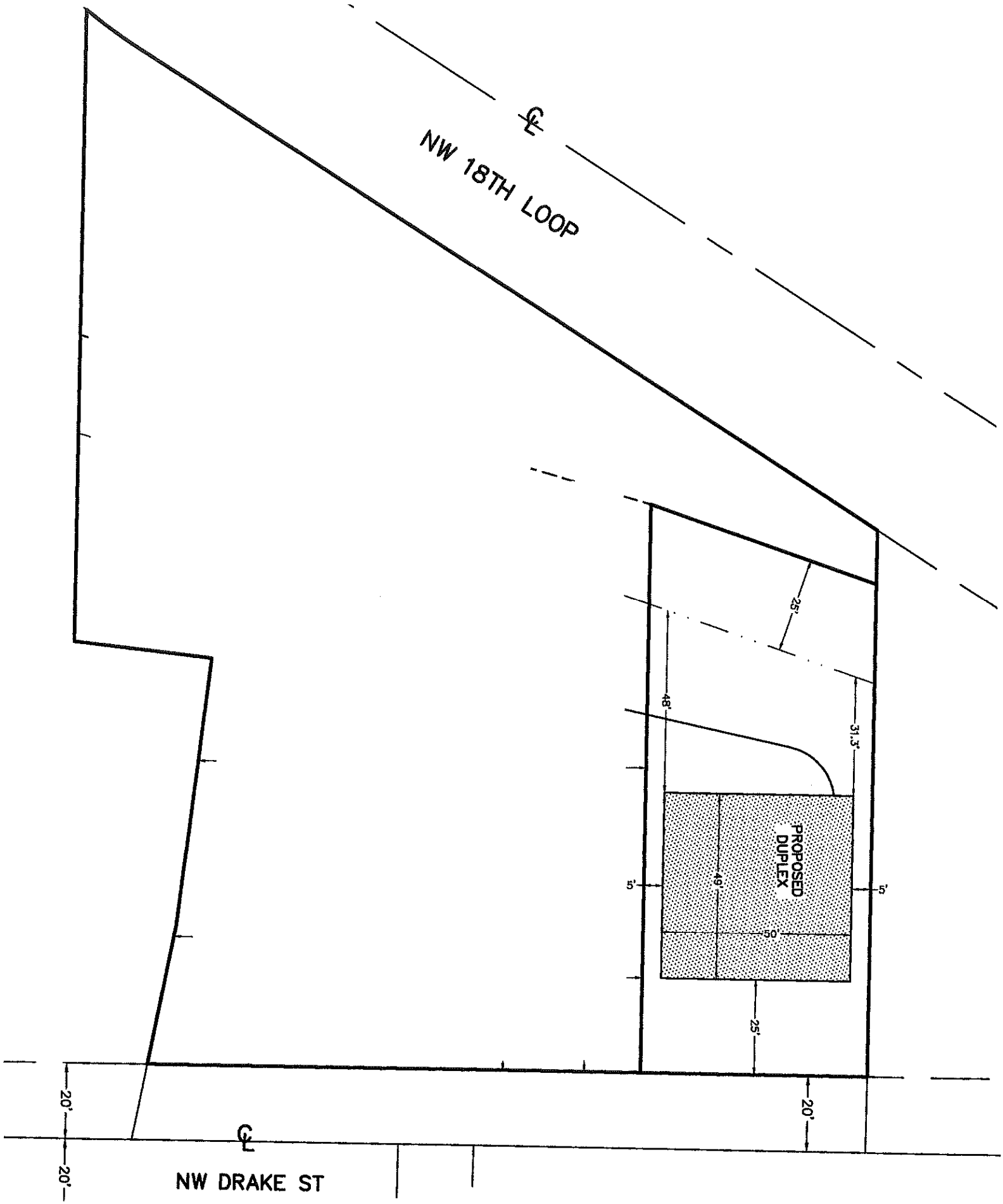

℄
NW 18TH LOOP
25'
48'
31.3'
PROPOSED
DUPLEX
5'
49'
5'
50'
25'
20'
20'
℄
20'
NW DRAKE ST

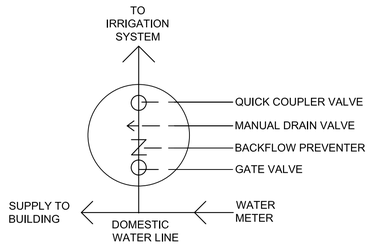
EXHIBIT 6

NOTES

1. ALL PLANTS SHALL BE INSTALLED ACCORDING TO THE CITY OF CAMAS DESIGN STANDARDS MANUAL PLANTING SPECIFICATIONS SHEET NO. PL4, PL5 AND PL7 INCLUDING THE APPLICABLE LANDSCAPING AND NOTES PER DETAIL SHEET NO. PL1 AND PL2.

2. ALL PLANTS SHALL BE IRRIGATED BY A FULLY AUTOMATED, PERMANENT IRRIGATION SYSTEM UNLESS OTHERWISE NOTED.

POINT OF CONNECTION FOR IRRIGATION SYSTEM



SITE PLAN

1/10"=1'-0"

LAND-USE INFORMATION

BUILDING DEP. JURISDICTION
CITY: CAMAS
COUNTY: CLARK COUNTY
STATE: WASHINGTON USA

PROJECT INFORMATION

ADDRESS
1605 NW DRAKE ST.
CAMAS WA 98607

ID: 88470000

PROPERTY OWNER:
LON COMBS

CONTACT INFORMATION:
LON COMBS
(360) 253-7810

AREA PER UNIT

ENTRY: 166 SQ.FT.

MAIN LEVEL AREA 882 SQ.FT.

UPPER LEVEL AREA: 1135 SQ.FT.

TOTAL LIVING AREA: 2183 SQ.FT

GARAGE: 456 SQ.FT

Combs Duplex
1605 NW Drake St.
Camas WA 98607

Drawn By : Xiqian Zhang

Date : 04/27/19

LANDSCAPING NOTES:

1. DEVELOPER SHALL SUBMIT A LANDSCAPE PLAN SHOWING PLANT TYPE, LOCATION, AND QUANTITY OF PLANTS, THAT IS DESIGNED BY A QUALIFIED LANDSCAPE DESIGNER.
2. SHOW THE LOCATION OF SIDEWALK, LIGHT POLES, MAIL BOXES, DRIVEWAYS, FIRE HYDRANTS, INTERSECTIONS, AND ANY OTHER APPURTENANCE THAT MAY INFLUENCE THE PLACEMENT OF PLANTS.
3. LANDSCAPING SHALL BE SELECTED AND LOCATED TO DETER SOUND, FILTER AIR CONTAMINANTS, CURTAIL EROSION, MINIMIZE STORM WATER RUN-OFF, CONTRIBUTE TO LIVING PRIVACY, REDUCE THE VISUAL IMPACTS OF BUILDINGS/EQUIPMENT AND PAVED AREAS, SCREEN, REDUCE GLARE, AND EMPHASIZE OR SEPARATE OUTDOOR SPACES OF DIFFERENT USES OR CHARACTER.
4. LANDSCAPING SHALL BE DESIGNED TO BE HARMONIOUS WITH THE LOCAL SETTING AND WITH NEIGHBORING DEVELOPMENTS.
5. PLANTS AND TREES SHALL COMPLEMENT OR SUPPLEMENT SURROUNDING NATURAL VEGETATION.
6. PLANTS AND TREES CHOSEN SHALL BE IN SCALE WITH THE STRUCTURES AND EQUIPMENT DEVELOPMENT, KEEPING IN MIND THE MATURE SIZE OF PLANTINGS.
7. MINIMUM LANDSCAPING AS A PERCENT OF GROSS SITE AREA SHALL BE 15%.
8. DEVELOPER SHALL PROVIDE AN IRRIGATION PLAN.
   - 8.1. APPROPRIATE IRRIGATION SYSTEMS SHALL BE INSTALLED WHERE NEEDED TO ASSURE LANDSCAPING SUCCESS.
   - 8.2. DESIGN OF LANDSCAPING THAT INCLUDES XERISCAPE PRINCIPLES IS ENCOURAGED TO REDUCE LONG-TERM MAINTENANCE DEMANDS AND TO CONSERVE WATER.
   - 8.3. XERISCAPE IS DEFINED AS LANDSCAPE DESIGN, WHICH WOULD INCORPORATE PLANT MATERIALS THAT REQUIRE LITTLE OR NO IRRIGATION AND RELY ON NATURAL MOISTURE AND RAINFALL FOR SURVIVAL ONCE ESTABLISHED.
9. LANDSCAPE SHALL BE DESIGNED WITH MAINTENANCE IN MIND:
   - 9.1. DEVELOPER SHALL PROVIDE A MAINTENANCE PLAN DESCRIBING FUNDING, RESPONSIBILITY, AND FREQUENCY OF MAINTENANCE.
   - 9.2. PLANTS AND TREES THAT MINIMIZE UPKEEP AND MAINTENANCE SHALL BE SELECTED.
   - 9.3. TREES, AS THEY GROW, SHALL BE PRUNED TO THEIR NATURAL FORM TO PROVIDE AT LEAST 10 FEET OF CLEARANCE ABOVE SIDEWALKS AND 12 FEET ABOVE STREET ROADWAY SURFACES.
   - 9.4. SHRUBS SHALL BE MAINTAINED TO A MAXIMUM HEIGHT OF 42 INCHES FROM TOP OF CURB TO TOP OF PLANT. ENSURE THAT SHRUBS ARE TRIMMED BACK FROM FACE OF CURB.
10. TREES SHALL NOT BE PLANTED CLOSER THAN 25 FEET FROM THE CURB LINE OF THE INTERSECTIONS OF STREETS OR ALLEYS, AND NOT CLOSER THAN 10 FEET FROM DRIVEWAYS, FIRE HYDRANTS, OR UTILITY POLES.
11. STREET TREES SHALL NOT BE PLANTED CLOSER THAN 20 FEET TO LIGHT STANDARDS. EXCEPT FOR PUBLIC SAFETY, NO NEW LIGHT STANDARD SHOULD BE POSITIONED CLOSER THAN 10 FEET TO ANY EXISTING STREET TREE, AND PREFERABLY SUCH LOCATIONS WILL BE AT LEAST 20 FEED DISTANCE.
12. TREES SHALL NOT BE PLANTED CLOSER THAN 2-1/2 FEET FROM THE FACE OF THE CURB EXCEPT AT INTERSECTIONS, WHERE IT SHOULD BE 25 FEET FROM THE CURB IN A CURB RETURN AREA.
13. WHERE THERE ARE OVERHEAD UTILITY LINES, TREE SPECIES THAT WILL NOT INTERFERE WITH THOSE LINES SHALL BE CHOSEN. DEVELOPER IS TO VERIFY WITH UTILITY ON SPECIES SELECTION.
14. TREES SHALL NOT BE PLANTED WITHIN 2 FEET OF ANY PERMANENT HARD SURFACE PAVING OR WALKWAY.
15. EXISTING TREES MAY BE USED AS STREET TREES IF THERE WILL BE NO DAMAGE FROM THE DEVELOPMENT WHICH WILL KILL OR WEAKEN THE TREE.
16. VISION CLEARANCE HAZARDS SHALL BE AVOIDED AND VISION CLEARANCE STANDARDS SHALL BE ADHERED TO.
17. PARKING AND LOADING AREAS SHALL BE SCREENED FROM HORIZONTAL VIEW WITH THE USE OF DENSE LANDSCAPING, MOUNDS OR BERMS.
18. PERIMETER AND SECURITY FENCING SHALL BE CONSTRUCTED TO MINIMIZE VISUAL IMPACT. WALLS OR FENCES SEPARATING ADJOINING PARCELS MAY BE LOCATED AT THE PROPERTY LINE. SECURITY FENCING SHALL BLEND INTO AND BE COMPATIBLE WITH LANDSCAPING AND SURROUNDING ENVIRONMENT. FENCING SHALL HAVE EARTH TONE COLORS OF BROWN, TAN GRAY, OR GREEN. WALLS SHALL BE CONSTRUCTED OF MATERIALS COMPATIBLE WITH THE BUILDING ACRHITECTURE, LANDSCAPING, AND SURROUNDING ENVIRONMENT.
19. SITE AND BUILDING LIGHTING SHALL BE DESIGNED TO MINIMIZE GLARE OR OBJECTIONABLE EFFECTS TO THE ADJACENT PROPERTIES. SITE LIGHTING POLES SHALL NOT EXCEED 20 FEET IN HEIGHT AND SHALL DIRECT THE LIGHT DOWNWARD. LIGHTING SOURCES VIEWED FROM ABOVE OR BELOW ON ADJACENT PROPERTY SHALL BE SHIELDED. BUILDING LIGHTING IS TO BE CONCEALED AND INDIRECT. SITE LIGHTING IS TO BE DESIGNED TO PROVIDE UNIFORM DISTRIBUTION AND THE LIGHT LEVELS SHALL BE ADEQUATE FOR REASONABLE SECURITY AND SAFETY ON THE PREMISES.
20. EARTH BERMS MAY BE USED TO PROVIDE VARIATION IN THE GROUND PLANE AND FOR SCREENING INTERIOR PROTIONS OF THE SITE. CARE MUST BE TAKEN IN THEIR DESIGN TO AVOID CREATING AN ARTIFICIAL APPEARING LANDSCAPE. THE BERMED AREAS SHALL BE AS LONG, AS GRADUAL, AND AS GRACEFUL AS SPACE WILL ALLOW, AND SHOULD HAVE A MINIMUM HEIGHT ABOVE SURROUNDING GRADE OF THREE FEET. MAXIMUM SLOPES FOR BERMED AREAS SHALL BE 3:1 FOR TURF AREAS AND 2:1 FOR GROUNDCOVER AREAS.

