TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CALIFORNIA 94930
(415) 453-1584/FAX (415) 453-1618

Date: January 30, 2020 Permit #19-T-124

NOTICE OF TREE COMMITTEE ACTION

This action may be appealed to the Fairfax Town Council within 10 days of the Tree Committee decision. This permit is not in effect until the 10 day appeal period is over.

Request for a tree permit to remove: (23) Various – Defensible Space Maintenance (new construction)
(4) Various – Deadwood + Canopy Maintenance (alteration only)

Address of Tree(s) to be removed: APN#003-022-20 adjacent to 578 Cascade Dr

Applicant's Phone: George N. Pedersen (415) 454-8531

On January 27, 20~~19~~ 20 the Fairfax Tree Committee took the following action on the above referenced tree permit application:

____X____**FOR RECOMMENDATION TO PLANNING COMMISSION –**
Applicant present.
Romaidis made a motion to recommend the owner and architect work with the fire department to keep as many trees as possible and that the applicant replace on a 1:1 basis all healthy trees that are removed, healthy trees deemed a fire hazard by the RVFD are included on the 1:1 replacement. It was also recommended that per section 8.36.060 (D) of the Town Code, the removed trees shall be replaced at a minimum ratio of 1:1. The motion was seconded by Benson and voted on.

Vote:
Benson- Aye
Flores- Aye
Pugh- Aye
Richardson Mack- Aye
Romaidis- Aye Item #2 Vote: Ayes- 5 Noes- 0

_____ APPROVED

REMINDER: PLEASE KEEP PERMIT NOTICE UP DURING THE 10 DAY WAITING PERIOD

_____ CONTINUED

_____ DENIED

ATTACHMENT P

FOR RECOMMENDATION ONLY

DEC 23 2019

TOWN OF FAIRFAX
142 BOLINAS ROAD, FAIRFAX, CA 94930
(415) 453-1584 / FAX (415) 453-1618

APPLICATION FOR TREE REMOVAL OR ALTERATION

A permit is required to remove or alter one or more trees on any parcel in the Town of Fairfax. All trees for which a permit is requested shall be tagged with an orange ribbon, a minimum of 10 days prior to the Tree Advisory Committee meeting date. Applicants must also post a notice of intent to alter or remove the marked Tree(s) in a prominent location visible along the frontage of the affected property.

APPLICANT INFORMATION

OWNER (APPLICATIONS MUST BE FILED BY PROPERTY OWNER): George Pedersen	DATE OF APPLICATION: 12/23/2019
JOB ADDRESS/ASSESSOR'S PARCEL NO. IF SITE IS VACANT 003-072-20 CASCADE DR	PHONE NUMBER: 415 454-7788
EMAIL ADDRESS: GNPPedersen@gmail.com	FAX NUMBER:
PROPERTY OWNER'S ADDRESS IF DIFFERENT FROM ABOVE 578 Cascade Drive	ALTERNATE PHONE NUMBER:

TREE INFORMATION

SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: 23 Various / Defensible Space See attached: Maintenance	CIRCUMFERENCE BREAST HEIGHT: Varies REASON FOR REMOVAL/ALTERATION: New Construction RVFD
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: 4 / Various / Dead/Dead + See attached: Canopy Maintenance	CIRCUMFERENCE BREAST HEIGHT: Various REASON FOR REMOVAL/ALTERATION
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE:	CIRCUMFERENCE BREAST HEIGHT: REASON FOR REMOVAL/ALTERATION
SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE:	CIRCUMFERENCE BREAST HEIGHT: REASON FOR REMOVAL/ALTERATION

Please attached a site plan to this application showing the location and species of all trees with a diameter of 4 inches (circumference of 12 inches or more), measured 4.5feet above grade at tree base, property boundaries and easements, location of structures, foundation lines of neighboring structures and paved areas including driveways, .

Any tree company used for the removal or alteration must have a current and valid Fairfax Business license. Please include the name, address, and phone number of the person or company doing the above listed work:

NAME: GASTUCCI DR	PHONE NUMBER:
ADDRESS: Vaccaro	CONTRACTOR BUSINESS LICENSE NUMBER

Please note the Tree Advisory Committee may require applicants to submit their application to a Qualified Arborist for a report or recommendation at the expense of the applicant. A Qualified Arborist is defined as a Certified Arborist, A Certified Urban Forester, a Registered Consulting Arborist, or a Registered Professional Forester.

OWNER'S STATEMENT

I understand that in order to properly process and evaluate this application, it may be necessary for Town personnel to inspect the property, which is the subject of the application. I also understand that due to time constraints it may not always be possible for Town personnel to provide advanced notice of such inspections. Therefore, this application will be deemed to constitute my authorization to enter upon the property for the purpose of inspecting the same, provided that Town personnel shall not enter any building on the property except in my presence or the presence of any other rightful occupant of such building. I understand that my refusal to permit reasonable inspection of any portion of the property by town personnel may result in a denial of this application due to the lack of adequate information regarding the property.

George Pedersen

Signature of Property Owner

12/23/2019

Date

[AREA BELOW FOR STAFF USE ONLY]

Permit Number: 19-T-124	
Date Received: 12-23-19	Received by: S. Water
Conditions of Approval:	
Tree Committee Action:	Date:

Tree Committee Actions can be appealed to the Town Council within 10 days of the Tree Committee Action. Contact Town Hall for more information.

Tree-Report
Arboricultural Consultations
c/o Dan McKenna
P.O. Box 814
Forest Knolls, CA 94933
415 602-1621 (cell)
dan@tree-report.com

572 Cascade Dr. Fairfax, CA

Tree Protection Plan
Risk Assessment
&
Vegetation Management Plan

Prepared for

George Pedersen

by
Dan McKenna
Registered Consulting Arborist, ASCA RCA #445
Certified Arborist, ISA WE 0356A
Risk Assessment Qualified
March 12, 2018

PURPOSE

This Tree Protection Plan, Risk Assessment and Vegetation Management Plan have been drafted with the sole purpose of protecting 12 trees adjacent to a construction project at 572 Cascade Dr. in Fairfax, CA. This plan will include scaled Tree Protection Zones (TPZ) on the site plan, a description of the 4 trees proposed for removal and their current risk assessment rating and actions to protect the remaining trees during construction and post construction best practices.

The four trees proposed for removal have been assessed for risk based upon their current condition, and future new use of the property. Three trees proposed for removal have been assessed with a high level of risk for those using the property's outside areas, and one tree has been assessed as having low risk for those using the property's outside areas.

This report also includes a Vegetation Fuels Management Plan which has been developed in order to comply with the Ross Valley Fire Department Fire Protection Standard 220. This plan will include an inventory of existing woody perennials (trees) with a diameter > 4 inches as measured 4.5 feet above grade (dbh), a scaled site plan locating and numbering each woody perennial, a delineated defensible space on the site plan, a general description of woody, herbaceous plants and grasses currently existing, a fuels hazard assessment matrix and defensible space maintenance plan for each tree .

EXISTING CONDITIONS

The property located in the town of Fairfax, CA has an overall terraced rise from the public assess on Cascade Dr. The 30 to 35-degree slope rises from the south to north, with a relatively flat building area. The entire lower building site is classified as Mostly Grass Model 2[1] with a mix of native annual grasses and herbaceous perennials, and woody perennials (Douglas Firs, *Pseudotsuga menziesii,* California Bay *Umbellularia californica*, Monterey Pine, *Pinus radiata*, and Coast Live Oak, *Quercus agrifolia* (see photos). The lot has full southern exposure. Some forest debris exists towards the top of the parcel and various pieces of equipment and vehicles are parked on the terraced areas.

The site plan included in this Report identifies all trees impacted by the proposed construction, with Photos #1 through #14 depicting the general condition of the subject trees and the overall vegetation density for the Vegetation Management Plan. The majority of young trees are in good health and vigor, while the majority of the older trees are in fair to poor health and vigor. The Conservation Suitability Worksheet found in Appendix A provides an evaluative tool to rate the tree's overall current condition, proximity to below ground construction and potential long-

[1] As defined by the Ross Valley Fire Department Fire Protection Standard 220

term survivability. As the table indicates, the majority of trees protected under specifications found in this plan will need to be monitored post construction and additional measures may need to be undertaken to ensure long-term vigor.

The Proposed Project and Impacts

As depicted on the Appendix C Site Plan, ideal Tree Protection Zones (TPZ) have been placed for those trees closest to the construction area. The TPZ is calculated by the species' tolerance to below ground construction, age, and size. The other significant impact will occur for Trees #86 - #89 The TPZ for these trees will be degraded by construction staging and access into the construction site. Special specifications for these four trees will be called out in the Specifications Section of this report. These special specifications are intended to minimize root zone degradation during the duration of the construction project.

In summary, twelve trees are proposed to be preserved, and four trees are proposed for removal. These four trees are proposed for removal based upon risk associated with the change of land use rather than the proposed project. Justification for their removal is detailed in the Risk Assessment Section of this Report.

Preservation Recommendations

Preserving trees during construction and development, employs the principle of establishing tree protection zones (TPZ). Within these zones, all activities related to construction are regulated and/or prohibited. In addition, storage of materials, moving equipment through the zone, excavating, changing grades or allowing construction wastes (including effluent such as cement waste water) from entering the soil area is also regulated.

The size of a TPZ is determined by the tolerance of the tree species to disruption, the age of the tree, and the size of the tree. Matheny and Clark (1998) have assigned tolerances to individual species. In this case, Big Leaf Maples are classified as have a low tolerance to construction activities, while Coast Redwoods have a good tolerance. The Matheny and Clark guideline also uses the tree's age within the context of the species normal longevity to determine the size of the TPZ.

As an example, a 10 in. Douglas Fir the TPZ would extend 7.5 feet in all directions, while a like size the CA Bay, would extend 10 feet in all directions.

At a minimum, the TPZ should be delineated through the installation of temporary fencing, stout enough to last during the construction project. The fencing should be at least 4 feet in

height. Leaning equipment and supplies against the fencing should also be prohibited to maintain the integrity of the TPZ boundary. In this case, creating a TPZ fencing system for each tree is not practical. I have chosen to protect the trees via a zone fencing system as detailed in Appendix C.

Compaction of the TPZ soils should be protected through the use of mulch topped with plywood, and the trunks of the trees should be armored to prevent bark damage.

Minimizing root loss is a critical element of any Tree Protection Plan strategy. Hamilton (1988) details several requirements that should be observed when cutting the roots of established trees. They include:

- Do not damage or remove **buttress roots**
- Maintain adequate soil moisture after trees have been root pruned
- Do not remove roots during the growing season

In addition, any wounded roots will develop **callous** tissue if properly pruned. They will develop less decay if they are cut using standard pruning equipment (saws and loppers), rather than broken through the use of excavating equipment.

Tunneling under roots is also encouraged when routing utility lines through the TPZ. In all cases, hand excavations and the prohibition of heavy equipment within the TPZ is always encouraged.

When work must be performed within the TPZ, the Project Arborist shall review and approve a work plan that minimizes the impact upon soils and roots. Upon the completion of work within the TPZ, fencing and mulching is restored for the duration of the project.

Recommendations & Specifications

Goals:

1. Maintain or improve soil structure and porosity within the subject tree's root zones
2. Prohibit any physical above ground damage to trunks and branches
3. Prohibit the addition of any construction wastes or spoils into the trees' root zones
4. Maintain existing soil grades around the subject trees' root crown zone.

Specification:

The following Specifications are intended to be implemented sequentially.

TPP.1. The Project Arborist shall conduct a pre-construction meeting with the general contractor and all relevant sub-contractors to discuss the Plan's Specifications and Goals, prior to the start of any construction activity and review the layout of the TPZ, and the fencing material proposed, as prescribed on the Site Plan found in Appendix C of this Tree Protection Plan

TPP.2. The Project Superintendent in conjunction with the Project Arborist shall identify areas within the TPZ where construction activities shall occur for Trees #86- # #89. As detailed on the Site Plan, 6" of wood chips/mulch shall be maintained for the duration of the project. The goal will be to maintain the soil protection for the duration of the project. As needed, the 6" layer of mulch shall be supplemented during the course of the project. If excavations are needed in these areas, the Project Arborist shall supervise these activities and provide guidance as needed.

TPP.3. Install Trunk protection measures, for the following trees;
#86 -#89, #91- #92, #94, #96 - #100
which at a minimum shall include the installation of ½ in. closed cell foam padding around the truck of each tree from soil grade to a height of 6 ft. above grade. 2" x 4" x 6' wood planks shall be installed on top of the padding and secured with metal straps in at least two locations. No fasteners or other invasive hardware shall be driven into the subject trees.

TPP.4. Secure/delineate TPZs utilizing construction fencing 4' in height. The fencing shall be constructed in such a manner as to provide a durable and lasting perimeter intended to function for the duration of the project. In those cases, where work will occur within the TPZ, a functional gate shall be included in the perimeter fencing. The Project Arborist shall approve the manner in which the fencing has been constructed.

TPP.5. Bilingual (English/Spanish) signage with a contact phone number shall be attached to the fencing in multiple locations with the following language:

Tree Preservation Area
Entry Prohibited without Authorization
by
Construction Superintendent or Project Arborist

TPP.6. Root removal shall utilize the following procedures:

1. Roots larger than 1 inch in dia. shall be severed with a sawzall, or carbide chain saw.
2. With the approval of the Project Arborist roots larger than 2 inches in dia. shall be severed at a location utilizing ANSI A300 best practices. The Project

Arborist shall advise and make every attempt to minimize removing roots greater than or equal to 2" in diameter.

3. Compaction for this area shall not exceed 88%.

TPP.7. General Conditions:

a. No spoils of any kind are permitted within the TPZ
b. Do not stack, lean, or place within any equipment, materials, or supplies within the TPZ
c. Repair TPZ fencing as needed during the duration of the project.
d. Maintain existing soil grades

Post Construction Plan

Any reforestation requirements as a condition of the project approval should not be conducted until the construction has been completed. Trees planted as required should be sound nursery stock and species should be appropriate for the location.
Irrigation and drainage improvements should attempt to maintain existing soil moisture levels. Any damage to the canopy of the trees during construction should be mitigated post construction utilizing ANSI 300a Pruning Specifications and employed by a Certified Arborist.

A post project Risk Assessment is recommended by a Qualified and Certified Arborist.
I believe these measures should protect the trees during construction and post construction. If you should have questions related to this report, please contact me at your convenience.

RISK ASSESSMENT FOR TREES #90, #93, #95 & #880

The following Table list the four trees proposed for removal and details their defects. These defects will be used in the Risk Assessment Matrix.

Table 1 Trees Proposed for Removal

Tree #	Species	Ht. in ft.	Crown Spread in ft.	Diameter at Breast Height	Current Condition/Age	Defects
90	Coast Live Oak	40	20	8 and 8 (multi trunk)	Poor/Mod	Poor Vigor, **severe decay in root collar**, fungal fruiting bodies on trunk, broken top, root loss

Table 1 Trees Proposed for Removal cont'd						
Tree #	**Species**	**Ht. in ft.**	**Crown Spread in ft.**	**Diameter at Breast Height**	**Current Condition/Age**	**Defects**
93	Coast Live Oak	60	20	20	Poor/Advanced	Poor Vigor, lean, asymmetrical crown in plane of lean, poor trunk/crown ratio, **Sudden Oak Death infection,** broken scaffold branches, remaining trunk with decay in root collar
95	Coast Live Oak	60	20	30	Poor/Advanced	Poor Vigor, lean, asymmetrical crown in plane of lean, poor trunk/crown ratio, **Sudden Oak Death infection,** broken scaffold branches, Decay in root collar and lower trunk.
880	Coast Live Oak	60	40	37	Fair/Advanced	Fair vigor, lean, asymmetrical crown in the plane of lean, broken scaffold branches, **decay in root collar and lower trunk on the back side of tree lean**

These defects have been utilized within the Tree Risk Assessment Matrix[2] in order to determine a level of risk for the Targets within the Subject Tree's dripline, 1x actual height, and 1.5x actual height. The targets for this report are the new residential structure at 572 Cascade Dr., and users of the property's landscape gardens. They are within 1.5x the height of the Subject Trees. For purposes of this report only the most serious defect (**listed in bold**) has been utilized in the Risk Assessment Matrix.

[2] ANSI A300 Part 9: Tree, Shrub, and Other Woody Plant Management- Standard Practices (Tree Risk Assessment a. Tree Structure Assessment)

The next step in the Risk Assessment protocol is the identification of targets a tree defect may affect in the event of a failure. In this case, the buildings and occupants, users of the exterior landscapes surrounding the property, and users of the PROW. The targets are further described by indicating if they are within the tree's target zone continuously, or not. In this case, the structures are obviously always in the target zone, while people move in and out of the zones. These factors are then utilized to determine the tree's likelihood of failure and if the failure will impact (damage the target in the event of a failure). For purposes of this report, the probability of failure has been established as within the next 2-years. The likelihood of a failure for the Subject Trees, impacts and consequences are listed in Table 2:

Table 2 Likelihood of Failure and Consequences

	Targets	Likelihood of Failure	Likelihood of Impacting the Target	Likelihood of Failure & Impact	Consequences
Subject Tree Defect #90					
	Structures	Improbable	Very Low	Unlikely	Negligible
	Landscape Users	Probable	High	Likely	Severe
Subject Tree Defect #93					
	Structures	Possible	Low	Unlikely	Minor
	Landscape Users	Probable	High	Likely	Severe
Subject Tree Defect #95					
	Structures	Possible	Low	Unlikely	Minor
	Landscape Users	Probable	High	Likely	Severe
Subject Tree Defect #880					
	Structures	Possible	Low	Unlikely	Minor
	Landscape Users	Probable	High	Likely	Severe

The size of the failed tree part is also considered. Tree parts in excessive of 2 inches falling unimpeded from this tree could severely injure anyone within the exterior target zones. Damage to the structure would rise to the level of significant if the failed tree part exceeded 8 inches. The size of wood striking a target during a catastrophic failure event for both of these trees would almost certainly exceed 8 inches in diameter.

Recommendations

The final process in the Risk Matrix methodology utilizes the Impacts and Consequences found in Table 2 to arrive at a Risk Rating. Table 3 lists the highest rating for each Tree (in this case users of the landscape are most at risk for all defects):

Table 3 Risk Rating

Subject Tree	Risk Rating (Low, Moderate, High & Extreme)	Mitigation Recommendation
Tree #90	Low for users of outdoor areas	Root collar decay has no recognized remedy. This is minor tree to the area and will improve tree spacing as required by Ross Valley Std. 220. Recommendation remove and replace the tree in a location that maintains screen between properties and adheres to Std. 220
Tree #93	High for users of outdoor areas.	Sudden Oak death is not treatable and coupled with the root collar decay, there is not recognized mitigation strategy. Recommendation remove and replace the tree
Tree #95	High for users of outdoor areas	Sudden Oak death is not treatable and coupled with the root collar decay, there is not recognized mitigation strategy. Recommendation remove and replace the tree.
Tree #880	High for users of outdoor areas	Root collar decay has no recognized remedy. Root loss on the back side of this tree associated with proposed construction also impacts long term viability. Recommendation remove and replace the tree.

Once a rating is established and mitigation measures are recommended, the next step is to determine if the mitigated level of risk is acceptable. In this case, I am recommending the trees be removed, since no known viable mitigation measures are available

Note:
Keep in mind that Risk Assessments are a snap shot looking at a tree's current condition and natural events or changes to the tree's growing conditions can quickly change the condition of a tree and its associated risk rating

VEGETATION MANAGEMENT PLAN

These plans will include an inventory of existing woody perennials (trees) with a diameter > 4 inches as measured 4.5 feet above grade (dbh), their general condition, a scaled site plan (Appendix D) locating and numbering each woody perennial, a delineated defensible space on the site plan, a general description of woody, herbaceous plants and grasses currently existing, a fuels hazard assessment matrix, and a defensible space maintenance plan.

This Vegetation Management Plan (VMP) has been developed by documenting the existing conditions, topography, emergency vehicle access, exposure, current species plant palette, and tree canopy spacing. These factors determine the size of defensible space that will developed and maintained in order to minimize the risk of wild land fires. Based upon these factors a reasonable defensible space can be created through selective tree removals and long-term vegetation maintenance strategies. In addition, the VMP does not include any recommendations for vegetation maintenance on adjacent properties.

Existing Conditions

Refer to previous description of vegetation and topography in Existing Conditions Section of this Report as well as Photos.

Defensible Space

Utilizing the aforementioned topographic and vegetative conditions, the VMP Hazard Assessment Matrix determined a score of 20 (see Appendix B). This correlates to a defensible space of 100' x 50' x50' x 50'. The recommended down slope and cross slope defensible space does exceed the property boundaries.

As previously mentioned, the property is up slope from the paved roadway. The current site plan calls for the new residence to be set back from the roadway and coupled with the width of the roadway will provide an effective downslope defensible area of approximately 60 feet. Vegetation across from the subject property is growing on a less steep slope.

The horizontal defensible space requirements also extend beyond the property lines of the subject property. The western (up canyon) property has limited vegetation and more formal exotic landscape, while the eastern property has native vegetation of grasses, and conifers with mixed hardwoods.

Defensible Space Treatment Recommendations

There are 19 trees currently within the Defensible Space Zone. Four of those trees are proposed for removal due to defects and risk. One of the remaining trees is considered fire prone (#86) and grows at the bottom of the property adjacent to the road. Table 4 lists the trees within the defensible space and an VMP maintenance plan consistent with Standard 220. Trees listed in bold are considered pyrophytic as listed in the Standard 220 Fire Prone Species list.

		Table 4
Tree #	**Species**	**Defensible Space Maintenance Plan**
86	**Monterey Pine**	**Deadwood removal, and raising the lowest branches over the roadway to 15' and over the parcel to 10'**
87	Coast Live Oak	Deadwood removal, raise canopy to 10'
88	Bay	Consider removal for better spacing between trees, but at the very least raise canopy to 10'
89	Big Leaf Maple	Deadwood, and minor canopy raising
90	Coast Live Oak	Proposed for removal
91	Bay	Deadwood and raise the canopy to 10'
92	Bay	Consider removal as the tree leans at a 45-degree angle and ground clearance cannot be achieved.
93	Coast Live Oak	Proposed for removal
94	Coast Live Oak	Deadwood and raise the canopy to 10'
95	Coast Live Oak	Proposed for removal
96	Douglass Fir	Remove lower branches to 10'
97	Coast Live Oak	Tree has been topped and advantageous sprouts extend to the ground, removal lower growth to 10', also consider removal for better spacing with #96
98	Douglass Fir	No work needed
99	Deodar Cedar	Raise lower branches now to 5' and as the tree grows continue to remove lower branches to achieve 10' clearance. Note: tree is too small to achieve 10' clearance now
100	Douglass Fir	Raise lower branches now to 5' and as the tree grows continue to remove lower branches to achieve 10' clearance. Note: tree is too small to achieve 10' clearance now
880	Coast Live Oak	Proposed for removal
A	Wild Plum	Consider removal, but at the very least raise canopy to 10'
B	Bay	Consider removal for better spacing, but at the very least raise canopy to 10'
C	Coast Live Oak	Deadwood removal, raise canopy to 10'

Since the Defensible Space is relatively free of understory brush or grasses, and tree spacing is very good except for the eastern fence line, the area should be mulched to minimize annual grass growth and pyrophytic woody perennial establishment. In general, the area should be kept clear of any pyrophytic species as listed in Standard 220.

Fire Apparatus Clear Zone (FACZ)

Cascade Dr. is approximately 20 feet in width. The building is set back approximately 40' from the roadway. The site plan depicts a parking cut out in front of the residence. These site features should provide an adequate FACZ. Currently, vegetation growing on both sides of the roadway provides more than 15 feet of vertical clearance.

Landscaping and Maintenance

The defensible space has been recently stripped of most low growing seasonal and perennial vegetation. The area can be mulched or planted with erosion control annuals if desired. The balance of the property beyond the defensible space can be improved relative to fire safety and forest management, by removing downed limbs and tree litter. Table 4 recommendations take into account best practices for wild land forest management and the new use for the property, namely residential. All pruning should be conducted under the supervision of a Certified Arborist utilizing ANSI A300 Pruning Standards. Besides the specific tree recommendations found in Table 4, the following general specifications should also be undertaken initially and on an annual basis:

- Thin out overly dense stands to provide crown separation. The ideal is to provide 10 feet of clearance between tree crowns. This is an ideal and may not always be practical.
- Remove or substantially thin undergrowth as needed.
- Cut and maintain annual grasses to within 4 inches of grade during the dry season. A good rule of thumb is May through October.
- As practical, raise tree crowns to a minimum of 10 feet above grade, in some cases this may not be practical given low growing large scaffold oak structures.
- When thinning out undergrowth remove pyrophytic species and only plant fire resistant plants. Refer to
- As needed, prior to the start of the dry season (usually May), remove dead and diseased trees or branches and foliage. Clean up downed and dead debris. Chip materials up to 6" and remove larger material.

Glossary of Terms

ANSI A300 Standards: In the United States industry-developed, national consensus standards of practice for tree care

Apical: Having to do with the tip of a leaf or stem

Best Management Practices (BMP): Best-available, industry-recognized courses of action, in consideration of the benefits and limitation, based on scientific research and current knowledge and standards.

Canopy & Crown: Refers to the portion of a tree comprising the branches, twigs, and leaves/needles

Consequences of Failure: Personal injury, property damage, or disruption of activities due to the failure of a tree or tree part.

Crown Reduction: Method of reducing the height and/or spread of a tree crown by making selective pruning cuts from the outer branches.

dbh: Acronym for diameter at standard height; diameter of a tree measured at 4.5 feet above ground

Drip-line: Imaginary boundary on the soil surface defined by the branch spread of a single plant or group of plants

Live crown ratio: ratio of the height of the crown containing live foliage to the overall height of the tree.

Load: General term to indicate the magnitude of a force, bending moment, torque, pressure, etc., applied to substance or material.

Response Growth: New wood produced in response to loads to compensate for higher strain in outermost fibers; includes reaction wood (compression and tension) and woundwood.

Right-of-Way: Defined area of land, usually a linear strip, reserved for the passage of traffic (e.g., paths and roadways) or the construction, maintenance, and operation of various above ground underground utilities, Rights-of-way may be granted by easement rights and may be across a single property or many properties (highways, railroads, or utility corridors are common examples).

Risk: The combination of the likelihood of an event and the severity of the potential consequences. In the context of trees, risk is the likelihood of a conflict or tree failure occurring and affecting a target, and the severity of the associated consequences- personal injury, property damage, or disruption of activities
Risk Assessment: The process of risk identification analysis and evaluation.