REV. NO.	DATE	BY	APPR.
1	10/21/14	SCD	JC
2	4/27/16	SCD	JC

CITY OF CAMAS ~ STREET DETAIL

LANDSCAPING REQUIREMENTS - WITHIN R.O.W.

DETAIL APPROVED BY — DATE 4-26-16 — NOT TO SCALE

DETAIL NO. PL1

PLANTING NOTES:

1. ALL PLANTING TO BE OF NURSERY STOCK GRADE NO. 1 OR BETTER AND MUST BE APPROVED PRIOR TO PLANTING.
2. ALL PLANTING HOLES SHALL BE EXCAVATED THREE TIMES THE DIAMETER OF THE TREE ROOT BALL OR ROOT SYSTEM.
3. DECIDUOUS TREES SHALL HAVE STRAIGHT TRUNKS, BE FULL BRANCHED, HAVE A MINIMUM CALIPER OF 2 INCHES AND BE ADEQUATELY STAKED FOR PLANTING. CALIPER OF TREES SHALL BE LARGER WHEN REQUIRED BY OTHER CITY STANDARDS OR PLANS.
4. EVERGREEN TREES SHALL BE A MINIMUM OF THREE FEET IN HEIGHT, FULLY BRANCHED AND ADEQUATELY STAKED FOR PLANTING.
5. DECIDUOUS TREES SHALL BE A MINIMUM 2" CALIPER UNLESS APPROVED BY THE CITY.
6. POTTED OR B&B PLANTS SHALL BE A MINIMUM SIZE OF 3 GALLONS UNLESS APPROVED BY THE CITY.
7. SHRUBS SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, HEALTH OF THE PLANTS, AND OVERALL AESTHETICS.
8. PLANT UPRIGHT AND FACE TO GIVE BEST APPEARANCE OR RELATIONSHIP TO OTHER PLANTS AND STRUCTURES.
   - 8.1. LOOSEN AND REMOVE TWINE BINDING AND BURLAP FROM AROUND THE TOP OF EACH ROOT BALL.
   - 8.2. SET TREES AN INCH ABOVE FINISH GRADE.
   - 8.3. STAKE OR GUY TREES IMMEDIATELY AFTER PLANTING (SEE DETAIL PL3, PL4, & PL5)
   - 8.4. REMOVE STAKES OR GUY WIRES ONE YEAR AFTER INSTALLATION.
9. PLACE AND COMPACT BACKFILL SOIL MIXTURE CAREFULLY TO AVOID INJURY TO ROOTS, AND TO FILL ALL VOIDS. BACKFILL MIX SHALL CONSIST OF 1/4 APPROVED HUMUS MATERIAL TO 3/4 TOPSOIL, PLUS SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED PRIOR TO PLANTING TREES).
10. WHEN HOLE IS NEARLY FILLED, COMPLETELY SOAK AND ALLOW WATER TO DRAIN AWAY. FILL HOLE TO FINISH GRADE. PROVIDE 2 INCH HIGH BERM WATER RING AT THE BASE OF EACH TREE. REMOVE BERM AT THE END OF CONTRACT MAINTENANCE PERIOD.
11. GROUND COVER, SHALL BE PLANTED ACCORDING TO RECOGNIZED LANDSCAPE STANDARD PRACTICE FOR MAINTENANCE, APPEARANCE, OVERALL AESTHETICS, AND HEALTH OF THE PLANTS.
12. TREES, AS THEY GROW, SHALL BE PRUNED TO THEIR NATURAL FORM TO PROVIDE AT LEAST 10 FEET OF CLEARANCE ABOVE SIDEWALKS AND 14 FEET ABOVE STREET ROADWAY SURFACES.
13. TREE MAINTENANCE - IN ORDER TO INSURE ESTABLISHMENT, SURVIVAL AND GROWTH, TREES SHALL BE MULCHED WITH 4" DEEP COMPOST AND WATERED AS NECESSARY DURING THE FIRST TWO GROWING SEASONS. PRUNING TO BE AS FOLLOWS:
   - 13.1. YEAR 1 - ONLY DEAD, BROKEN, OR CROSSING BRANCHES SHALL BE PRUNED.
   - 13.2. YEAR 2 - A CLASS 1 PRUNE, PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO ESTABLISH PROPER SCAFFOLD BRANCHING, RAISE THE CROWN FOR ROAD/SIDEWALK CLEARANCE, AND REMOVE ANY DEAD, DYING OR CROSSING BRANCHES.
   - 13.3. YEAR 3 - A CLASS 1 PRUNE, PURSUANT TO NATIONAL ARBORIST ASSOCIATION STANDARDS, SHALL BE PERFORMED. THE PURPOSE OF THIS PRUNING IS TO CONTINUE TO ESTABLISH THE PROPER SCAFFOLD BRANCHING, CONTINUE TO RAISE THE CROSSING FOR ROAD/SIDEWALK CLEARANCE, AND TO REMOVE ANY DEAD, DYING, OR CROSSING BRANCHES.
14. DEFINITIONS:
   - 14.1. BALLED AND BURLAPPED (B&B) - TREES AND SHRUBS WITH A LARGE BALL OF SOIL AROUND THE ROOTS WRAPPED IN BURLAP.
   - 14.2. BARE-ROOT - OFFERED BY NURSERIES IN WINTER AND EARLY SPRING WITH ALL THE SOIL REMOVED FROM THEIR ROOTS.
   - 14.3. CALIPER - THE DIAMETER OF THE TRUNK MEASURED AT 4-FEET FROM THE GROUND.
   - 14.4. GROUND COVER - LIVING MATERIAL THAT DOES NOT INCLUDE BARK CHIPS OR OTHER MULCH.

REV. NO.	DATE	BY	APPR.
1	10/21/14	SCD	JC
2	4/27/16	SCD	JC

CITY OF CAMAS ~ STREET DETAIL

PLANTING NOTES - WITHIN RIGHT OF WAY

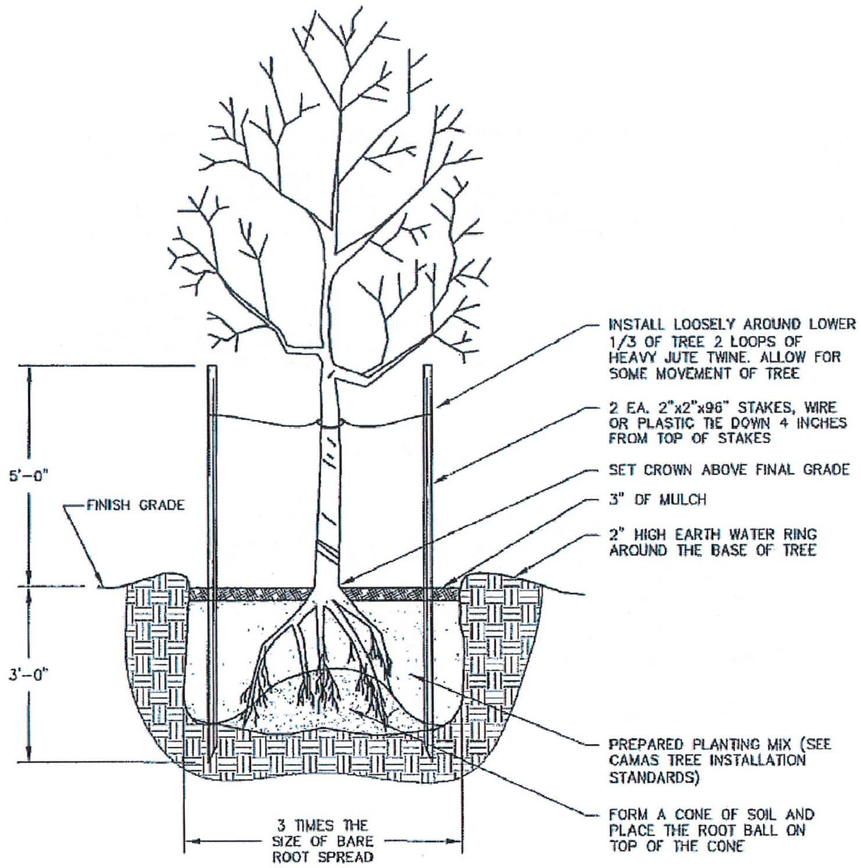
DETAIL APPROVED BY — DATE 4-26-16 — NOT TO SCALE

DETAIL NO. PL2

Combs Duplex
1605 NW Drake St.
Camas WA 98607

Drawn By : Xiqian Zhang

Date : 04/27/19

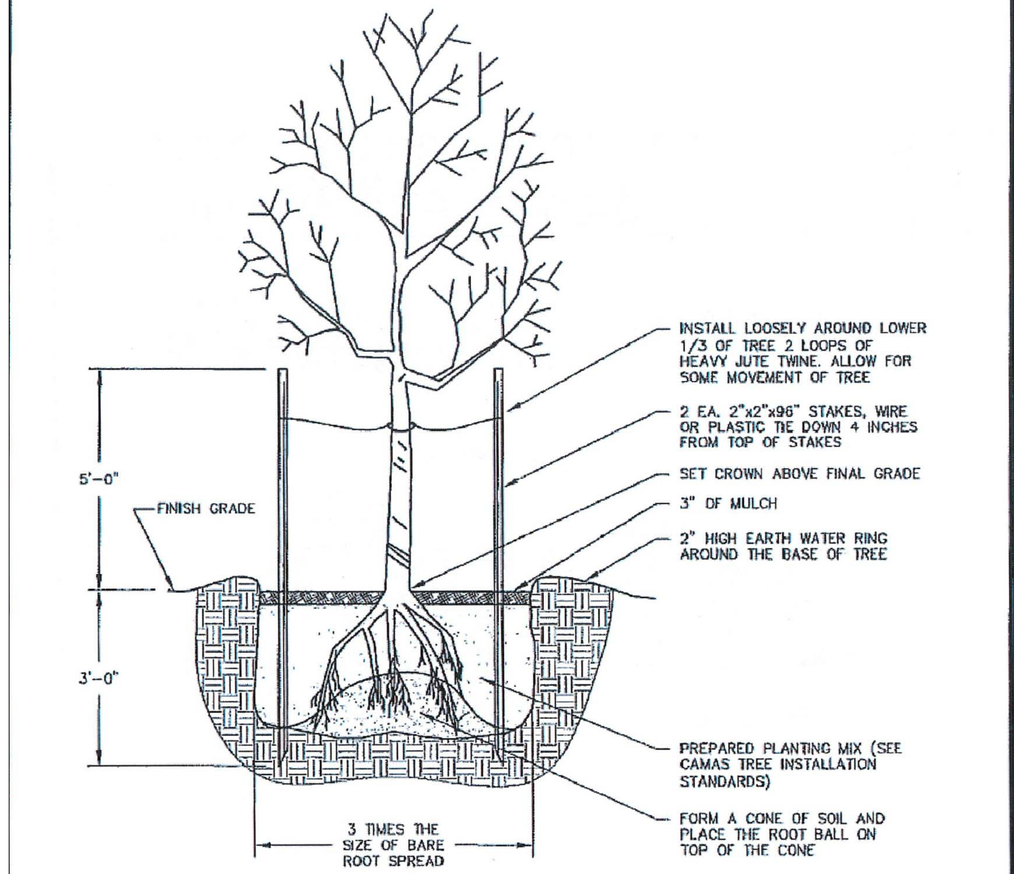


NOTES:
1. A ROOT BARRIER SHOULD BE INSTALLED AT THE EDGE OF PAVEMENT OR 4 FEET WIDE AND 6 FEET LONG RECTANGLE AROUND THE TREE. SEE DETAILS PL7, PL8 & PL9
2. BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING TREES).

REV. NO.	DATE	BY	APPR.
1	10/21/14	SCD	JC

CITY OF CAMAS ~ STREET DETAIL
BARE ROOT PLANTING
DETAIL APPROVED BY — DATE: 10-21-14
NOT TO SCALE

DETAIL NO. PL3



NOTES:
1. A ROOT BARRIER SHOULD BE INSTALLED AT THE EDGE OF PAVEMENT OR 4 FEET WIDE AND 6 FEET LONG RECTANGLE AROUND THE TREE. SEE DETAILS PL7, PL8 & PL9
2. BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING TREES).

REV. NO.	DATE	BY	APPR.
1	10/21/14	SCD	JC

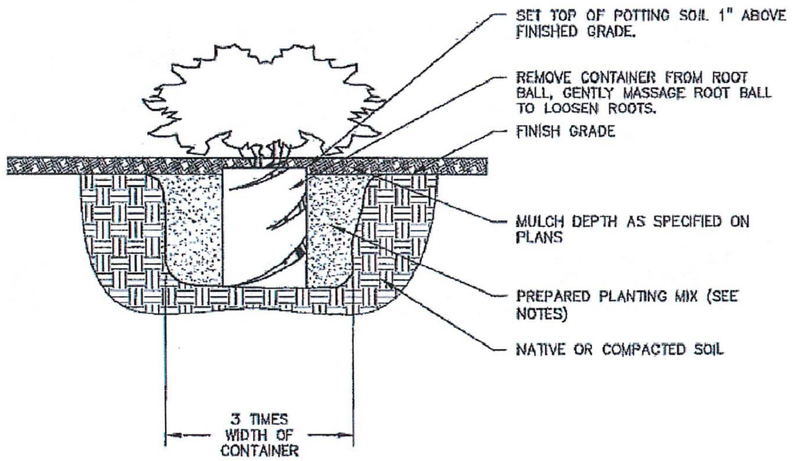
CITY OF CAMAS ~ STREET DETAIL
BARE ROOT PLANTING
DETAIL APPROVED BY — DATE: 10-21-14
NOT TO SCALE

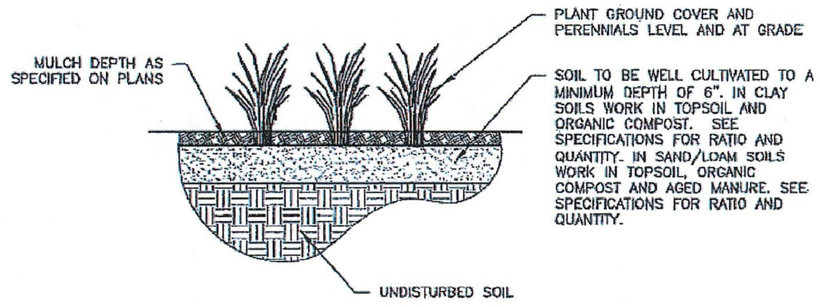
DETAIL NO. PL3

Combs Duplex
1605 NW Drake St.
Camas WA 98607

Drawn By : Xiqian Zhang

Date : 04/27/19





NOTES:
1. SCARIFY BOTTOM AND SIDES OF HOLE PRIOR TO PLANTING.
2. KEEP PLANTS MOIST AND SHADED UNTIL PLANTING.
3. BACKFILL MIX SHALL CONSIST OF THE FOLLOWING: 0.75 PART TOPSOIL, 0.25 PART APPROVED HUMUS MATERIAL, SOIL AMENDMENTS/FERTILIZERS AS PER SOIL ANALYSIS (TO BE PERFORMED BEFORE PLANTING).

REV. NO.	DATE	BY	APPR.
1	10/21/14	SCD	JC

CITY OF CAMAS ~ STREET DETAIL

SHRUB CONTAINER PLANTING

DETAIL APPROVED BY — DATE 10-21-14

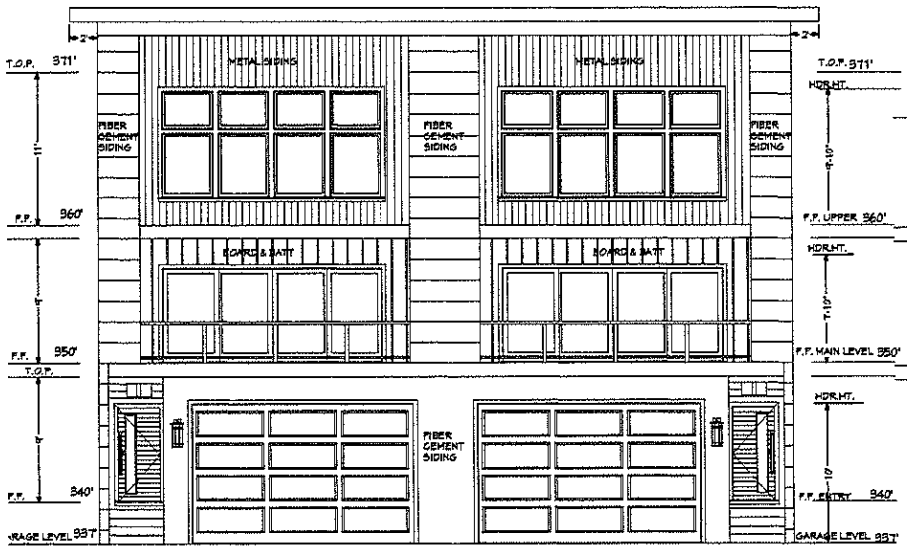
NOT TO SCALE

DETAIL NO. PL5

Combs Duplex
1605 NW Drake St.
Camas WA 98607

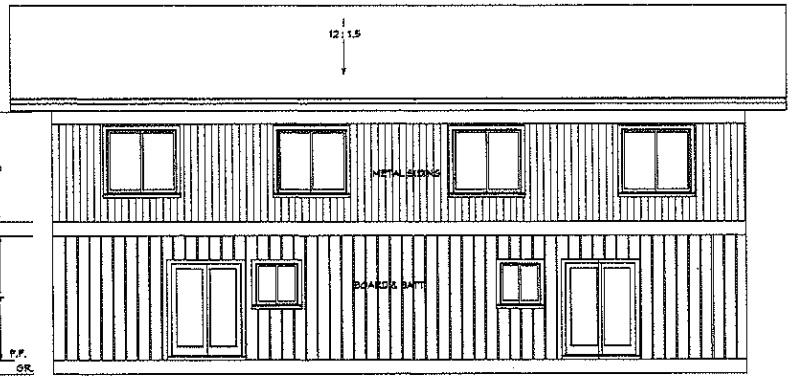
Drawn By : Xiqian Zhang

Date : 04/27/19



FRONT ELEVATION

1/8"=1'-0"