Root Crown: Area where the main roots join the plant stem; usually at or near ground level

Scaffold Branches: Permanent or structural branches of a tree

Target: Person, object, or structure that could be injured or damaged in the event of a tree or branch failure

Vigor: Refers to the overall growth of the tree during a typical growing season and based upon general characteristics associated with a species

References Cited

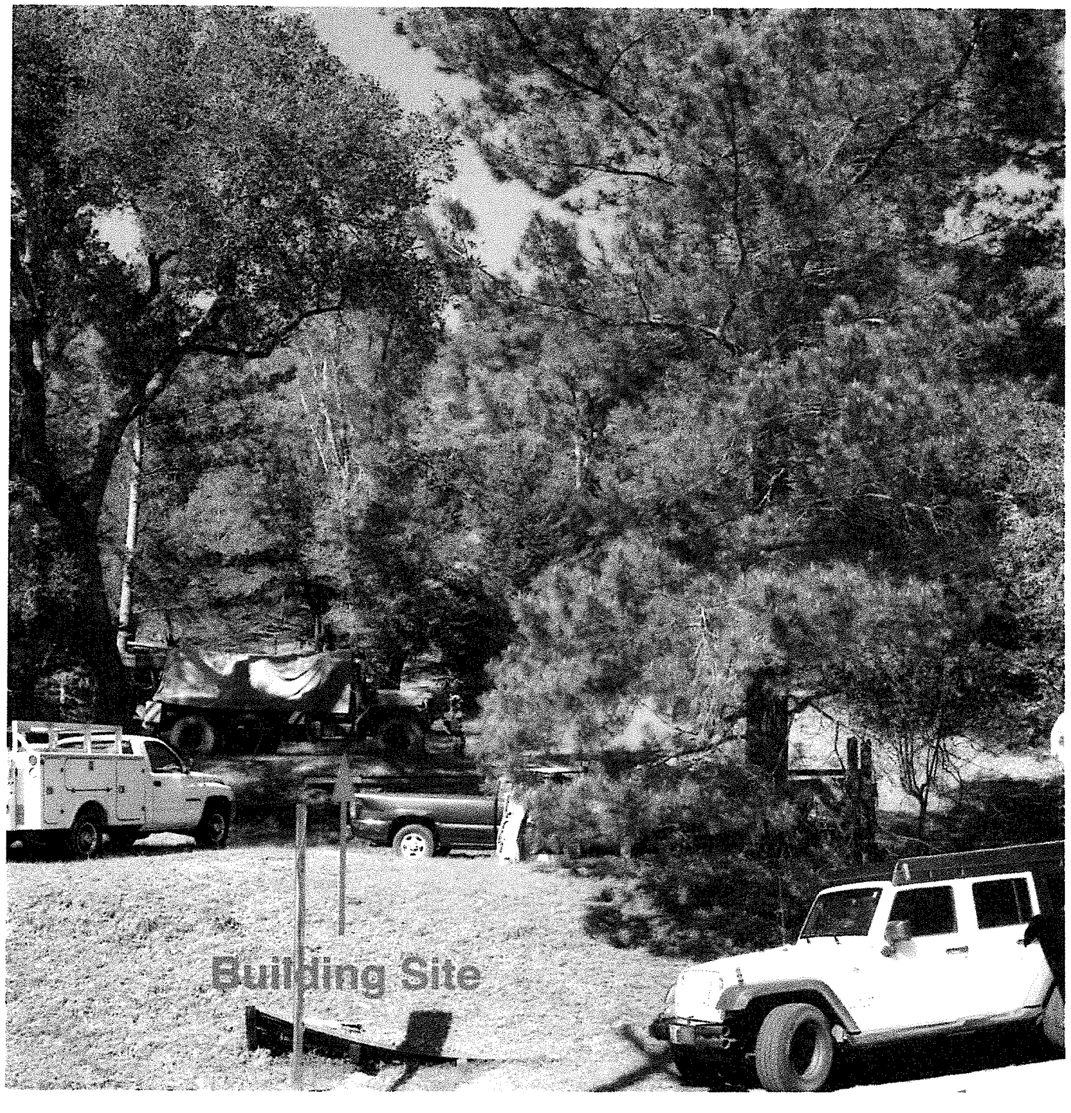
Glossary of Arboricultural Terms. 2015 International Society of Arboriculture. 106 pp

Hamilton, D. 1988. *Significance of Root Severance on Performance of Established Trees*. Journal of Arboriculture. 14(12): 288-292.

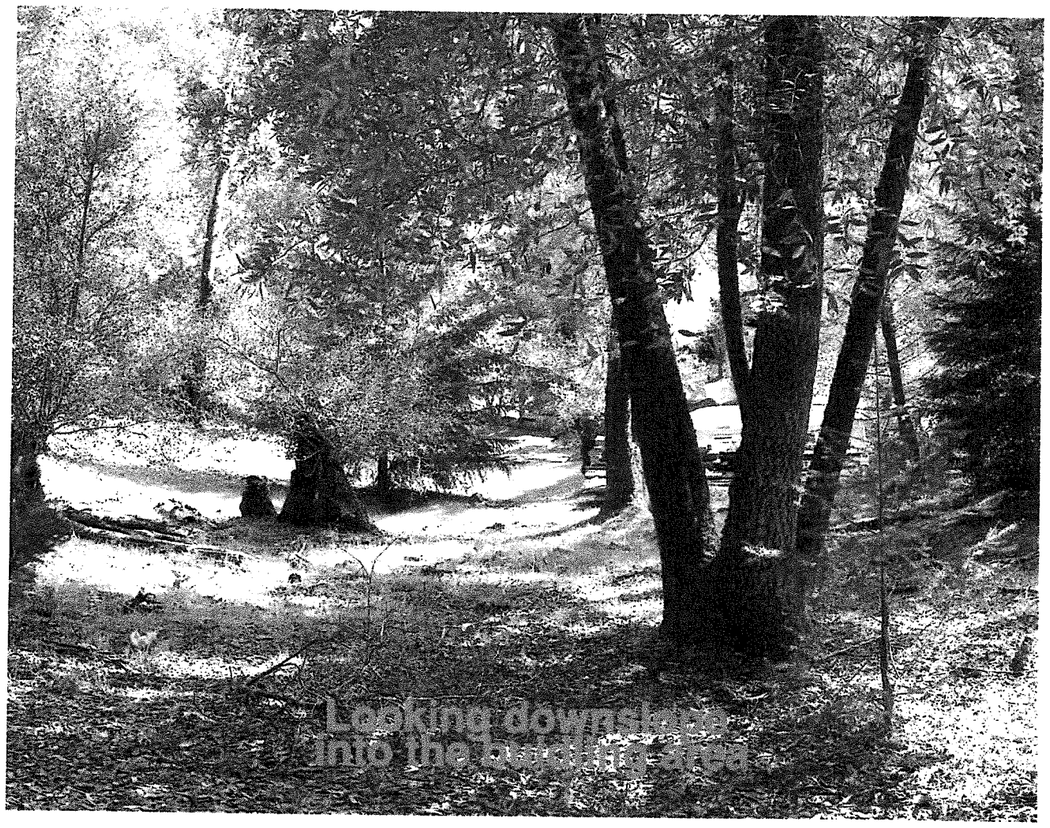
Matheny & Clark. 1998. Trees and Development, A Technical Guide to Preservation of Trees During Land Development. International Society of Arboriculture. 183 pp

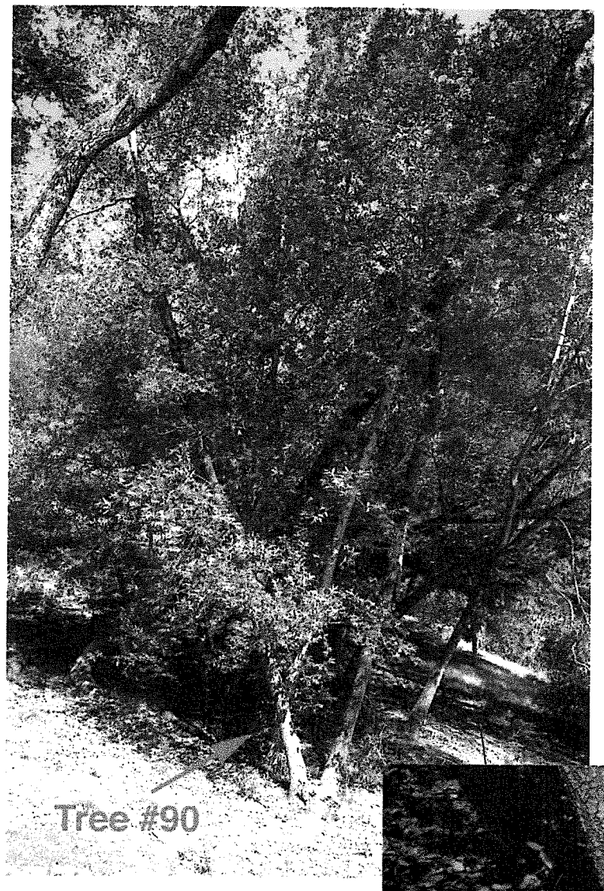
Kelby Fite, Ph.D & E. Thomas Smiley, Ph.D. Best Management Practices. Managing Trees During Construction 2nd Edition 2016. ISA Companion publication to the ANSI A300 Part 5: Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices (Management of Trees and Shrubs During Site Planning, Site Development, and Construction)

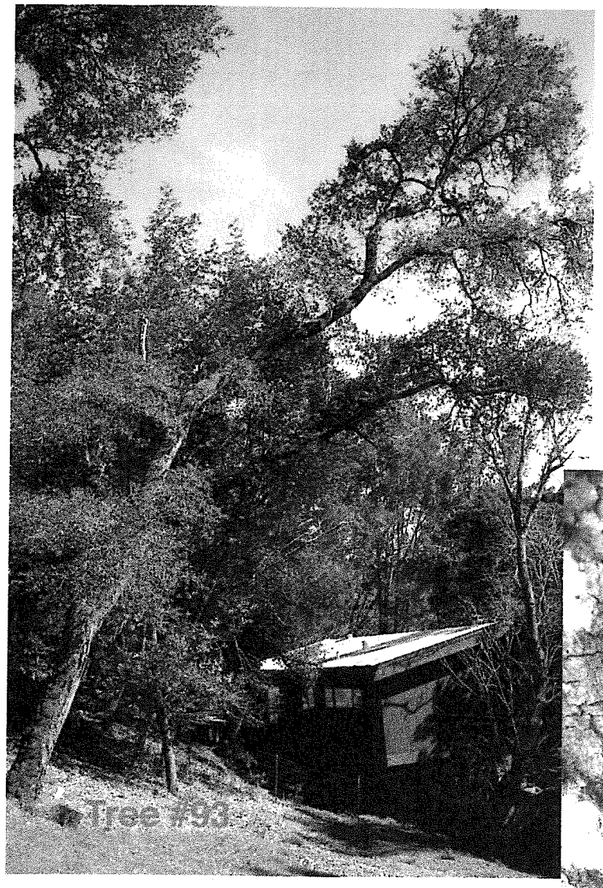
Photos #1- #14



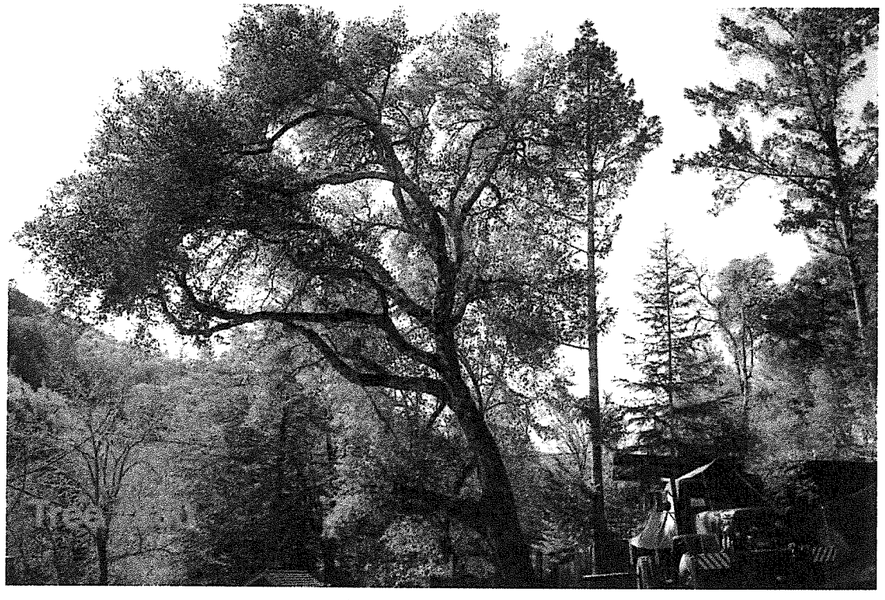

Building Site - Upslope Vegetation

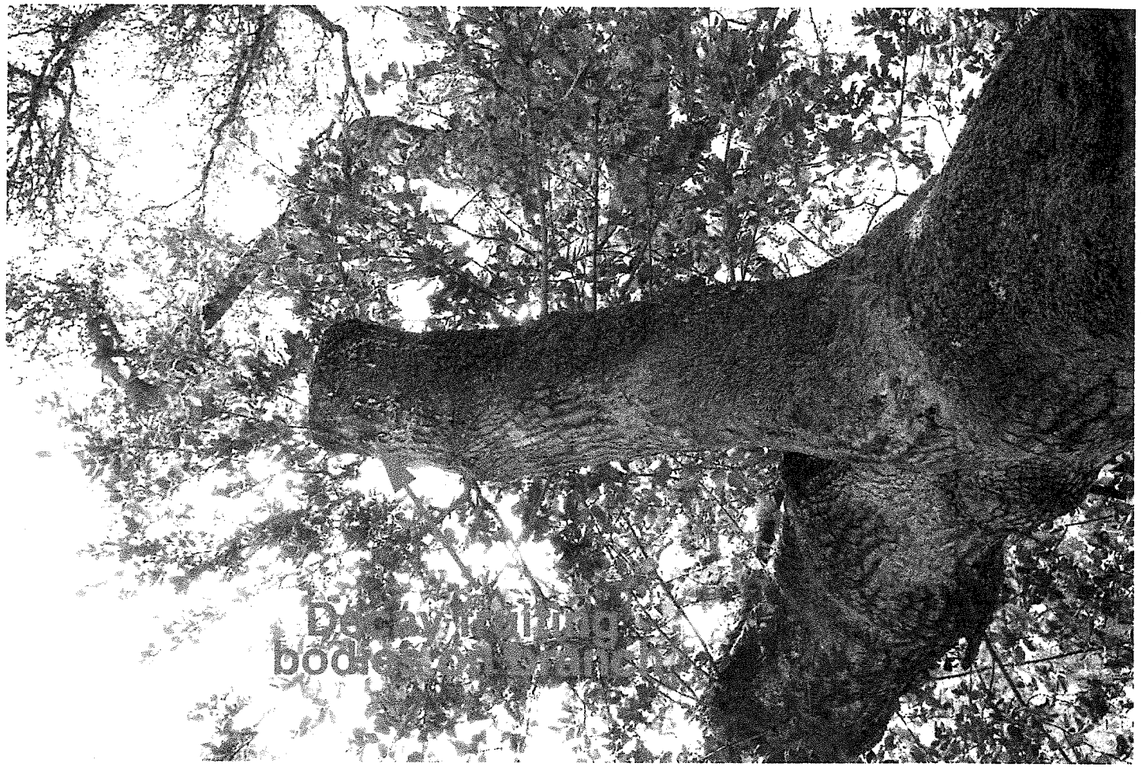

Looking downslope
into the


Tree #90


Tree #33


ee #95





Assumptions and Limiting Conditions

1. Any legal descriptions provided to the author by others are assumed to be correct.

2. Loss or alteration of any part of this report invalidates the entire report.

3. Unless expressed otherwise: 1) information contained in this report covers only those items that were examined and reflects the condition of those items at the time of inspection; and 2) the inspection is limited to visual examination of accessible items without dissection, excavation, probing, or coring. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the plans or property in question may not arise in the future.

Certification of Performance

I, Dan McKenna, CERTIFY to the best of my knowledge and belief:

1. That the statements of fact contained in this report are true and correct and I have personally inspected the subject area in question.

2. That the valuation, evaluation, analysis, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and that they are my personal, unbiased professional analysis, opinion, and conclusions.

3. That I have no present or prospective interest in the plant that is the subject of this report, and that I have no personal interest or bias with respect to the parties involved.

4. That my compensation is not contingent upon a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.

I am a Registered Consulting Arborist in good standing with the American Society of Consulting Arborists and a member and Certified Arborist with the International Society of Arboriculture. I have been involved in the field of arboriculture for thirty years.

Respectfully submitted,

Dan McKenna,
ASCA RCA #445
ISA WE0356A
ISA Tree Risk Assessment Qualified

March 12, 2018
Date

Appendix A Conservation Suitability Worksheet

Conservation Suitability Worksheet

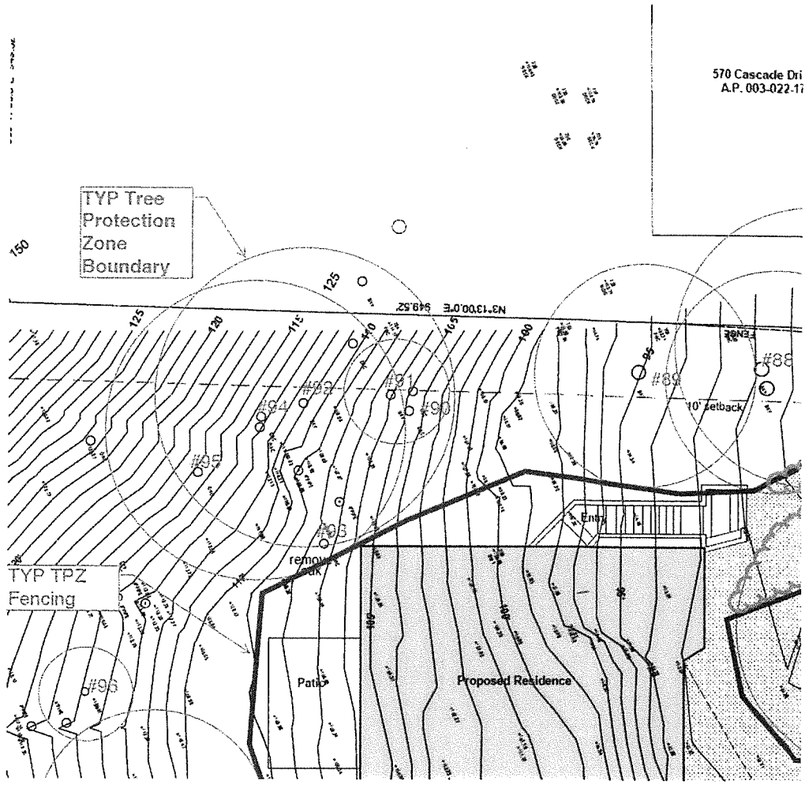
Tree #	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	880
Tree Health (1-15 Pts)	15	7	5	12	5	8	5	5	7	5	15	7	8	15	10	8
Root Cut/Fill Distance From Trunk (1-15 Pts) (<6" per 1" dbh = 1 to 1.5' per 1" dbh = 15)	12	12	12	12	12	12	12	12	12	12	12	12	10	10	10	1
Structural Defects: Many = 1, Some = 5, Few = 10, None = 15	10	10	1	1	3	10	10	3	10	3	10	7	10	10	10	4
Construction Tolerance of Species (Matheney and Clark) (1-15 Pts)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Age (relative to typical species lifespan) (1-10 Pts)	10	5	5	5	5	5	5	5	5	5	10	5	10	10	10	5
Location of Construction Activity (1-10 Pts) (within 3x dbh = 1 to > 2x dripline = 15)	10	10	10	10	10	10	10	10	10	10	10	10	8	8	8	4
Soil Quality/Characterisctics (1-10 Pts)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Species Desirability (1-10 Pts)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Total Points (Possible 100)	87	74	63	70	65	75	72	65	74	65	87	71	76	83	78	52
Notes:																

> 80 = Good: High Potential for longevity on the site after construction - 60-79 = Moderate: May require more in depth management and monitoring, before, during and after - < 59 = Poor: These trees can be expected to decline during or after construction regardless of mangement.

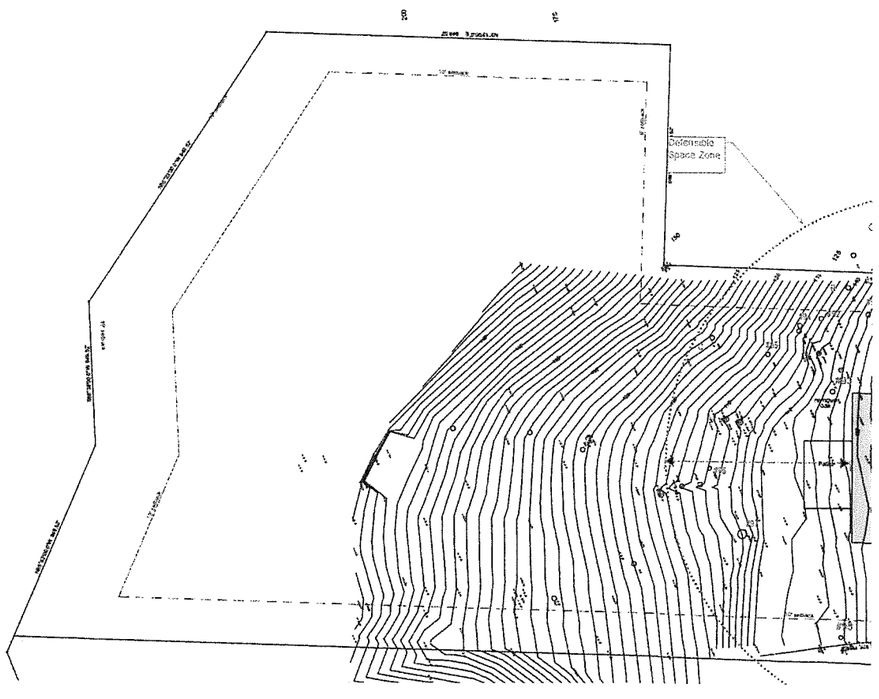
Appendix B VMP Hazard Assessment Matrix

Hazard Points	**1**	**2**	**3**	**4**	**5**	**6**	**7**	
Aspect	NE, E	NW, N	SE, W	S	SW			
Slope		0-10		20-Nov		21-30		3
Fuel = 0 -30	Specimen Garden	Hardwood	Grass	Mostly Grass	Mostly Brush	Pyrophoric hardwoods, Chaparral	Confer	C u
Fuel = 31 - 100	Grass, Mostly Grass	Mostly Brush		Pyrophoric hardwoods, Chaparral	Conifer w/Brush understory			
								T P
						Minimum Horizontal Modification feet		

Appendix C - Tree Protection Site Plan



Appendix D -



TREE-PROTECTION PLAN

572 Cascade Drive
Fairfax, California
(APN: 003-022-20)

Prepared for:
George Pedersen
572 Cascade Drive
Fairfax, CA 94930
gnppedersen@gmail.com

Prepared by:
Dr. Kent Julin
ISA Certified Arborist
California Professional Forester
ARBORSCIENCE, LLC

October 24, 2019

P.O. Box 111 • Woodacre, CA 94973-0111
Office: 415.419.5197 • Field: 415.419.6960 • PayPal: kent.julin@gmail.com
Web: http://arborscientist.com

ASSIGNMENT

George Petersen hired ARBORSCIENCE, LLC to prepare this tree-protection plan for proposed construction of a new home at 572 Cascade Drive in Fairfax. I conducted my inspection of the trees on October 24, 2019 with consideration of project plans dated October 14, 2019.

SITE DESCRIPTION AND CONTEXT

The subject trees are part of a young forest that developed following land-clearing and fire disturbances over the last 100 years. This mixed evergreen forest is dominated by California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga menziesii*), and bigleaf maple (*Acer macrophyllum*). Planted ornamentals include deodar cedar (*Cedrus deodara*) and Monterey pine (*Pinus radiata*).

SUBJECT TREE DESCRIPTIONS AND PROJECT IMPACTS

A total of 19 trees are the subjects of this report including 8 coast live oaks, 5 California bays, 3 Douglas-firs, 1 Monterey pine, 1 deodar cedar (*Cedrus deodara*), and 1 bigleaf maple (Table 1, Tree-Protection Map). The development proposal requires site grading for the driveway, house foundation, and a drainage swale that is required by the California Department of Fish and Wildlife. This work would require the removal of 6 heritage trees (Trees 87, 90, 93, 95, 97, and 880) and 3 non-heritage trees (Trees 86, 96, and 101). Note that Tree 87 is a heritage coast live oak that failed onto the street earlier this year and was cut back to a 6-foot-high stump. Tree 86 is a Monterey pine suffering from pitch pine canker (*Fusarium circinatum*) and is a fire-prone tree. Trees 96 and 101 need to be removed to allow construction of the required drainage swale.

TREE-PROTECTION MEASURES

Applicable project design and construction requirements related to the protection of trees shall be implemented in accordance with International Society of Arboriculture Best Management Practices for Managing Trees During Construction, unless modified or waived by the Town planner in consultation with the Town arborist. Following are specific tree-protection measures and considerations:

1. The project arborist will be Kent Julin through the entire length of the project. Any change of arborist will require a new arborist report from the new project arborist.

2. Before the start of any clearing, excavation, construction, or other work on the site, or the issuance of a building permit, subject trees near proposed work shall be securely fenced-off at the non-intrusion zone, or other limit as may be delineated in approved plans. Such fences shall remain continuously in place for the duration of the work undertaken in connection with the development.

Tree protection signage will be posted on all fences that indicate the trees are protected; project arborist contact information will be provided.

3. The project arborist shall attend a pre-construction meeting with the contractor and Town of Fairfax representatives.

4. If the proposed development will encroach upon the non-intrusion zone of a subject tree, special measures shall be applied, as approved by the project arborist, to allow the roots to obtain necessary oxygen, water, and nutrients. The project arborist shall be onsite during any project grading associated with the installation of the foundation or any excavation to occur within any designated "Non-Intrusion Zone."

5. Underground trenching shall avoid the major support and absorbing tree roots of the subject trees. If avoidance is impractical, hand excavation undertaken under the supervision of the project arborist is required. Trenches shall be consolidated as much as possible.

6. Artificial irrigation shall not occur within the root zone of oaks, unless deemed appropriate on a temporary basis by the project arborist to improve tree vigor or mitigate root loss.

7. Compaction of the soil within the non-intrusion zone of the subject trees shall be avoided. Use of bridging/protective materials such as layered mulch, trench plates, plywood or rubber mats is encouraged within non-intrusion zones. The existing turf subgrade will adequately protect trees along the driveway from compaction.

8. Any excavation, cutting, or filling of the existing ground surface within the non-intrusion zone shall be minimized and subject to such conditions as the project arborist may impose.

9. Burning or use of equipment with an open flame near or within the non-intrusion zone shall be avoided. All brush, earth, and other debris shall be removed in a manner that prevents injury to the subject trees.

10. Oil, gas, paint, cement, chemicals, or other substances that may be harmful to trees shall not be stored or dumped within the non-intrusion zone of any subject tree, or at any other location on the site from which such substances might enter the non-intrusion zone of a subject tree.

11. Construction materials shall not be stored within the non-intrusion zone of a subject tree. On-site parking shall be kept outside non-intrusion zones.

12. The project arborist shall report any tree damage and steps to correct damage to the Town of Fairfax immediately, then oversee corrective work.

13. The project arborist shall be present during excavation for the utility trenches, drainage swale, and foundation work near the subject trees. Any roots encountered that are larger than 4" in diameter shall be retained if possible. Smaller roots will be cut with a clean, sharp saw under direction of the arborist.

14. Watering trees may be done at the direction of the project arborist as needed.

15. Any change in the construction project will require review and approval of the project arborist *and* the Town of Fairfax.

16. The site supervisor must provide advance notice notifying the Town of Fairfax Arborist including the project arborist during critical construction operations within root-protection zones identified in the arborist report so that they can be present to monitor intrusion in the root zone.

SCHEDULE OF INSPECTIONS

Following are the inspections that will be completed as needed for the project:

1. Before Equipment Mobilization, Delivery of Materials, Tree Removal, Site Work. The project arborist will meet with the general contractor and owners to review tree-protection measures, designated tree removals, identify and mark tree-protection zone fencing, specify equipment access routes and storage areas, and review existing conditions of trees to provide any additional necessary protection measures.

2. Following Installation of Tree-Protection Fencing. The project arborist will inspect the site to ensure that all protection measures are properly installed. Review contractor requests for access within tree-protection zones. Assess changes in tree health since previous inspection.

3. During Soil Excavation or Work Potentially Affecting Protected Trees. The project arborist will inspect the site during any work within non-intrusion zones of protected trees and document implemented recommendations. Assess changes in tree health since previous inspection.

4. Final Site Inspection. The project arborist will inspect tree health and provide necessary recommendations to promote tree health and longevity. A letter report will be provided to the Town of Fairfax that summarizes the project arborist's findings and conclusions.

CERTIFICATION

I certify that the tree-protection measures described above will help maintain the systemic health and stability of trees planned for retention.