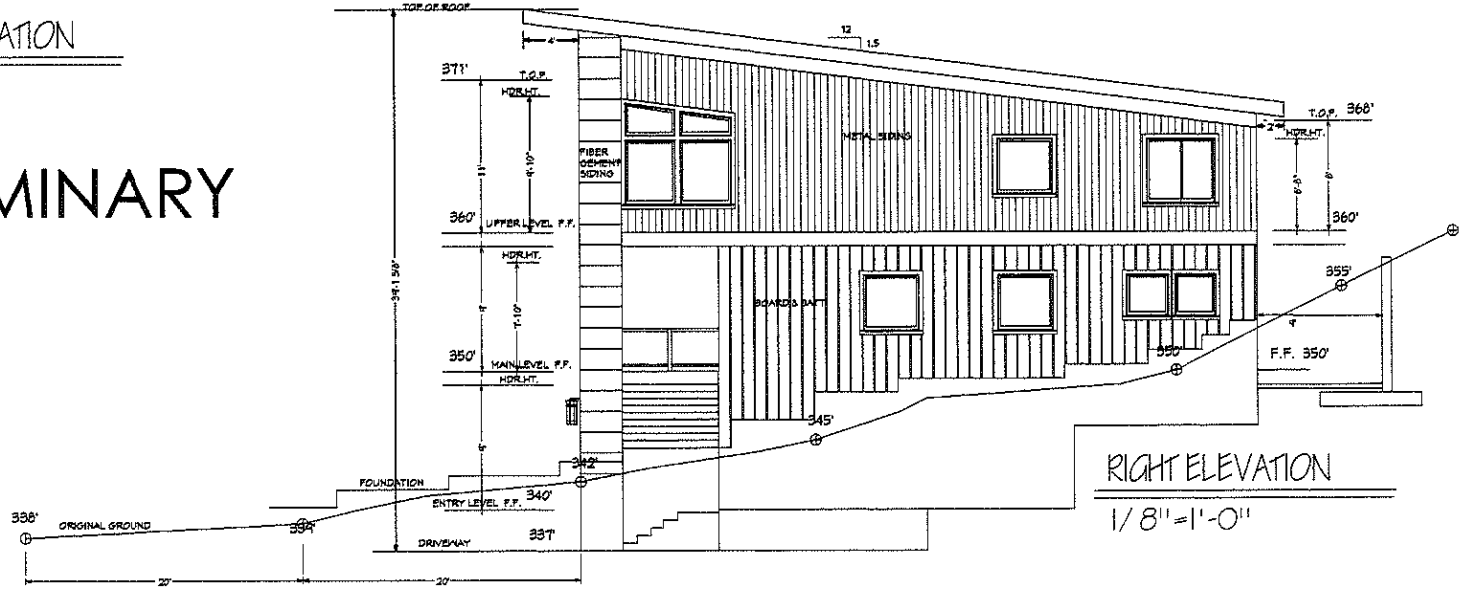


REAR ELEVATION

1/8"=1'-0"

PRELIMINARY

PDF
1-20-19



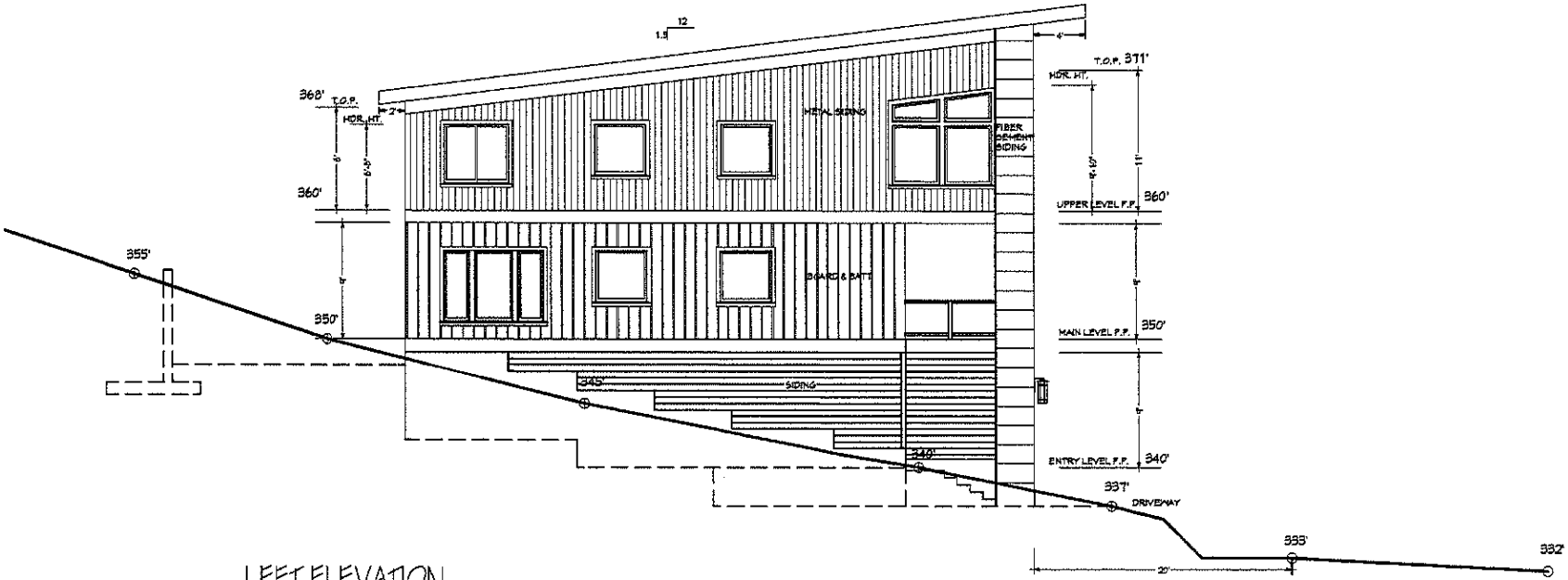
RIGHT ELEVATION

1/8"=1'-0"

COMBO - 3 PLEX

DELSON ENGINEERING, INC.
1204 NE 146TH AVENUE
VANCOUVER, WA 98684
(360) 944-7094

EXHIBIT 7



LEFT ELEVATION

1/8"=1'-0"

PRELIMINARY

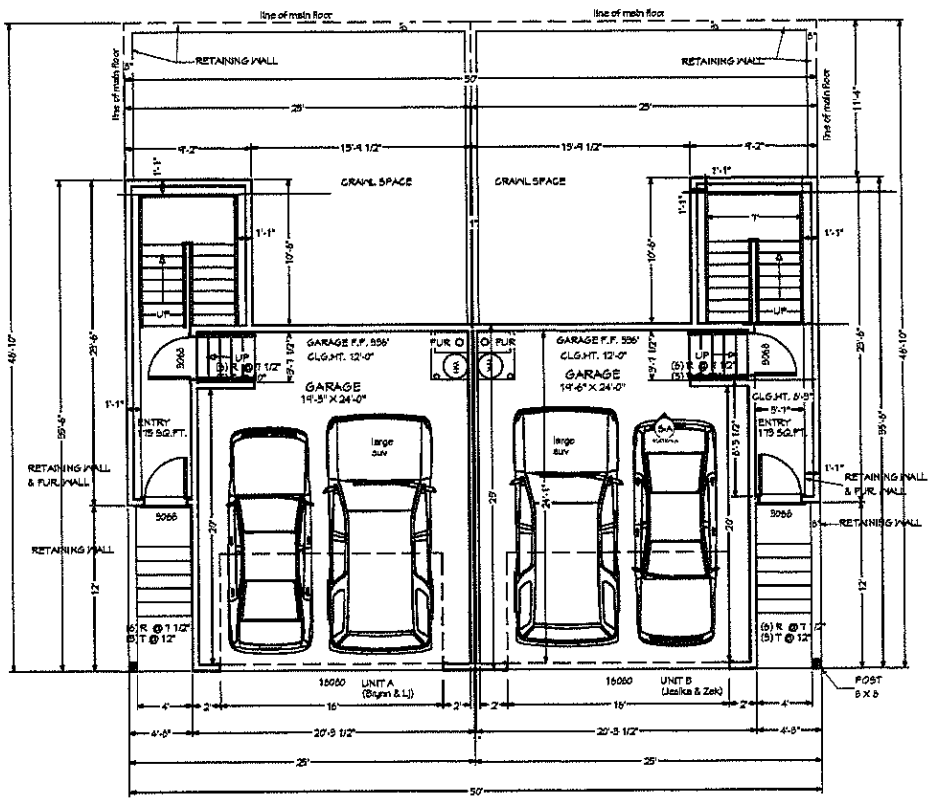
PDF
1-7-19

COMBS - 2 PLEX

DATE 10-22-18
STORY POLE
JOB NO. PB-10-72
DRAWN
CHECKED

DELSON ENGINEERING, INC.
1204 NE 146TH AVENUE
VANCOUVER, WA 98684
(360) 944-7094

PRELIMINARY



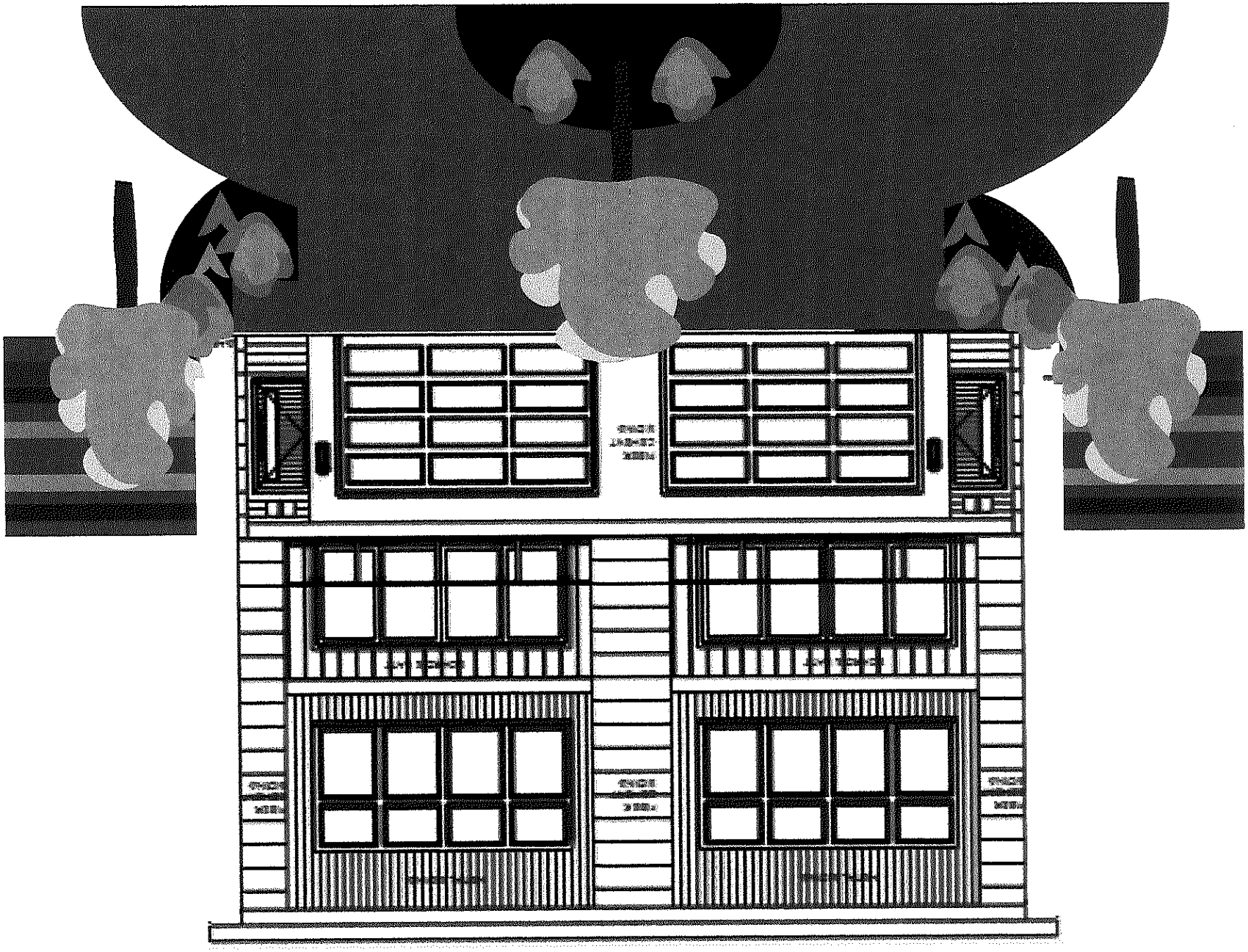
GARAGE FLOOR PLAN

1/8"=1'-0"