Sincerely,

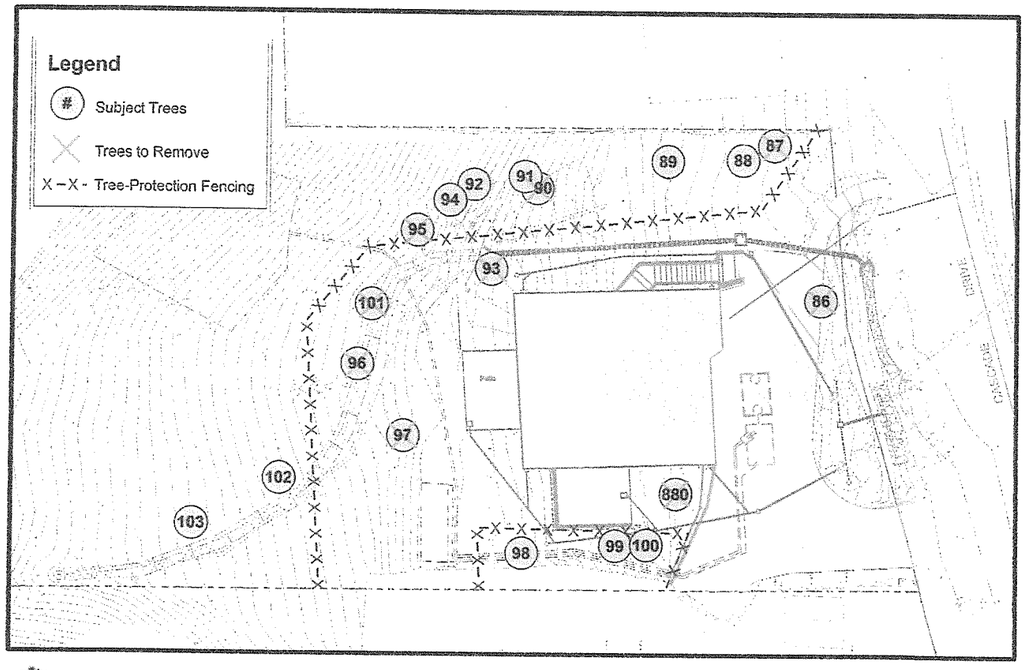
ARBORSCIENCE, LLC

Dr. Kent R. Julin
ISA Certified Arborist #WE-8733A
ISA Tree Risk Assessor Qualified
California Registered Professional Forester #2648

Table 1. Subject trees growing at 572 Cascade Drive, Fairfax.

Tree No.	Common Name	DBH (in.)	Height (ft.)	Spread (ft.)	Protection Status	Condition	Concern	Action and Rationale
86	Monterey pine	22	50	30	Undesirable	2	Pitch canker and pyrophyte	Remove for fire safety
87	Coast live oak	26	6	10	Heritage	1	Failed in 2019	Remove remnants
88	California bay	10, 12	30	20	Heritage	1	Minor trunk decay	Retain and protect
89	Bigleaf maple	15	40	20	Heritage	1	Minor trunk decay and dieback	Retain and protect
90	Coast live oak	8, 9	3	4	Heritage	1	Extensive trunk decay	Remove due to trunk decay
91	California bay	6	30	15	None	2	None	Retain and protect
92	California bay	13	25	15	None	2	None	Retain and protect
93	Coast live oak	20	30	20	Heritage	1	Decay, SOD***	Remove due to trunk decay
94	Coast live oak	5, 11	20	20	Heritage	2	Minor trunk decay	Retain and protect
95	Coast live oak	30	30	15	Heritage	1	Extensive trunk decay, SOD***	Remove due to trunk decay
96	Coast live oak	5	10	10	None	1	Swale to damage roots	Remove to create swale
97	Coast live oak	17	25	20	Heritage	1	Extensive trunk decay	Remove due to trunk decay
98	Douglas-fir	15	60	25	Heritage	3	None	Retain and protect
99	Deodar cedar	7	25	10	None	3	None	Retain and protect
100	Douglas-fir	13	40	15	Heritage	3	None	Retain and protect
101	Douglas-fir	9	30	20	None	3	Swale to damage roots	Remove to create swale
102	California bay	15, 16	50	30	Heritage	1	None	Retain and protect
103	California bay	7, 8	50	15	None	1	None	Retain and protect
880	Coast live oak	39	40	40	Heritage	1	None	Remove due to trunk decay

*Condition ratings on a scale of 1 to 5 where 1 = poor and 5 = excellent. Table 5.2 Matheny & Clark (1998) Trees and Development a Technical Guide to Preservation of Trees During Land Development. **Fairfax Town Code (§ 8.36.020) ***Sudden oak death reported in 2018 by arborist Dan McKenna.



ARBORSCIENCE, LLC
Sound Tree Advice

0 25 50 100 Feet

Tree-Protection Map
572 Cascade Drive
Fairfax, California

TREE-PROTECTION PLAN

572 Cascade Drive
Fairfax, California
(APN: 003-022-20)

Prepared for:
George Pedersen
572 Cascade Drive
Fairfax, CA 94930
gnppedersen@gmail.com

Prepared by:
Dr. Kent Julin
ISA Certified Arborist
California Professional Forester
ARBORSCIENCE, LLC

February 19, 2020

P.O. Box 111 • Woodacre, CA 94973-0111
Office: 415.419.5197 • Field: 415.419.6960 • PayPal: kent.julin@gmail.com
Web: http://arborscientist.com

ASSIGNMENT

George Petersen hired ARBORSCIENCE, LLC to prepare this tree-protection plan for proposed construction of a new home at 572 Cascade Drive in Fairfax. I conducted my re-inspection of the trees on February 18, 2020 with consideration of project plans by Richard Rushton Architect dated February 20, 2020.

SITE DESCRIPTION AND CONTEXT

The subject trees are part of a young forest that developed following land-clearing and fire disturbances over the last 100 years. This mixed evergreen forest is dominated by California bay (*Umbellularia californica*) and coast live oak (*Quercus agrifolia*), Douglas-fir (*Pseudotsuga menziesii*), and bigleaf maple (*Acer macrophyllum*). Planted ornamentals include deodar cedar (*Cedrus deodara*) and Monterey pine (*Pinus radiata*).

SUBJECT TREE DESCRIPTIONS AND PROJECT IMPACTS

A total of 29 trees that are the subjects of this report include 8 coast live oaks, 9 California bays, 9 Douglas-firs, 1 Monterey pine, 1 deodar cedar (*Cedrus deodara*), and 1 bigleaf maple (Table 1, Subject Tree Map). The development proposal requires site excavation and grading for the driveway, house foundation, septic system, and a drainage swale that is required by the California Department of Fish and Wildlife.

Eleven (11) trees would be retained and protected (Trees 87, 89, 94, 96, 97, 98, 202, 204, 206, 207, and 209). Five (5) trees would be removed because of trunk decay or the falling hazards they present (Trees 86, 90, 93, 95, and 880). One (1) tree would be removed to construct the drainage swale required by Fish and Wildlife (Trees 101). Twelve (12) trees would be removed for fire-safety reasons expressed by the Ross Valley Fire Department (Trees 88, 91, 92, 99, 100, 200, 201, 203, 205, 208, 210, and 211).

TREE-PROTECTION MEASURES

Applicable project design and construction requirements related to the protection of trees shall be implemented in accordance with International Society of Arboriculture Best Management Practices for Managing Trees During Construction, unless modified or waived by the Town planner in consultation with the Town arborist. Following are specific tree-protection measures and considerations:

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2. Before the start of any clearing, excavation, construction, or other work on the site, or the issuance of a building permit, subject trees near proposed work shall be securely fenced-off at the non-intrusion zone, or other limit as may be delineated in approved plans. Such fences shall remain continuously in place

for the duration of the work undertaken in connection with the development. Tree protection signage will be posted on all fences that indicate the trees are protected; project arborist contact information will be provided.

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8. Any excavation, cutting, or filling of the existing ground surface within the non-intrusion zone shall be minimized and subject to such conditions as the project arborist may impose.

9. Burning or use of equipment with an open flame near or within the non-intrusion zone shall be avoided. All brush, earth, and other debris shall be removed in a manner that prevents injury to the subject trees.

10. Oil, gas, paint, cement, chemicals, or other substances that may be harmful to trees shall not be stored or dumped within the non-intrusion zone of any subject tree, or at any other location on the site from which such substances might enter the non-intrusion zone of a subject tree.

11. Construction materials shall not be stored within the non-intrusion zone of a subject tree. On-site parking shall be kept outside non-intrusion zones.

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14. Watering trees may be done at the direction of the project arborist as needed.

15. Any change in the construction project will require review and approval of the project arborist *and* the Town of Fairfax.

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CERTIFICATION

I certify that the tree-protection measures described above will help maintain the systemic health and stability of trees planned for retention.

Sincerely,

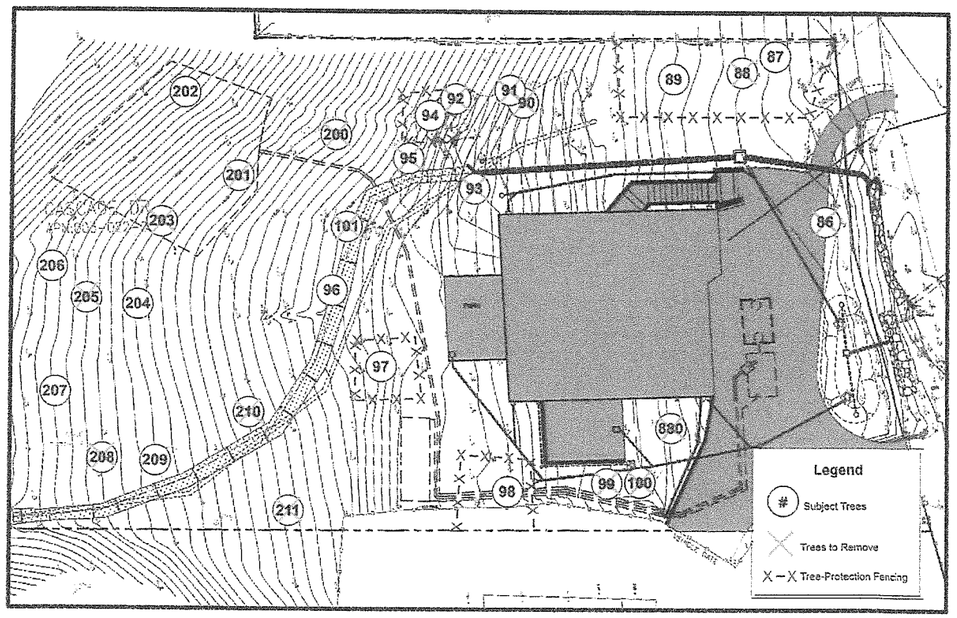
ARBORSCIENCE, LLC

Dr. Kent R. Julin
ISA Certified Arborist #WE-8733A
ISA Tree Risk Assessor Qualified
California Registered Professional Forester #2648

Table 1. Subject trees growing at 572 Cascade Drive, Fairfax.

Tree No.	Common Name	DBH (in.)	Height(ft.)	Spread (ft.)	Condition	Concern	Action and Rationale
86	Monterey pine	22	50	30	2	Pitch canker and pyrophyte	Remove for fire safety
87	Coast live oak	26	6	10	1	Failed in 2019	Remove deadwood
88	California bay	10, 12	30	20	1	Minor trunk decay	Remove for fire safety
89	Bigleaf maple	15	40	20	1	Minor trunk decay and dieback	Retain and protect
90	Coast live oak	8, 9	3	4	1	Extensive trunk decay	Remove due to trunk decay
91	California bay	6	30	15	2	None	Remove for fire safety
92	California bay	13	25	15	2	None	Remove for fire safety
93	Coast live oak	20	30	20	1	Decay, SOD**	Remove due to trunk decay
94	Coast live oak	5, 11	20	20	2	Minor trunk decay	Prune and retain
95	Coast live oak	30	30	15	1	Extensive trunk decay, SOD**	Remove due to trunk decay
96	Douglas-fir	5	10	10	1	Swale may damage roots	Retain and protect
97	Coast live oak	17	25	20	1	Extensive trunk decay	Prune and retain
98	Douglas-fir	15	60	25	3	None	Retain and protect
99	Deodar cedar	7	25	10	3	None	Remove for fire safety
100	Douglas-fir	13	40	15	3	None	Remove for fire safety
101	Douglas-fir	9	30	20	3	Swale to damage roots	Remove to create swale
200	California bay	10, 12	50	30	1	None	Remove for fire safety
201	California bay	10, 14	50	15	1	None	Remove for fire safety
202	Douglas-fir	17	20	15	3	None	Retain and protect
203	Douglas-fir	4	6	8	3	None	Remove for fire safety
204	Coast live oak	2-4(8)	15	8	1	Extensive trunk decay	Retain and protect
205	Douglas-fir	4	6	8	3	None	Remove for fire safety
206	Douglas-fir	8	12	8	3	None	Retain and protect
207	Douglas-fir	1	5	7	3	None	Retain and protect
208	California bay	7-18(5)	50	30	4	None	Remove for fire safety
209	California bay	15	40	20	4	None	Retain and protect
210	California bay	32	50	30	4	None	Remove for fire safety
211	California bay	8	30	20	4	None	Remove for fire safety
880	Coast live oak	39	40	40	1	Advanced decay, asymmetry	Remove due to trunk decay

*Condition ratings on a scale of 1 to 5 where 1 = poor and 5 = excellent. Table 5.2 Matheny & Clark (1998) Trees and Development a Technical Guide to Preservation of Trees During Land Development. **Sudden oak death reported in 2018 by arborist Dan McKenna.