PDF
11-26-18

DELSON ENGINEERING, INC.
1204 NE 146TH AVENUE
VANCOUVER, WA 98684
(360) 944-7094

COMBS - 2 PLEX



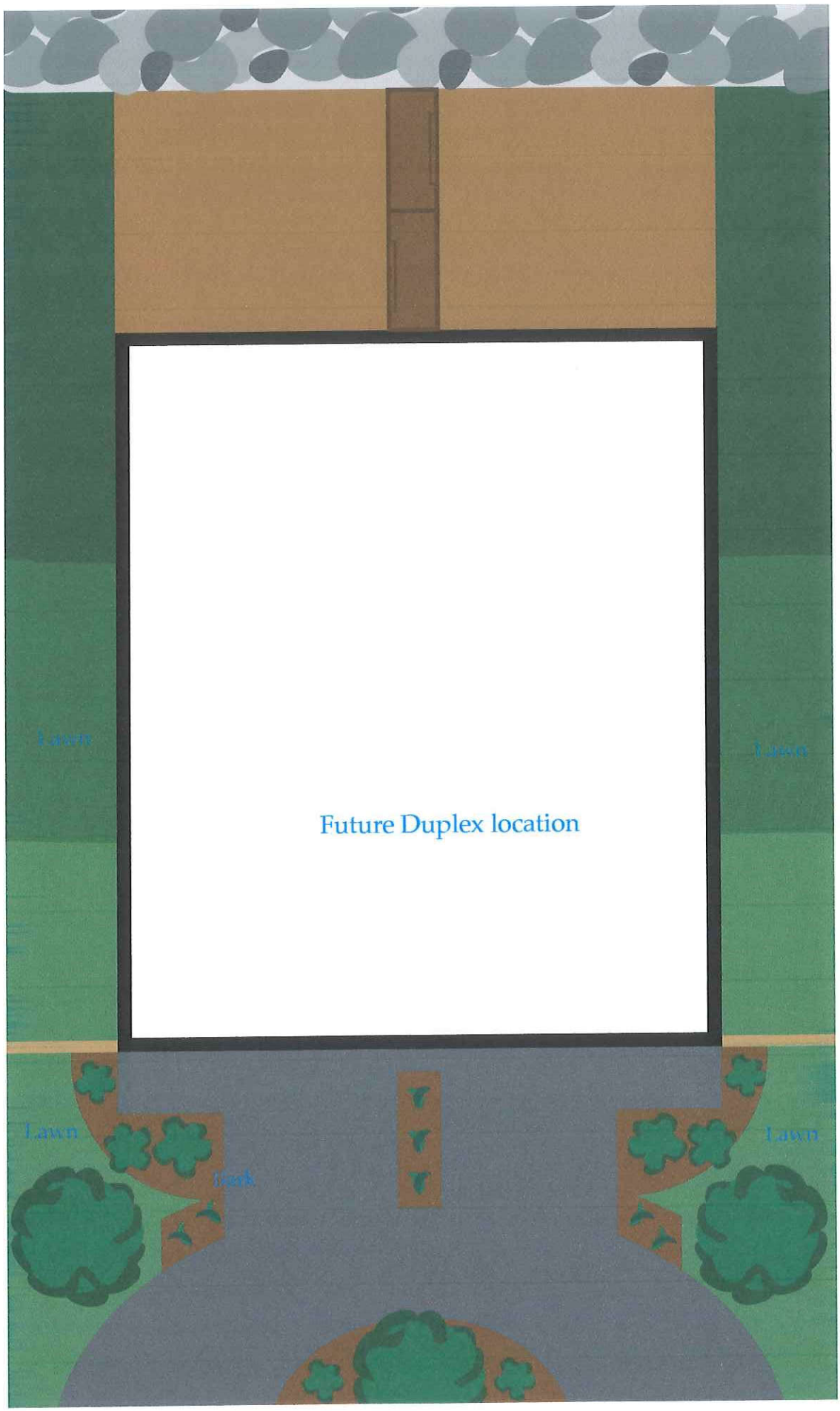
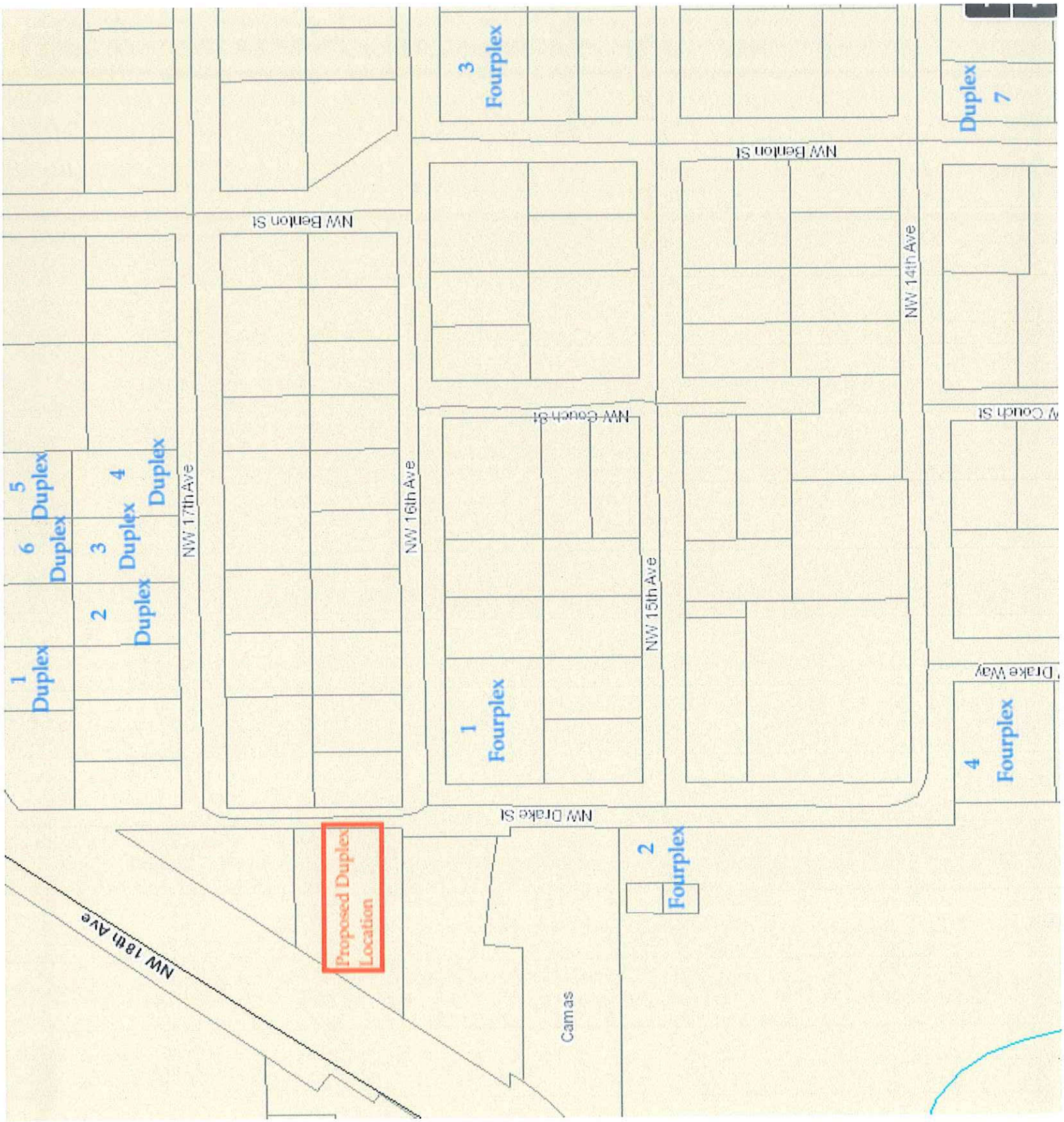

Lawn
Lawn
Future Duplex location
Lawn
Lawn
Bark

EXHIBIT 8


NW Benton St
NW 17th Ave
NW 16th Ave
NW Couch St
NW 15th Ave
NW 14th Ave
NW Drake St
NW 18th Ave
Camas
Proposed Duplex Location
1 Duplex
2 Duplex
3 Duplex
4 Duplex
5 Duplex
6 Duplex
1 Fourplex
2 Fourplex
3 Fourplex
4 Fourplex
7 Duplex

Fourplex 1

Fourplex 2

Duplexs 2 3 4

EXHIBIT 9

Consolidated Decision

State Environmental Policy Act (SEPA) Mitigated Determination of Non-Significance, Critical Area Review and Boundary Line Adjustment For Combs Development

Decision Issued: October 18, 2018

File Numbers: CA18-14, BLA18-03, and SEPA18-23

Applicant: Lon Combs 7905 NE 173rd Ave., Vancouver, WA 98682

Request: To develop a single family residence on each lot after boundary line adjustment

Location: 1541 NW Drake St. and 1605 NW Drake St. **Zoning**: Residential 7,500 (R-7.5)

SEPA Comment Period Ends: November 1, 2018, at 5:00 p.m.
Appeal Deadline: November 15, 2018, at 5:00 p.m.

Staff Contact:	Sarah Fox, Senior Planner Planning Division, City of Camas 616 NE 4th Ave. Camas, WA 98607 **Phone**: (360) 817-1568 **Email**: communitydevelopment@cityofcamas.us
APPLICABLE LAW:	The application was submitted on **September 28, 2018**, and the applicable codes are those that were in effect on the date of application. Revised materials were received on December 12, 2016. Camas Municipal Code (CMC) Titles 16, 17, and 18, specifically (but not limited to): Chapter 16.01 through Chapter 16.21 SEPA; Chapter 17.07 Boundary Line Adjustments; Chapter 18.09 Density and Dimensions; and Chapter 18.55 Administrative Procedures.

SUMMARY

- The proposed development is to construct a single family home on each subject property.
- The consolidated application included a request for approval of a boundary line adjustment and a critical area permit.
- The subject properties are currently vacant and are located to the north of NW Drake Street. There is a single lane road that fronts the northern lot (1605 NW Drake)
- The newly configured lots will be 8,400 square feet and 22,737 square feet with a 10,269 square foot critical area tract.
- The property is characterized by steep slopes (15-40%) critical area that is forested. Applicant proposes to set aside area in a tract, with a portion of the steep slope within the rear yard setbacks of each lot.

This consolidated decision is approved based on the applicant's narrative, drawings, and supporting technical reports except as otherwise clarified or modified through the conditions of approval stated herein.
APPROVAL IS BASED ON THE FOLLOWING FINDINGS OF FACT AND CONCLUSIONS OF LAW:

DISCUSSION AND FINDINGS

BOUNDARY LINE ADJUSTMENT CMC CHAPTER 17.07

The approval authority shall approve, approve with conditions, or deny a request for a boundary line adjustment in writing based on findings addressing the criteria within CMC§17.07.040(A – H) (in blue text below).

A. *No additional lots, sites, parcels, tracts, or divisions are created.*

Findings: The application does not create additional lots. A tract will be created that will be to protect critical areas, which is consistent with the city's CAO, and will reduce lot sizes more consistent with the zone.

B. *The adjustment will not create nonconforming lots, with respect to zoning dimension and area standards, zoning setbacks and lot area coverage standards identified in CMC Chapter 18.09 or to fire, building, or other applicable codes.*

Findings: The current lots are non-conforming and exceed the lot sizes of the underlying zoning district. The lots are currently 33,541 square feet and 23,958 square feet. The proposed lot sizes are 22,737 square feet and 8,400 square feet. The setbacks as proposed conform to the standards based on the proposed lot sizes, consistent with Table 2 of CMC§18.09.040.

C. *The degree of nonconformance on existing nonconforming lots with respect to zoning dimension and area standards, zoning setbacks, and floor area ratio are not increased, except that a one-time exception may be allowed to create a lot that exceeds the maximum lot size permitted in the underlying zone. Any future partitioning/reduction of the oversized lot must comply with the lot size requirements of the underlying zone.*

Findings: A one-time exception is granted to the southern lot (Tax parcel 85146-000) to exceed the lot size standards of the zone, although it will be smaller than its current size by 10,804 square feet. The northern lot (Tax parcel 85148-000) will conform to the R-7.5 lot size standards at 8,400 square feet.

D. *All lots have legal access to a public road. Existing required private road improvements and easements are not diminished below city street standards for lots that are served by a private road, and shall not create unreasonably restrictive or hazardous access to a property;*

Findings: Both lots have access to a public road that is not built to current standards. The applicant has proposed to install driveways and sidewalks.

E. *The boundary line adjustment will not result in a lot that contains area in two zone designations.*

Findings: Both lots are within the same R-7.5 zone.

F. *Boundary line adjustments that are used to circumvent subdivision or short subdivision procedures set forth in this title are not allowed. Factors which indicate that the boundary line adjustment process is being used in a manner inconsistent with statutory intent include: numerous and frequent adjustments to existing contiguous lot boundaries, and/or a large number of contiguous lots being proposed for boundary line adjustments at the same time.*

Findings: Only two lots are included with the application, and staff does not find that the application is circumventing the subdivision process. The applicant has also proposed to build a four-foot wide sidewalk, with ADA ramps and driveway approaches. Those improvements would be typical for a short plat application, but are atypical for a critical area review. Those

improvements further indicate the applicant's desire to create a development that meets all of the design standards.

G. *Approval of a boundary line adjustment shall not result in the need for a reasonable use exception as defined in CMC 16.51.*

Findings: The applicant is proposing to set aside critical areas at the western portion of the site into a non-buildable tract. The proposal will result in two lot areas that are safe for typical residential development.

H. *Existing easements for utilities conform to adopted standards for their intended function, or they are extended, moved or otherwise altered to an approved location. The applicant shall be responsible for the relocation of any installed utilities.*

Findings: There are existing power lines bisecting the proposed lot configuration. The applicant is responsible for relocating the power lines and working with Clark Public Utilities.

CRITICAL AREA REVIEW – GEOLOGICAL HAZARDS CMC CHAPTER 16.59

Critical area regulations may be applied concurrently with review conducted under the State Environmental Policy Act (SEPA), or other development review as adopted per CMC§16.51.030. This section of the report provides an analysis of the Geological Hazard Areas.

The properties have slopes that range from 25% to 40% percent from east to west and are within an area categorized on the city's maps as being geologically hazardous. For these reasons, a geotechnical report was submitted by Mia Maheady-Sexton of Rapid Soil Solutions (July 11, 2018).

The geotechnical evaluation provided an assessment of geological hazards as required per CMC§16.59.060(C). The report did not evaluate the entirety of the subject property. There were findings from four borings locations, two on each lot, and only within the proposed building envelopes. CMC§16.59.060(C.1) Site Evaluation, states that the site evaluation must include an identification of the areas of proposed structures, proposed grading, and "*related project impacts which have the potential to adversely affect the geological hazard*." The engineer did not provide observations or analysis of the steepest portions of the property.

The city can only evaluate the risks of the potential hazard based on the information provided. As noted, the report only provided information within the lower portion of the site, within the proposed building envelopes.

With that said, the applicant proposed to set aside the steepest portion of the property into a non-buildable, critical area tract. Limiting the area of development is consistent with CMC§16.59.060(E), "*Where the applicant can demonstrate that the proposed project or activity has no direct impact on the identified geologically hazardous area, …, the city… may limit the scoping of the site evaluation based on identified site specific geologic hazards*." During the pre-application meeting, the applicant asked whether or not landscaping could occur in the tract. Given that the geotechnical report did not evaluate the entire site, or the area of the tract, the city cannot authorize tree removal or other earth-disturbing activities on the entire site. The city may approve development activity on the lower portions of the property that were evaluated. Conditions in regard to this tract are warranted and will be included.

The report provided recommendations for drainage and site preparations. The report also recommended that an engineer be on site to observe excavation, stripping, fill placement and subgrades. Staff concurs with those recommendations and a condition to that effect will be included.

Findings: Staff finds that the potential adverse impacts of the development on steep slopes can be mitigated with placing the area in a non-buildable tract and requiring additional geotechnical work.

STATE ENVIRONMENTAL POLICY ACT (SEPA)

The City issued a State Environmental Policy Act (SEPA) Mitigated Determination of Non-significance (DNS) based on the ability of the proposal to comply with relevant regulations within local, state and federal law as conditioned. The SEPA MDNS (File #SEPA18-23) and checklist are attached to this decision and were issued simultaneously as part of the consolidated decision.

CONCLUSIONS OF LAW

The following conclusions of law are based on the findings of facts as discussed throughout this report and decision.

- As submitted the development can meet the requirements of CMC Chapter 17.07 Boundary Line Adjustments.
- As conditioned, the development can adequately protect steep slopes per CMC Chapter 16.59 Geologically Hazardous Areas.
- As conditioned, the development can meet the requirements for residential development per CMC Chapter 17.19 Design and Improvement Standards and Chapter 18.09 Density and Dimensions.

DECISION

APPROVAL of the consolidated application for the Combs Development (Files SEPA18-23, CA18-14 and BLA18-03) is based on the applicant's narrative, drawings, and supporting technical reports except as otherwise clarified or modified through the following conditions of approval. Further, unless otherwise waived in writing in this decision, the development must comply with the minimum requirements of Camas Municipal Code.

SEPA MITIGATION MEASURES

1. Site excavation, stripping, fill placement, subgrade, and footing/foundation placement shall be observed by a licensed geotechnical engineer.
2. A geotechnical engineer report shall be submitted for approval if property owner proposes excavation, retaining walls (4-feet or higher) or grading ***within the rear yard*** *setback* area of the individual lots. Absent additional geotechnical investigation, rear yards shall maintain natural grades.
3. Prior to recording the boundary adjustment, the following must be submitted to the community development department for review.
    a. Final survey of the Boundary Line Adjustment prepared by a Washington State licensed professional land surveyor and legal descriptions of the proposed property configuration.
    b. A notice on the title (or covenant) shall be recorded that encompasses the critical area tract. The final survey shall include a note on the face of the document in regard to the common ownership of the tract.
4. No tree removal will be permitted in critical area tract unless a geotechnical engineer performs field exploration/borings within the area of the tract, and provides an analysis to the city for review and approval of activities. Removal of invasive species, such as blackberry bushes and ivy are allowed without prior city approval, if work is performed with hand tools (e.g. no tractors).
5. Native landscaping of trees and shrubs may be installed in tract with the goal to maintain it as a natural area and for slope stability.

STANDARD CONDITIONS

1. This consolidated decision is valid for a period of two years from the date the decision was issued. If no building permits are issued within this timeframe, then the decision shall be void.
2. Geotechnical engineering reports shall be required for construction of site specific residential structures.
3. Automatic sprinklers installed per NFPA 13D or 13R shall be required in all new residential structures.
4. Applicant must submit a sanitary tie-in plan to the city for review and approval prior to submitting building plans.
5. All site construction plans shall be prepared in accordance with Camas Design Standards Manual. The plans will be prepared by a licensed civil engineer in Washington State and submitted to the City for review and approval.
6. Construction activities within the Right-of-Way shall be performed by licensed and bonded in the State of Washington contractor and will require an encroachment permit.
7. Sidewalk must be ADA compliant for the full length of street frontage.
8. The applicant must install two ADA ramps opposite of existing ramps on NW Drake.
9. A 3% construction plan review and inspection fee for infrastructure improvements, such as stormwater and paving, shall be required. The fee will be based on an engineer's estimate

or construction bid. The specific estimate will be submitted to the City's Engineering Division for review and approval. The fee will be paid prior to the construction plans being signed and released to the applicant. Under no circumstances will the applicant be allowed to begin construction prior to approval of the construction plans.

10. Each new residence will be required to install a street tree. Street trees must be planted prior to issuance of the Certificate of Occupancy.
11. In the event that any item of archaeological interest is uncovered during the course of a permitted ground disturbing action or activity, all ground disturbing activities shall immediately cease and the applicant shall notify the Community Development Department and DAHP.
12. If there is more than 5,000 square feet of impervious surface, then stormwater treatment and runoff control, shall be designed in accordance with CMC 14.02 and the 2014 (or latest edition) Stormwater Management Manual for Western Washington and the City of Camas Stormwater Design Standards Manual.
13. Permanent signs or fencing shall be installed along shared boundary of critical area tract and lots prior to occupancy permit issuance.
    a. If signs are installed (without fencing), then signs must be placed every 10-feet and include text that states: "*Critical Area. Tree removal is prohibited without first obtaining written approval from the city.*"
    b. If permanent, continuous fencing is installed along shared boundary, then a single sign posted on the fencing for each lot will be required.
14. The applicant will be responsible for recording the boundary line adjustment and conservation covenant (notice on title) with the Clark County auditor's office. A copy of the recorded documents must be returned to the planning division prior to expiration of this consolidated decision.

APPEALS

CMC§18.55.200 - Appeals—Generally.

Type II decisions may be appealed to the hearings examiner. All appeals are initiated by filing a notice of appeal with the director within fourteen days of issuance of the decision being appealed. The combined critical area and boundary line adjustment decision will be considered final at the conclusion of the SEPA comment period on November 1, 2018. The **appeal period will end on November 15, 2018**.

The notice of appeal shall be in writing and contain the following information: (1) Appellant's name, address and phone number; (2) Appellant's statement describing his or other standing to appeal; (3) Identification of the application which is the subject of the appeal; (4) Appellant's statement of grounds for the appeal and the facts upon which the appeal is based; (5) The relief sought, including the specific nature and extent; (6) A statement that the appellant has read the notice of appeal and believes the content to be true, followed by the appellant's signature.