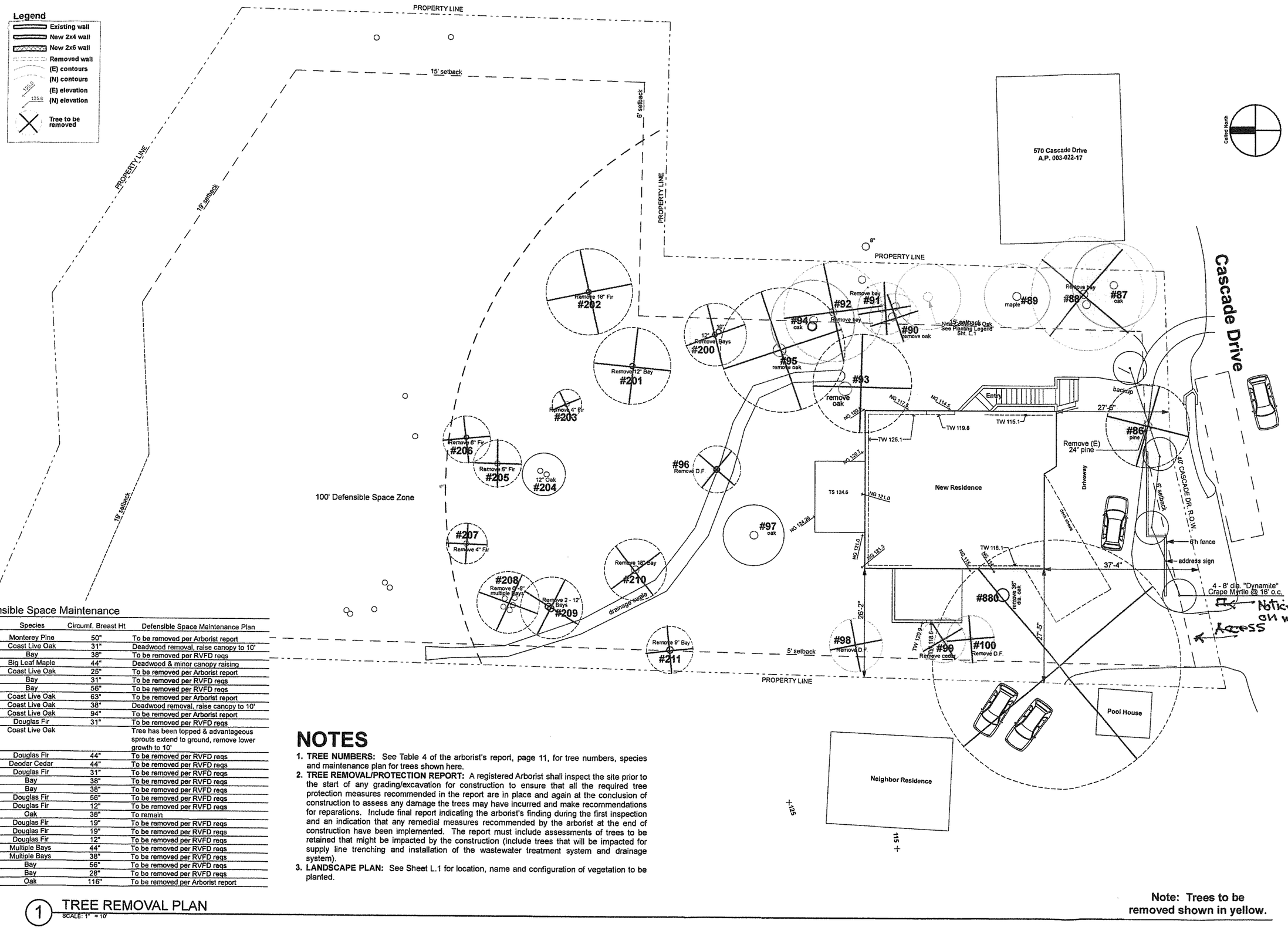
ARBORSCIENCE, LLC
Sound Tree Advice

0 15 30 60 Feet

Subject Tree Map
572 Cascade Drive
Fairfax, California

Defensible Space Maintenance

Tree #	Species	Circumf. Breast Ht	Defensible Space Maintenance Plan
86	Monterey Pine	50"	To be removed per Arborist report
87	Coast Live Oak	31"	Deadwood removal, raise canopy to 10'
88	Bay	38"	To be removed per RVFD reqs
89	Big Leaf Maple	44"	Deadwood & minor canopy raising
90	Coast Live Oak	25"	To be removed per Arborist report
91	Bay	31"	To be removed per RVFD reqs
92	Bay	56"	To be removed per RVFD reqs
93	Coast Live Oak	63"	To be removed per Arborist report
94	Coast Live Oak	38"	Deadwood removal, raise canopy to 10'
95	Coast Live Oak	94"	To be removed per Arborist report
96	Douglas Fir	31"	To be removed per RVFD reqs
97	Coast Live Oak		Tree has been topped & advantageous sprouts extend to ground, remove lower growth to 10'
98	Douglas Fir	44"	To be removed per RVFD reqs
99	Deodar Cedar	44"	To be removed per RVFD reqs
100	Douglas Fir	31"	To be removed per RVFD reqs
200	Bay	38"	To be removed per RVFD reqs
201	Bay	38"	To be removed per RVFD reqs
202	Douglas Fir	56"	To be removed per RVFD reqs
203	Douglas Fir	12"	To be removed per RVFD reqs
204	Oak	38"	To remain
205	Douglas Fir	19"	To be removed per RVFD reqs
206	Douglas Fir	19"	To be removed per RVFD reqs
207	Douglas Fir	12"	To be removed per RVFD reqs
208	Multiple Bays	44"	To be removed per RVFD reqs
209	Multiple Bays	38"	To be removed per RVFD reqs
210	Bay	56"	To be removed per RVFD reqs
211	Bay	28"	To be removed per RVFD reqs
880	Oak	116"	To be removed per Arborist report



Defensible Space Maintenance

Tree #	Species	Circumf. Breast Ht	Defensible Space Maintenance Plan
86	Monterey Pine	50"	To be removed per Arborist report
87	Coast Live Oak	31"	Deadwood removal, raise canopy to 10'
88	Bay	38"	To be removed per RVFD reqs
89	Big Leaf Maple	44"	Deadwood & minor canopy raising
90	Coast Live Oak	25"	To be removed per Arborist report
91	Bay	31"	To be removed per RVFD reqs
92	Bay	56"	To be removed per RVFD reqs
93	Coast Live Oak	63"	To be removed per Arborist report
94	Coast Live Oak	38"	Deadwood removal, raise canopy to 10'
95	Coast Live Oak	94"	To be removed per Arborist report
96	Douglas Fir	31"	To be removed per RVFD reqs
97	Coast Live Oak		Tree has been topped & advantageous sprouts extend to ground, remove lower growth to 10'
98	Douglas Fir	44"	To be removed per RVFD reqs
99	Deodar Cedar	44"	To be removed per RVFD reqs
100	Douglas Fir	31"	To be removed per RVFD reqs
200	Bay	38"	To be removed per RVFD reqs
201	Bay	38"	To be removed per RVFD reqs
202	Douglas Fir	56"	To be removed per RVFD reqs
203	Douglas Fir	12"	To be removed per RVFD reqs
204	Oak	38"	To remain
205	Douglas Fir	19"	To be removed per RVFD reqs
206	Douglas Fir	19"	To be removed per RVFD reqs
207	Douglas Fir	12"	To be removed per RVFD reqs
208	Multiple Bays	44"	To be removed per RVFD reqs
209	Multiple Bays	38"	To be removed per RVFD reqs
210	Bay	56"	To be removed per RVFD reqs
211	Bay	28"	To be removed per RVFD reqs
880	Oak	116"	To be removed per Arborist report

NOTES

1. **TREE NUMBERS:** See Table 4 of the arborist's report, page 11, for tree numbers, species and maintenance plan for trees shown here.
2. **TREE REMOVAL/PROTECTION REPORT:** A registered Arborist shall inspect the site prior to the start of any grading/excavation for construction to ensure that all the required tree protection measures recommended in the report are in place and again at the conclusion of construction to assess any damage the trees may have incurred and make recommendations for reparations. Include final report indicating the arborist's finding during the first inspection and an indication that any remedial measures recommended by the arborist at the end of construction have been implemented. The report must include assessments of trees to be retained that might be impacted by the construction (include trees that will be impacted for supply line trenching and installation of the wastewater treatment system and drainage system).
3. **LANDSCAPE PLAN:** See Sheet L.1 for location, name and configuration of vegetation to be planted.

Note: Trees to be removed shown in yellow.

1 TREE REMOVAL PLAN
SCALE: 1" = 10'

Richard Rushton Architect
235 Scenic Road, Fairfax CA 94930
(415) 306-4714
Email: rich@ rushtonarchitect.com
Website:
www.richardrushtonarchitect.net

LICENSED ARCHITECT
RICHARD E. RUSHTON
C-5811
RENEWAL DATE 10-31-19
STATE OF CALIFORNIA

Project
PEDERSEN RESIDENCE
New Residence for George Pedersen
(415) 454-8531
572 Cascade Drive, Fairfax CA
A.P. No. 003-022-20

Project No. 17116
Project Architect Richard Rushton
Date 9/6/19
Revisions 10/21/19
12/19/19

TREE REMOVAL PLAN

A2.5

2020-0014428

Recorded
Official Records
County of
Marin
SHELLY SCOTT
Assessor-Recorder
County Clerk

10:11AM 13-Apr-2020

REC FEE	20.00
CONFORMED COPY	0.00
SB2 HOUSING	75.00
DA FRAUD FEE	10.00
SO	
Page 1 of 3	

Recording Requested By:
George Nils Pedersen
588 Cascade Dr.
Fairfax, CA 94930

And When Recorded Mail To:
George Nils Pedersen
588 Cascade Dr.
Fairfax, CA 94930

SPACE ABOVE THIS LINE FOR RECORDER'S USE

Mail Tax Statements To:
George Nils Pedersen
588 Cascade Dr.
Fairfax, CA 94930

A.P. #: 003-022-20.19

Transfer Tax is Zero ($0).
Value less than one hundred dollars ($100.00)
George Nils Pedersen

GRANT DEED
Easement for Vehicular Ingress and Egress.

FOR A VALUABLE CONSIDERATION, receipt of Which is hereby acknowledged, Grantor, George Nils Pedersen, Trustee of the George Nils Pedersen Living Trust of 2018 having interest in the property commonly known as APN. Lot No. 003-022-20 situated in the Town of Fairfax, County of Marin, State of California

Hereby grant to
George Nils Pedersen, Trustee of the George Nils Pedersen Living Trust of 2018 having interest and for the benefit of the property commonly known as APN Lot No. 003-022-19 situated in the Town of Fairfax, County of Marin, State of California and its Heirs and Assigns forever.

An Easement for Vehicular Access over and on that real property located in the City of Fairfax, County of Marin, State of California, described as Exhibit "A" attached hereto and made a part hereof.

Dated: 4/7/2020

George Nils Pedersen
George Nils Pedersen, Trustee of the
George Nils Pedersen Living Trust of 2018

Notary required

California All-Purpose
Acknowledgment Attached

AP# 003-022-20

ATTACHMENT G

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT **CIVIL CODE § 1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Marin

On 4-7-2020 (Date) before me, Bonnie Romano Notary Public (Here Insert Name and Title of the Officer)

personally appeared George Nils Pedersen (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

BONNIE LOU ROMANO
Notary Public - California
Marin County
Commission # 2191668
My Comm. Expires Apr 15, 2021

Signature _____ (Signature of Notary Public)

Place Notary Seal Above

OPTIONAL

Though this section is optional, completing this information can deter alteration of the document or fraudulent reattachment of this form to an unintended document.

Description of Attached Document

Title or Type of Document: _____ Document Date: _____

Number of Pages: _____ Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Individual ☐ Attorney in Fact	☐ Individual ☐ Attorney in Fact
☐ Trustee ☐ Guardian or Conservator	☐ Trustee ☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: _____	Signer Is Representing: _____

EXHIBIT "A"

GRANT DEED
of Easement for Vehicular Ingress and Egress,

An Easement for Vehicular Ingress and Egress over and on, that portion of real property located in the Town of Fairfax, County of Marin, State of California, described in the QuitClaim Deed to George Nils Pedersen, Trustee of the George Nils Pedersen Living Trust of 2018, recorded on May 9, 2018 in Marin County Recorder's Document 2018-016523 and more particularly described as follows:
being a southwesterly portion of Lot 131 as shown and laid out on that certain Map entitled "Map No. 1 of Cascade Estates", recorded in Book 5 of Maps at Page 42, Marin County Records, State of California, and described as follows:

BEGINNING at the southwest corner of Lot 131, said point being on the Northerly line of Cascade Dr., as said Lots and Cascade Dr. are laid out on the aforementioned Map, said point being the **True Point of Beginning**; thence in the northerly direction along the westerly line of said Lot 131, N03°12'54"E, 56.0 ft.; thence leaving said line, S61°26'11"E, 28.77 ft. more or less to a point being 26.0 ft. easterly of the westerly line of said Lot 131; thence parallel with said westerly line, S03°12'54"W, 37.0 ft. to a point on the northerly line of Cascade Dr.; thence along said northerly line of Cascade Dr., S78°48'00"W, 25.85 ft. to the Point of Beginning.

containing 1062.5 sq.ft., more or less.

JAMES L. HALLBERG
RCE 35465
4.6.20

REGISTERED PROFESSIONAL ENGINEER
J.L. HALLBERG
No. 35465
CIVIL
STATE OF CALIFORNIA

AP# 003-022-20

570 Cascade Drive
Fairfax, CA 94930

August 9, 2018

Town of Fairfax
Planning Commission
142 Bolinas Road
Fairfax, CA 94930

To Whom It May Concern:

I am writing to express my strong support for my neighbor George Pedersen and his plan to build a new family home, project number 1716, on Cascade Drive. The Pedersen family has lived at 588 and 578 Cascade Drive since the early 1950s and are conscientious neighbors; always ready to lend a hand. One example of many; during the heavy storms of 2016-2017 they assisted with cleaning of drains and sandbagging that prevented significant property damage.

George has provided us with pictures of the house and we think it will be a lovely addition to our part of Fairfax. Karl and George plan to build the house together as a family project which is great.

In conclusion, we strongly endorse the new Pedersen family house. If you have any questions please feel free to contact us.

Sincerely,

Whitney Lundborg
Susan Lundborg

ATTACHMENT H

Fred and Rita Beale
571 Cascade Drive
Fairfax Ca. 94930

To Whom It May Concern,

We are writing this letter in support of our neighbor George Pederson and his plan to build a new family home directly across the street from our residence. We have discussed this project with George and are strongly in support of his project (project number 1716). The Pederson family are longtime Fairfax residents who have owned property on Cascade Drive since the 1950's. Both George and his brother Karl are outstanding neighbors, always ready to lend a hand and support the folks who live in our community.

George has shared pictures of the home he and his brother plan to build. We think it will be an outstanding addition to the neighborhood. Both George and his brother Karl are skilled in all aspects of home construction, and will be building this home together as a family project. It is our understanding that, in time, the home will be passed down to Karl's children.

As a long time Marin County resident, and a teacher at Drake High School with over twenty-five years of experience working with families in this community, this is exactly the type of project the Fairfax Planning Commission should support. If you have additions concerns or questions about our strong support for George and his plans for a new family home at this location, please do not hesitate to contact us.

Sincerely Yours,

Rita Beale
Frederick L. Beale

Frederick and Rita Beale
fbeale@tamdistrict.org
415-717-3017 or 415-717-0399

591 Cascade Drive
Fairfax, CA 94930

August 6, 2018

Town of Fairfax
Planning Commission
142 Bolinas Road
Fairfax, CA 94930

To Whom It May Concern:

I am writing to express my strong support for my neighbor George Pedersen and his plan to build a new family home, project number 1716, on Cascade Drive. The Pedersen family has lived at 588 and 578 Cascade Drive since the early 1950s and are conscientious neighbors; always ready to lend a hand. One example of many; during the heavy storms of 2016-2017 they assisted with cleaning of drains and sandbagging that prevented significant property damage.

George has provided us with pictures of the house and we think it will be a lovely addition to our part of Fairfax. Karl and George plan to build the house together as a family project which is great.

In conclusion, we strongly endorse the new Pedersen family house. If you have any questions please feel free to contact us.

Sincerely,

Bodhi Setchko
Yasue Tanaka

597 Cascade Drive
Fairfax, CA 94930

August 8, 2018

Town of Fairfax
Planning Commission
142 Bolinas Road
Fairfax, CA 94930

To Whom It May Concern:

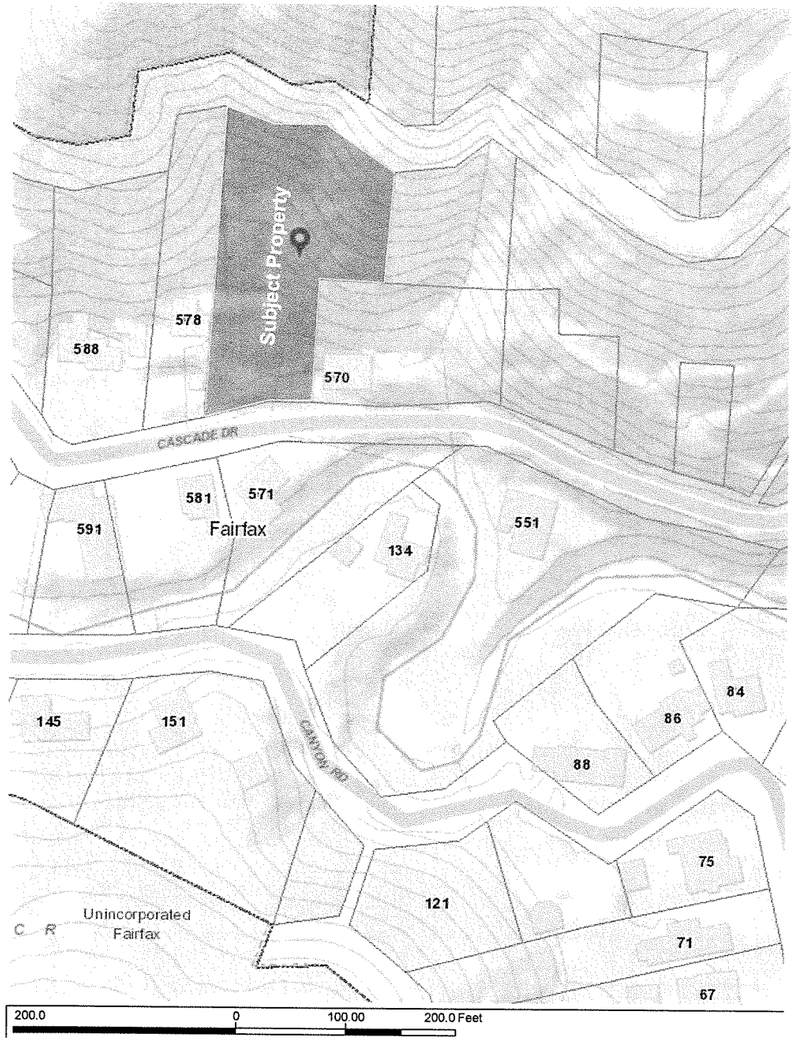
I am writing to express my strong support for my neighbor George Pedersen and his plan to build a new family home, project number 1716, on Cascade Drive. The Pedersen family has lived at 588 and 578 Cascade Drive since the early 1950s and are conscientious neighbors; always ready to lend a hand. One example of many; during the heavy storms of 2016-2017 they assisted with cleaning of drains and sandbagging that prevented significant property damage.

George has provided us with pictures of the house and we think it will be a lovely addition to our part of Fairfax. Karl and George plan to build the house together as a family project which is great.

In conclusion, we strongly endorse the new Pedersen family house. If you have any questions please feel free to contact us.

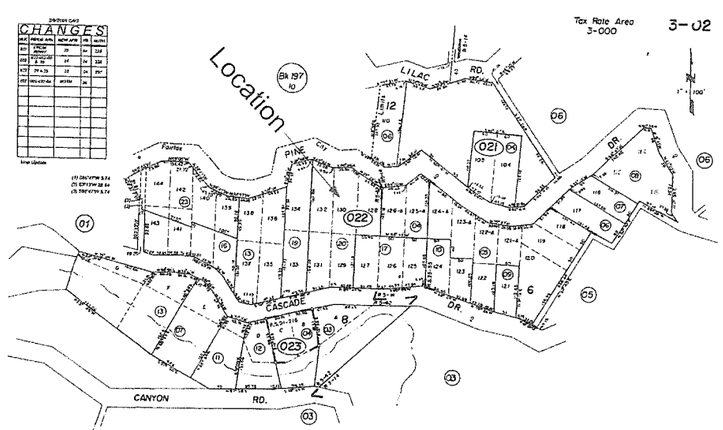
Sincerely,

Stacy Samuels
Charlotte B. Samuels



1 NEIGHBORHOOD PLAN

NOT SCALE



NOTES

01000 GENERAL

1. The following code editions shall be used for the design of this project: 2016 C.B.C., 2016 C.R.C., 2016 C.M.C., 2016 C.P.C., 2016 C. Elect. C., 2016 C. Energy Code, 2016 C.F.C., and 2016 California Green Building Standards Code including those measures specified as mandatory.
2. All construction shall comply with the governing codes of the Town of Fairfax Adopted Building Ordinances.
3. TITLE 24: Applicable sections of the energy installation compliance for CF-6R must be provided to the Owner and the Town prior to a request for a final inspection.
4. Manufacturer's installation instructions as required by this code shall be available on the job site at the time of inspection.
5. DEFFERED SUBMITTAL: Fire sprinkler calculations shall be provided by the installer as per Note 15330. Submittal documents shall be submitted to the Building Official. The deferred submittal items shall not be installed until their design & submittal documents have been approved by the building official.

01330 STRUCTURAL OBSERVATION

1. Structural observation shall be required by the Engineer for structural conformance to the approved plans for seismic resistance and wind requirements. Owner shall employ a registered design professional to perform structural observation as defined in Section 1710 of the 2013 CBC.
2. Structural observation per CBC shall be performed for the following: The Contractor shall provide 48 hours notice for all site visits needed to perform the required Structural Observations and all follow-up visits. As coordinated by the Contractor, a written statement by the appropriate engineer shall be provided to the Building Department.
   a. Foundation excavation and pier drilling, prior to placement of reinforcement or concrete, by the project geotechnical engineer.
   b. Foundation reinforcement, prior to placement of concrete, by the project design civil or structural engineer.
   c. Seismic-force-resisting system, prior to installation of interior and exterior wall finishes, by the project design civil or structural engineer.

02000 SITEWORK

1. SURVEY: Property lines must be surveyed and staked prior to start of construction.
2. ROOF DOWNSPOUTS shall outlet into solid PVC piping and exited as shown to assure drainage away from the building.
3. LOCATION OF UTILITIES: It is the Contractor's responsibility to verify locations and depths of utilities with the appropriate agencies prior to starting work.
4. CONSTRUCTION VEHICLES: Construction related vehicles including equipment delivery, cement trucks and construction materials shall be located off the travel lane of the adjacent public right(s)-of-way at all times.
5. UTILITIES:
   a. Electricity: underground.
   b. Telephone: underground.
   c. Sewer: Connect to new septic system by Eckman Environmental.
   d. Gas: underground
   e. Water: new meter.
6. PAVING:
   a. Driveway, parking and other site improvements shall be inspected by a Department of Public Works engineer.
   b. Any areas on the property used for driving or parking must be approved with asphalt or concrete or a material approved in advance by the Public Works Director. (Gravel is not allowed.)
7. EROSION CONTROL:
   a. If this project is to be performed between October 15 and April 15, submit & obtain approval of an EROSION CONTROL PLAN from the Town Engineer prior to start of work. Erosion control measures must be in place and maintained continuously during those periods. A signed copy of the Erosion Control Plan must be posted at the site, along with the Building Permit.
   b. Before a request for a final inspection, any area where soil is disturbed must be totally re-vegetated with a ground cover acceptable to the RVFD and Public Works Director or a permanent erosion control system such as an erosion-control blanket or mulch covered with a tackifier. There are no exceptions to this requirement and may require temporary plantings in order to comply. For information and details on permanent erosion control methods, refer to MCSTOPP.org. Treatment for stabilizing any bare soil must be clearly described on the drawings.

02010 MMWD REQUIREMENTS

1. SCHEDULE: Complete the structure's foundation within 120 days of the date of the MMWD application.
2. WATER CONSERVATION: Comply with all indoor and outdoor requirements of Dirtrict Code Title 13. This may include verification of specific indoor fixture efficiency compliance.
3. LANDSCAPE: If pursuing a landscaping project subject to review by your local planning dept. and/or subject to a city permit, contact the district water conservation dept. at 415-945-1497 or email to plancheck@marinwater.org.
4. BACKFLOW PREVENTION: Comply with backflow prevention requirements, if upon the District's review backflow protection is warranted, including installation, testing and maintenance. Questions: 415-945-1558.
5. GRAY WATER: Comply with Ordinance No. 429 requiring the installation of gray water recycling systems when practical for all projects required to install new water service.

02230 WILDLAND-URBAN INTERFACE AREA

1. Prior to building permit final approval the property shall be in compliance with the vegetation clearance requirements prescribed in California Public Resources Code 4291 California Government Code Section 51182. CBC 701A.3.2.4.
2. Roofing assemblies shall be installed in accordance with their listings and manufacturer's installation instructions. 704A.1.1.
3. When provided, valley flashings shall be not less than 0.019" (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36" wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley. 704A.1.3.
4. Roof gutters shall be provided with the means to prevent the accumulation of leaves and debris in the gutter. 704A.1.5.
5. Vent opening in exterior walls, where allowed, shall be designed to resist the intrusion of flame and embers into the structure, or shall be screened with corrosion-resistant, noncombustible wire mesh with ¼" openings or equivalent. 704A.3.2.1.
6. Exterior windows, window walls, glazed doors, and glazed openings in exterior doors shall be insulating glass units with a minimum of one tempered pane, or glass block units, or have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E 2010, or conform to the performance requirements of SFM 12-7A-2. 704A.3.2.21.
7. Exterior door assemblies shall conform to the performance requirements of SFM12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1 3/8" thick with interior panels no less than 1 ¼" thick, or shall have a fire-resistance rating not less than 20 minutes when tested according to ASTM E 2074. (Exception: noncombustible or exterior fire-retardant treated wood vehicle access doors.)

02310 SITE GRADING

1. The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of 5% for a minimum distance of 10 feet.
2. If physical obstructions, or lot lines prohibit 10 feet of horizontal distance, a 5% slope shall be provided to an approved alternative method of diverting water away from the foundation. Swales used for this purpose shall be sloped a minimum of 2% where located within 10 feet of the building foundation.
3. Imperious surfaces within 10 feet of the building foundation shall be sloped a minimum of 2% away from the building.

05515 EGRESS

1. EMERGENCY ESCAPE: Every sleeping room below the 4th floor shall have at least one operable window or exterior door approved for emergency egress or rescue. The units must be operable from the inside opening without the use of separate tools. Where windows are provided as a means of egress or rescue, the window opening shall be located no more than 44" above the floor. All egress or rescue windows from sleeping rooms must have a minimum net clear opening of five and seven tenth (5.7) square feet. The minimum net clear opening height dimension shall be 24 inches. The minimum net clear opening width dimension shall be 20 inches.
   a. Exception: Grade floor windows may have a minimum net clear opening of five (5) square feet.
   b. The Contractor shall verify that all new window sizes & configurations meet egress requirements, shall notify the Architect immediately if non-compliance exists, and shall insure that revisions are made to insure compliance.
2. STAIRWAY: Minimum width of stair treads shall not be less than 36". Maximum riser is 7.75"; minimum tread is 10", a ¾" nosing is required if treads are less than 11".
3. THRESHOLD HEIGHT: Landings or floors at the required egress doors shall not be more than 1.5" from the top of threshold. (Exception: the exterior landing or floor shall not be more than 7.75" below the top of threshold provided the door does not swing over the landing or floor) CRC R311.3.1.
4. ESCAPE LADDERS: Provide a permanent ladder as a means of escape from sleeping rooms above the first floor, or equivalent height, Marin County Code Sec. 19.04.070. Firefold Folding Escape Ladder, sizes as required; available from Mill Valley Lumber Co., 129 Miller Ave., Mill Valley. Install strictly according to manufacturer's specifications.
5. BARS, GRILLES OR SCREENS placed over emergency escape windows shall be releasable or removable from the inside without the use of a key, tool or excessive force.
6. GUARDRAILS: All guardrails to be minimum of 42" in height with openings less than 4", around stair walls, decks and balconies. (Exceptions: At stair guard; at open sides of stairs guards shall not be less than 34" in height; openings less than 4.375" are allowed; at the triangle opening formed by riser, tread and bottom rail an opening less than 6" is allowed.) Provide a guardrail at any walking surface over 30" above grade within 36" horizontally of the open edge of the walkway or stair.
7. GUARDRAILS: shall be mounted so that the completed rail and supporting structure are capable of withstanding a load of at least 20 pounds per lineal foot applied horizontally at right angles to the top rail, and so that intermediate rails, panel fillers and their connections are capable of withstanding a load of a least 25 psf applied horizontally at right angles over the entire tributary area, including openings and spaces between rails.
8. HANDRAILS shall be 1-1/2" diameter wood dowel located continuously 34" to 38" above the tread nosing. Return both ends to wall. Space out from wall 1-1/2" minimum. Metal brackets as intermediate support at approximately 3 feet o.c. unless shown otherwise.