The notice of appeal shall be accompanied by an appeal fee as set forth in a fee schedule adopted by resolution.

EXHIBIT 10

SURVEY

OF A BOUNDARY LINE ADJUSTMENT LOCATED IN A PORTION OF THE NE 1/4 OF THE NE 1/4 OF SECTION 10 T. 1 N., R. 3 E., W.M. CITY OF CAMAS CLARK COUNTY, WASHINGTON

02/05/19

DANIEL ADOLPH RENTON — STATE OF WASHINGTON — PROFESSIONAL LAND SURVEYOR

NARRATIVE:

THE PURPOSE OF THIS SURVEY WAS TO MONUMENT THE BOUNDARY LINE ADJUSTMENT BETWEEN PARCEL NO. 85146000 & PARCEL NO. 85148000. WE HELD THE NORTHEAST CORNER OF SECTION 10 AND THE EAST QUARTER CORNER OF SECTION 10 AS OUR BASIS OF BEARING. WE THEN HELD THE DISTANCE OF 20 FEET WEST AND 367.31 FEET SOUTH OF THE NORTHEAST CORNER OF SAID SECTION 10 PER DEED REFERENCE NO. 1. THE NORTH LINE IS PERPENDICULAR TO THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION 10. THE WEST LINE IS THE EASTERLY RIGHT-OF-WAY LINE OF NORTHWEST 18TH LOOP CALCULATED PER COUNTY ROAD PROJECT 63-14. THE SOUTH LINE IS SHOWN PER AUDITOR FILE NO. 5345082 BOUNDARY LINE ADJUSTMENT. THE EAST LINE WAS CALCULATED PER DEED REFERENCE NO. 1. THE SURVEY EQUIPMENT USED CONSISTED OF A TRIMBLE GPS BASE WITH A RTK ROVER AND A TRIMBLE 3-SECOND TOTAL STATION WITH AN ELECTRONIC DATA COLLECTOR. ALL CORNERS NOTED AS FOUND WERE VISITED IN OCTOBER 2016. ALL FIELD WORK MET THOSE STANDARDS CONTAINED IN W.A.C. 332-130-090.

SURVEY REFERENCES:

1) OLSON SURVEY, BOOK 11, PAGE 148
2) RAY SURVEY, BOOK 59, PAGE 37
3) HART SURVEY, BOOK 27, PAGE 193

COUNTY ROAD BIN PROJECTS:

1) BIN 646-C 1 OF 2
   C.R.P. 63-14
   RECONSTRUCTION OF A PORTION OF C.R. 120

DEED REFERENCE:

GRANTOR: BENJAMIN R. HOCHHALTER AND JUANITA I. HOCHHALTER, TRUSTEES
GRANTEE: R. LON COMBS
AFN: 5486187
DATE: FEBRUARY 9, 2018

LEGEND:

- ● INDICATES MONUMENT FOUND AS NOTED
- ○ INDICATES CALCULATED POSITION
- ⦿ INDICATES 1/2" x 24" REBAR WITH YELLOW PLASTIC CAP "RENTON 37535" SET
- ( ) INDICATES RECORD DISTANCE PER SURVEY REFERENCE NUMBER
- AFN INDICATES AUDITOR'S FILE NUMBER
- PIN INDICATES PARCEL IDENTIFICATION NUMBER

30 15 0 30 45 60
SCALE 1 INCH = 30 FEET

FOUND AND HELD 2-1/2" ALUMINUM CAP SET IN 2008 BY "THOMAS RAY & CO." (NO L.C.R. RECORDED) SURVEY REFERENCE NO. 2 SEE L.C.R. BOOK 5, PAGE 140

N 88°33'39" W 20.00'

3 2 10 11

TAX LOT 27
PIN 85149000
AFN 4828546

367.31' (D1) 367.31'

90°00'00" (D1)

N 88°33'39" W 144.24'
26.35' 130.00'

L1

COMBS
"PARCEL 1"
AFN 5582730 BLA (2-5-19)
PIN 85148000
EXISTING SQ FT=±17,564
ADJUSTED SQ FT=±8,400

14.24' 25' 63.25' S 19°52'26" W

ADJUSTED PARCEL LINE

N 88°33'39" W 150.00'
26.35'

20 60.00'

S 01°26'21" W (BASIS OF BEARING) 194.14'
2667.89' (2667.46' S1)

AFN 5246131

TAX LOT 56
PIN 82785000

TAX LOT 56
PIN 82790000

40' S 33°33'42" W

NW 18TH LOOP

S 33°33'42" W 233.22'

EXISTING OVERHEAD POWER TO BE MOVED

EXISTING PARCEL LINE

25' S 17°01'38" W 157.77'

25' BUILDING SETBACK LINE

COMBS
"PARCEL 2"
AFN 5582730 BLA (2-5-19)
PIN 85146000
EXISTING SQ FT=±23,842
ADJUSTED SQ FT=±33,004

130.41' S 01°26'21" W 190.41'

CONSERVATION TRACT
SQ FT=±10,268
AFN: 5582729 COV
(2-5-19)

L4 1.0' 0.5' 4.6' L3

CHAINLINK FENCE

WOOD PICKET FENCE

L5 L2

C1

86.07' 25.95' 81.00'

N 88°33'39" W 167.07'

20 20

NW 16TH AVE

20 20

NW DRAKE ST

AFN 5159991
PIN 82350000

TAX LOT 25
PIN 85147000
AFN 5350433

2106.44'

FOUND AND HELD 1/2" IRON PIPE SEE L.C.R. BOOK 10, PAGE 147

10 11

BASIS OF BEARING: BASIS OF BEARING: S 01°26'21" W ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION 10 BETWEEN THE MONUMENTS SHOWN HEREON. NAD 83(2011)(EPOCH 2010.0000), WASHINGTON STATE PLANE COORDINATE SYSTEM, SOUTH ZONE US SURVEY FEET. CONVERGENCE ANGLE: -01°23'25" COMBINED SCALE FACTOR: 1.0000553274

THE DISTANCES SHOWN HEREON ARE GROUND TO OBTAIN GRID DISTANCES, MULTIPLY THE GROUND DISTANCES BY THE COMBINED SCALE FACTOR OF 1.0000553274 (0.29' PER MILE/0.006' PER 100')

LINE TABLE		
LINE	BEARING	DISTANCE
L1	N 88°33'39" W	20.00'
L2	S 78°00'42" E	20.34'
L3	S 78°00'42" E	37.09'
L4	S 82°06'27" E	71.49'
L5	N 07°32'37" E	36.59'

CURVE TABLE					
CURVE	RADIUS	DELTA	ARC DIST.	CHORD BEARING	CHORD DIST.
C1	161.91'	6°16'04"	17.71'	S 36°41'50" W	17.70'

NOTE:

1. THE CONSERVATION TRACT SHOWN HEREON IS TO BE OWNED AND MAINTAINED BY ADJUSTED "PARCEL 2" DESCRIBED IN CLARK COUNTY AUDITOR'S FILE NUMBER 5582730 BLA, RECORDED FEBRUARY 5, 2019. FOR RESTRICTIONS WITHIN THE CONSERVATION TRACT SEE CLARK COUNTY AUDITOR'S FILE NUMBER 5582729 COV, RECORDED FEBRUARY 5, 2019.
2. NO STRUCTURE SHALL BE PLACED WITHIN 25 FEET OF THE EAST LINE OF THE CONSERVATION TRACT SHOWN HEREON.

MINISTER AND GLAESER SURVEYING, INC. MAKES NO WARRANTIES AS TO MATTERS OF UNWRITTEN TITLE SUCH AS ADVERSE POSSESSION, ACQUIESCENCE, ESTOPPEL, ETC.

AUDITOR'S CERTIFICATE

FILED FOR RECORD THIS 5th DAY OF February, 2019
AT 3:30 O'CLOCK AM/(PM) IN BOOK 68 OF SURVEYS,
AT PAGE 170,
AT THE REQUEST OF MINISTER AND GLAESER SURVEYING INC.

Eville Dark
DEPUTY/COUNTY AUDITOR

SURVEYOR'S CERTIFICATE

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE SURVEY RECORDING ACT AT THE REQUEST OF LON COMBS, IN NOVEMBER 2018.

02/05/19
DANIEL A RENTON, PROFESSIONAL LAND SURVEYOR, LS# 37535

MINISTER-GLAESER SURVEYING INC.
2200 E. EVERGREEN BLVD.
VANCOUVER, WA 98661
(360) 694-3313

SCALE: 1"=30'
JOB NO. 18-484
DATE: 2-5-19
CALC BY: RDH
DRAWN BY: RDH
CHECKED BY: DAR
SHEET 1 OF 1

DWG FILE: 18484S.DWG

Bk 68 Pg 170 1 of 1


Notice of Proposed Development
"Combs Duplex - 1605 NW Drake Street"
Site Plan
An application is on file with the City of Camas for review of a Conditional Use Permit to build a duplex. For more information regarding this project contact:
Applicant contact: CamVest
Tel: 360-712-7765
City Contact: Lauren Hollenbeck
tel: 360-817-1568 ext. 4253
Public Hearing Schedule:
Hearing Date/Time: 7/10/19 5:00 PM
Location:
Camas City Hall
616 NE 4th Avenue

COMMUNITY DEVELOPMENT DEPARTMENT
616 NE 4th Avenue
Camas, WA 98607
www.ci.camas.wa.us

April 8, 2019

Lon Combs
7905 NE 173rd Avenue
Vancouver, WA 98682
Sent via email loncombs@icloud.com

RE: Combs Duplex (CUP19-01)

Dear Mr. Combs,

The purpose of this letter is to inform you that the above application submitted on March 12, 2019 has been deemed complete in accordance with Camas Municipal Code (CMC) Section 18.55.130. The following items were identified during the completeness review:

1. A development notice sign shall be posted on the subject property in accordance with CMC 18.55.110.H and proof of posting shall be provided to the City.
2. Per CMC 18.13.040, a detailed Landscape, Tree and Vegetation Plan is required along with a tree survey prepared by a certified arborist or professional forester in accordance with CMC 18.13.045. Landscaping standards are found in CMC 18.13.050 and the minimum tree density requirements are in CMC 18.13.051. A 5-foot L1 landscape buffer is required per CMC 18.13.055 Table 1.

The City will begin its review of the project application and provide subsequent comments. If you have any questions, please contact me at (360) 817-7253.

Respectfully,

Lauren Hollenbeck
Senior Planner

Cc: Robert Maul, Planning Manager
Anita Ashton, Engineering

Community Development Department

Notice of Application

Combs Duplex

File No. CUP19-01

"NOTICE IS HEREBY GIVEN" that an application for the "Combs Duplex", a residential duplex with associated parking, requesting a conditional use permit approval was received on March 12, 2019, and deemed technically complete on April 8, 2019. A public hearing is required for the Conditional Use Permit, and will be scheduled at a later time. A separate public notice will be mailed to all property owners within 300-feet of the subject development and published in the Post Record.

LOCATION: The 0.19-acre site is zoned single-family residential (R-7.5) and located at 1605 NW Drake Street in the NE 1/4 of Section 10, Township 1 North, Range 3 East; Camas, WA. Parcel Number 85148000.

APPLICATION MATERIALS: The application included the following: project narrative, site plan, building elevation and floor plans and other required submittal documents. These documents are available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8am-5pm.

Questions/Comments: For questions related to this application, please contact Lauren Hollenbeck, Senior Planner, at (360) 817-1568 or by email at communitydevelopment@cityofcamas.us.

Published in the Post Record on 4/18/19 Legal Publication # 182370
Posted at Camas City Hall, Camas Library, City of Camas web site at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on 4/17/19

AUSBORN JUSTIN T & AUSBORN
1411 NW 7TH AVE
CAMAS WA, 98607

AWYONG PERRY L & CHUA SIOK-
6437 MENLO DR
SAN JOSE CA, 95120

BARNETT STEVEN J
PO BOX 906
CAMAS WA, 98607

BONENFANT ANGELA M
449 NW 17TH AVE
CAMAS WA, 98607

BSN LLC
61260 SARAH DR
BEND OR,

CITY OF CAMAS
616 NE 4TH AVE
CAMAS WA, 98607

CITY OF CAMAS
C/O KNAPP R
CAMAS WA, 98607

COMBS R LON
7905 NE 173RD AVE
VANCOUVER WA, 98682

FRIED KELSEY S
1519 NW DRAKE ST
CAMAS WA, 98607

GAASCH TODD M & GAASCH RENEE L
310 NW ILWACO CT
CAMAS WA, 98607

HARDING VICTOR & HARDING TRICIA
602 NE 18TH LP
CAMAS WA, 98607

HOCHHALTER BENJAMIN &
2718 NW FARGO ST
CAMAS WA, 98607

JOHNSON MELINDA
2445 NW 29TH ST
CORVALLIS OR, 97330

JUDD TIMOTHY J
1414 49TH ST
WASHOUGAL WA, 98671

KRAMER PHYLLIS B
441 NW 15TH AVE
CAMAS WA, 98607

LIEB TAMARA A & TAYLOR TANYA L
440 NW 16TH AVENUE
CAMAS WA, 98607

LLORENTE KAILIE ANN
443 NW 16TH AVE
CAMAS WA, 98607

MARTINSON SHELBY
452 NW 17TH AVE
CAMAS WA, 98607

MATHIESEN SHAWN L & MATHIESEN
414 NW 16TH AVE
CAMAS WA, 98607

NEWMAN RYAN & NEWMAN
428 NW 17TH AVE
CAMAS WA, 98607

OLIN HOMES LLC
9301 NE 117TH AVE
VANCOUVER WA, 98662

OLSON JOSEPH P
3916 VIA MARISOL #118
LOS ANGELES CA, 90042

PREECS CAROLE A & KEANE SHIRLEY A
21113 NE 227TH AVE
BATTLE GROUND WA, 98604

ROSSI CLAYTON E
1637 NW DRAKE ST
CAMAS WA, 98607

SCHEUFFELE JAMES E JR &
438 NW 18TH AVE
CAMAS WA, 98607

SCOTT ELISABETH A
4740 NE 50TH PL
PORTLAND OR, 97218

SWEAT SEAN & SWEAT SARAH
461 NW 17TH AVE
CAMAS WA, 98607

TICE KIMBERLY ANN
417 NW 16TH AVE
CAMAS WA, 98607

VALENZUELA MARIO & VALENZUELA
455 NW 15TH AVE
CAMAS WA, 98607

VANBAALEN PAUL H
%THE SUNWORLD GROUP INC
VANCOUVER WA, 98685

WAGNER DANIEL M & WAGNER ANA
411 NW 16TH AVE
CAMAS WA, 98607

WEAKLEY GREGG F
10510 SE EVERGREEN HWY
VANCOUVER WA, 98664

WIEMKEN EDWARD & WIEMKEN BIRDIE
PO BOX 210
WASHOUGAL WA, 98671

WIEMKEN EDWARD C & WIEMKEN
PO BOX 210
WASHOUGAL WA, 98671

EXHIBIT 15

Community Development Department

Notice of Public Hearing

Combs Duplex

File No. CUP19-01

A public hearing will be held on **Wednesday, July 10, 2019 at 5:00 p.m.,** or soon thereafter, before the City's Hearings Examiner to consider the conditional use permit application for the Combs Duplex. The public hearing will be held at City Hall, 616 NE 4th Avenue, Camas, WA 98607. The applicant proposes to construct a duplex with associated parking and landscaping. The 0.19-acre site is located at 1605 NW Drake Street in the NE ¼ of Section 10, Township 1 North, Range 3 East; Camas, WA. Parcel Number includes 85158000. The application was determined technically complete on April 8, 2019.

Questions/Comments: The public hearing will follow the quasi-judicial process described within Camas Municipal Code §18.55.180. Comments related to this development may be submitted as follows: (1) In person by testifying at the public hearing; (2) by regular mail to Community Development Department staff, Lauren Hollenbeck, Senior Planner, at Camas City Hall, 616 Northeast Fourth Avenue, Camas, WA 98607; (3) by phone at (360) 817-7253; or (4) by email to: communitydevelopment@cityofcamas.us. It is preferable that written comments be received at least five working days prior to the public hearing, in order to be available with the online agenda and materials. After the agenda has been posted online, all other written comments must be received no later than noon (12:00 p.m.) the day of the hearing, in order for those comments to be handed to the Hearings Examiner by Staff. Written and oral comments may also be submitted in person during the hearing.

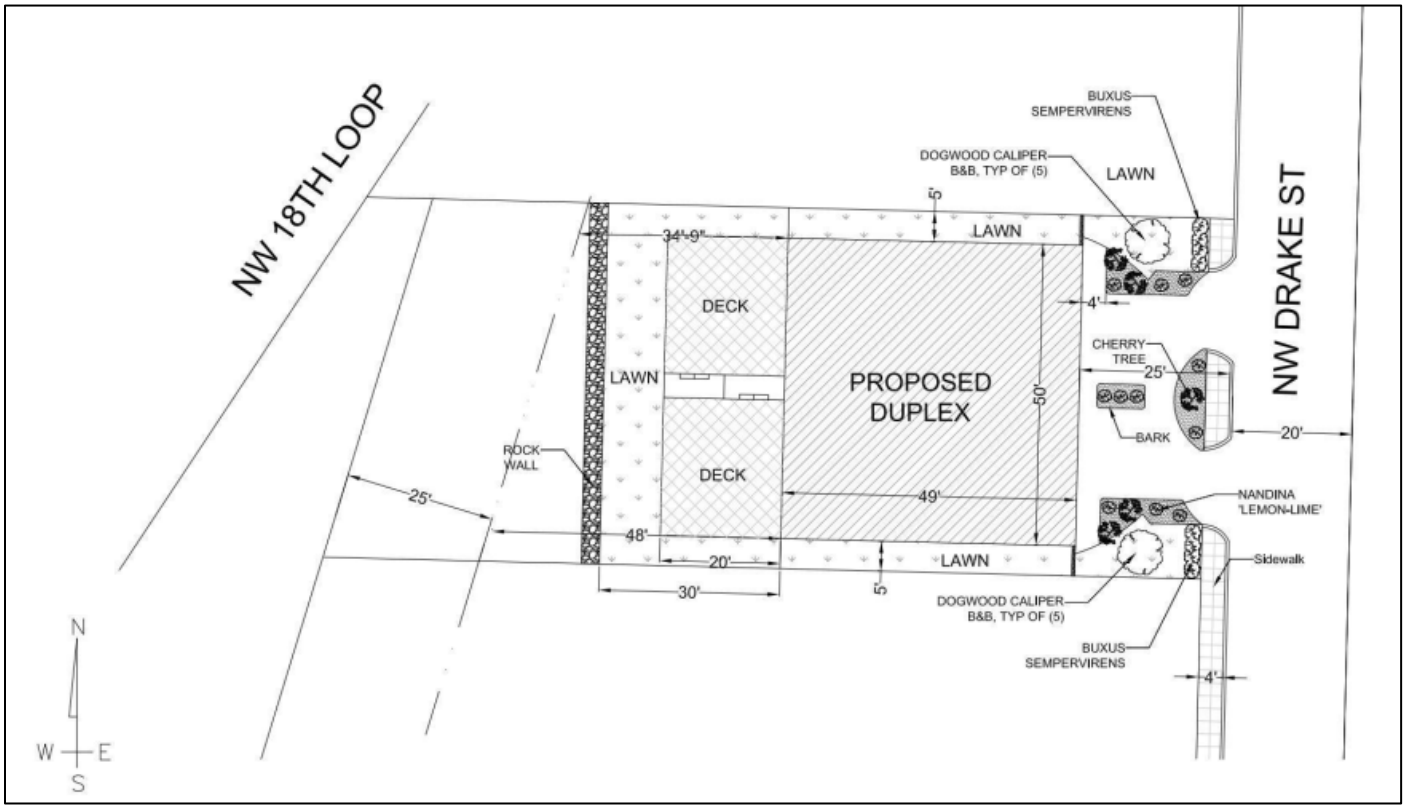
Application Materials: The application included the following: project narrative and site development plans, as required for a complete application pursuant to Camas Municipal Code (CMC) §18.55.110. The application materials are also available for viewing at the Community Development Department (616 NE 4th Avenue, Camas, WA) during regular business hours Monday – Friday 8 a.m-5 p.m.

Participate: All citizens are entitled to have equal access to the services, benefits and programs of the City of Camas. Please contact the **City Clerk at (360) 817-1591** for special accommodations if needed. The City will provide translators for non-English speaking persons who request assistance at least three working days prior to a public meeting or hearing.

More Information: The public hearing agenda and supporting documents will be available for review on the City's website at the "Minutes, Agendas & Videos" link within the drop-down menu that is labeled "Your Government" or follow this link: http://www.cityofcamas.us/yourgovernment/minuteagendavideo.

Published in the Post Record on June 20, 2019 [Legal Publication #221490]
Posted at Camas City Hall, Camas Library, City of Camas web site at: http://www.cityofcamas.us
Mailed to property owners within 300-feet on June 19, 2019

Excerpt from Conditional Use Permit Application
Combs Duplex (File #CUP 19-01)



Index of Exhibits for Combs Duplex (CUP19-01)

Exhibit	Title	Date
1	Application form	3/12/2019
2	Applicant's Narrative	3/12/2019
3	Vicinty Map	3/12/2019
4	Pre-Application Report	2/1/2018
5	Site Plan	3/12/2019
6	Landscape plan	3/12/2019
7	Building Elevations and Floor Plan	3/12/2019
8	Neighborhood Multi-family buildings	3/12/2019
9	SEPA Consolidated Decision	10/18/2018
10	Recorded Survey	2/5/2019
11	Development Sign	6/18/2019
12	Completeness Review Letter	4/8/2019
13	Notice of Application	4/18/2019
14	Mailing Labels for Property Owners	4/18/2019
15	Notice of Public Hearing	6/20/2019