06100 CARPENTRY

1. **GREEN POINTS:** Re-use form boards for framing where possible.
2. **GREEN POINTS:** Use Forest Stewardship Council (FSC) certified wood for framing.
3. **GREEN POINTS:** Treated wood shall not contain chromium or arsenic.
4. **GREEN POINTS:** Use formaldehyde-free composite materials for paintable trim instead of wood.

06101 FIRE BLOCKING

1. Fire blocks shall be provided in the following locations:
   a) In concealed spaces of stud walls and partitions, including furred spaces, at the ceiling and floor levels and at 10'-0" intervals both horizontal and vertical.
   b) At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings and cove ceilings.
   c) In concealed spaces between stair stringers at the top and bottom of the run and between studs along and in line with the run of stairs if the walls under the stairs are unfinished.
   d) Use noncombustible materials in openings around vents, pipes, ducts, chimneys, fireplaces and similar openings at ceiling and floor levels.

06103 BUILDING WRAP

1. Building paper and window flashing:
   a. Either of the following are acceptable:
      1. "Tyvek" housewrap by Dupont; polyethylene air infiltration barrier.
      2. Sisalkraft paper.
   b. Apply strictly according to manufacturer's recommendations.

06410 CABINETRY

1. General Contractor and/or cabinetmaker shall be responsible for verifying existing conditions for proper fit of proposed cabinetry including correct fit of all proposed equipment and plumbing fixtures.
2. Cabinet maker or supplier shall provide shop drawings for review and approval by Owner or

CONTENTS

PROJECT

PEDERSEN RESIDENCE

572 Cascade Drive, Fairfax

Job No. 17116

SCOPE OF WORK

New Residence.

DESCRIPTION:

Zone: RS6
Building Occupancy Group: R-3/U
Type of Construction: V-N
WUI: Located in a designated Wildland-Urban Interface area.
Stories: Three

OWNER

George Pedersen & Christine Chalk
gnppedersen@gmail.com

ARCHITECT

RUSHTON-CHARTOCK ARCHITECTS
1620 Sir Francis Drake Blvd.
P.O. Box 173, Fairfax CA 94978-0173
(415) 457-2802 Fax: (415) 457-2873
Email: rushtonchartock@gmail.com
Web site: www.rushtonchartock.net
Project Architect: Richard Rushton, Ext. 205

CIVIL ENGINEER

Vlad Iojica, P.E., QSD/P Registered Civil Engineer, VIA-Atelier, Inc.
Civil & Structural Engineering Consultants
9 Brookside Ct., San Anselmo, CA 94960
415-774-6776 viojica@via-eng.com

ENERGY CONSULTANT

ENERGY CALC CO.
45 Mitchell Blvd. #16, San Rafael CA 94903
457-0990, fax: 457-1986

STRUCTURAL ENGINEER

Eric Kreager, S.E.
MKM & Associates
(707) 578-8185
5880 Commerce Blvd., Suite 105
Rohnert Park CA 94928
eric@mkmassociates.com

SOIL ENGINNER

Dennis Furby, P.E.
Consulting Geotechnical Engineer
30 Via Holon, #18, Greenbrae CA 94904
(415) 306-7218; cell: 707-478-4048
dennis@furbylogic.com

CALGREEN PREPARER

Jon Mitguard
AURORA BUILDING PERFORMANCE
514 C St., San Rafael CA 94941
(415) 457-9778, cell: (415) 847-2332
jon@aurorabuildingperformance. com

CONSULTING ARBORIST

Kent Julin, Ph.D.
ARBORSCIENCE, LLC
P.O. Box 111, Woodacre CA 94973
(415) 419-4197
Kent.Julin@gmail.com

DRAWINGS

UNDER SEPARATE COVER

Arborist Report by Dan McKenna, including:
Tree Protection Plan
Risk Assessment
Vegetation Management Plan
Tree Protection Plan by Kent Julin, 10/24/19.
Soil Report by Dennis Furby, amended 10/22/19.
Drainage Report by Vlad Iojica

END OF CONTENTS

Legend

- Existing wall
- New 2x4 wall
- New 2x6 wall
- Removed wall
- (E) contours
- (N) contours
- (E) elevation
- (N) elevation
- Tree to be removed

PROJECT DATA SHEET

Lot Information	sq.ft.	Allowable
Gross Lot Area	34,029	
Net Lot Area	34,029	
Proposed Lot Coverage	**sq.ft.**	
Residence Footprint	1,689	
Entry	177	
2nd Floor Patio	37	
Upper Patio	209	
2nd Floor Deck	318	
Upper Deck	318	
Total Footprint:	2,748	
Proposed Lot Coverage	**8.08%**	35%
Proposed FAR	**sq.ft.**	
Residence:		
3rd floor	1,448	
2nd floor	1,211	
1st floor Garage	603	
Gross Floor Area Total:	3,262	5,000
Proposed FAR	**9.59%**	40%

570 Cascade Drive
A.P. 003-022-17

Called North

Cascade Drive

15' setback

19' setback

6' setback

PROPERTY LINE N 86°47'00" W 55.95'

PROPERTY LINE N 03°13'00" E 121.24'

5' setback

N 03°12'54" E 299.97'

#90 remove 20" dia. oak

#95 remove 14" dia. oak

#93 remove oak

#101

#96

#86

#880 remove 18" dia. oak

Re-grade (E) driveway area; see Sheet C.1

Entry

backup

27'-6" +/-

TW 125.1

TW 119.8

TW 115.1

Remove (E) 24" pine

Patio
TS 124.6

Proposed Residence
A.P. No. 003-022-29

Driveway

Cantilevered deck above

TW 116.1

37'-4"

Patio

26'-2"

27'-5"

TW 120.9

TW 118.8

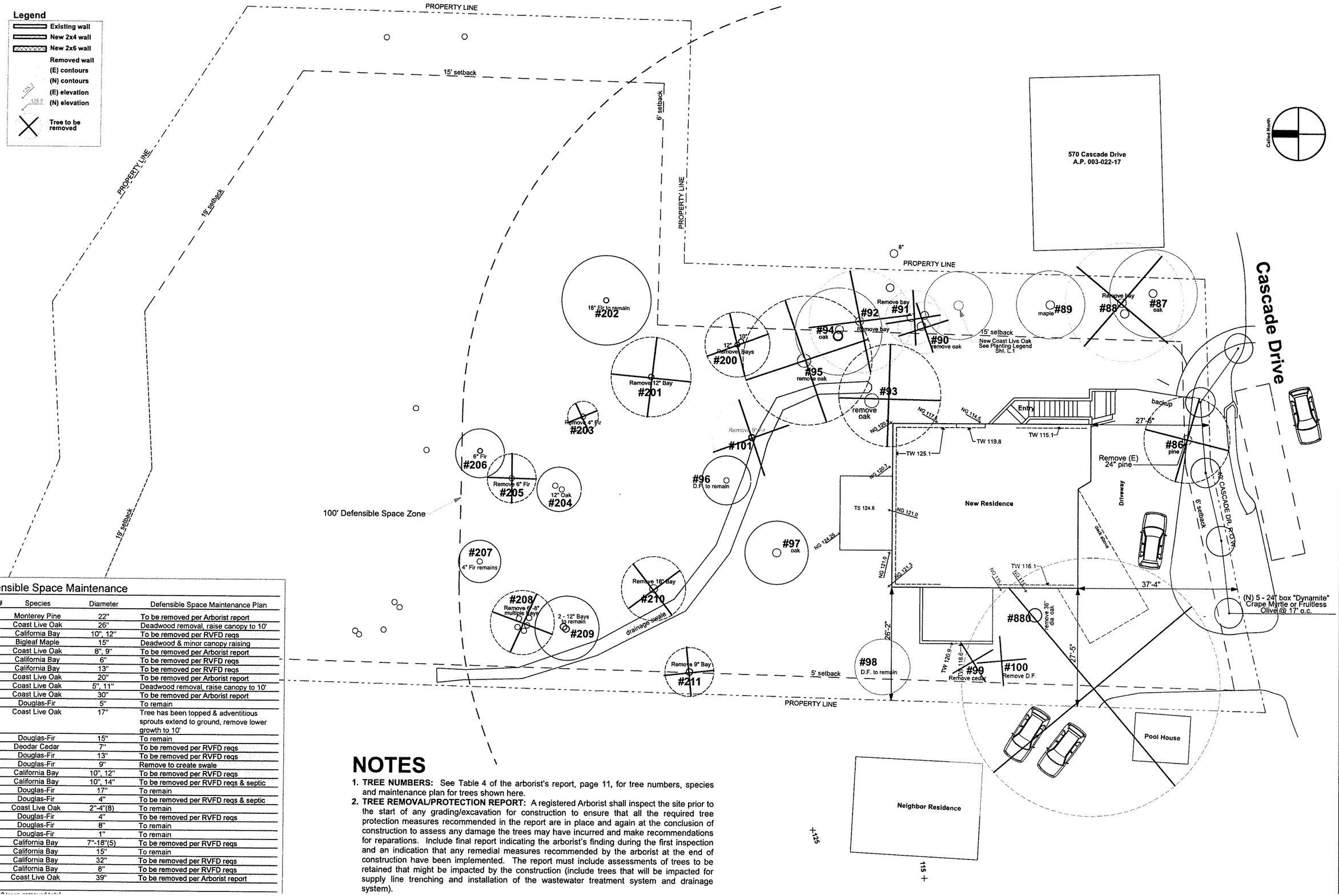
access easement
See Civil drawings

5 - 24" box "Dynamite" Crape Myrtle or Fruitless Olive "Swan Hill" std. @ 18' o.c.

Pool House

Neighbor Residence

NOTES

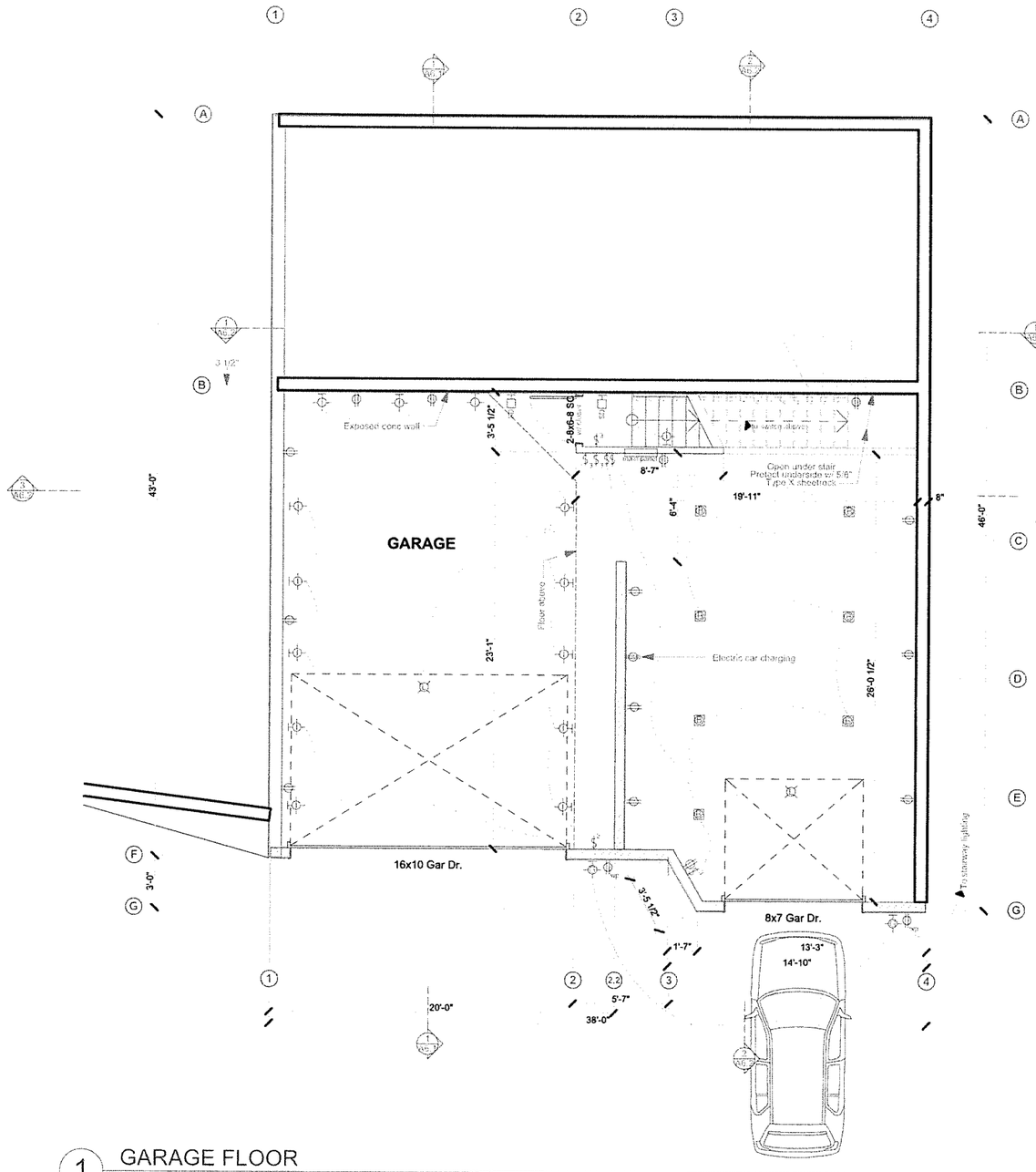


Defensible Space Maintenance

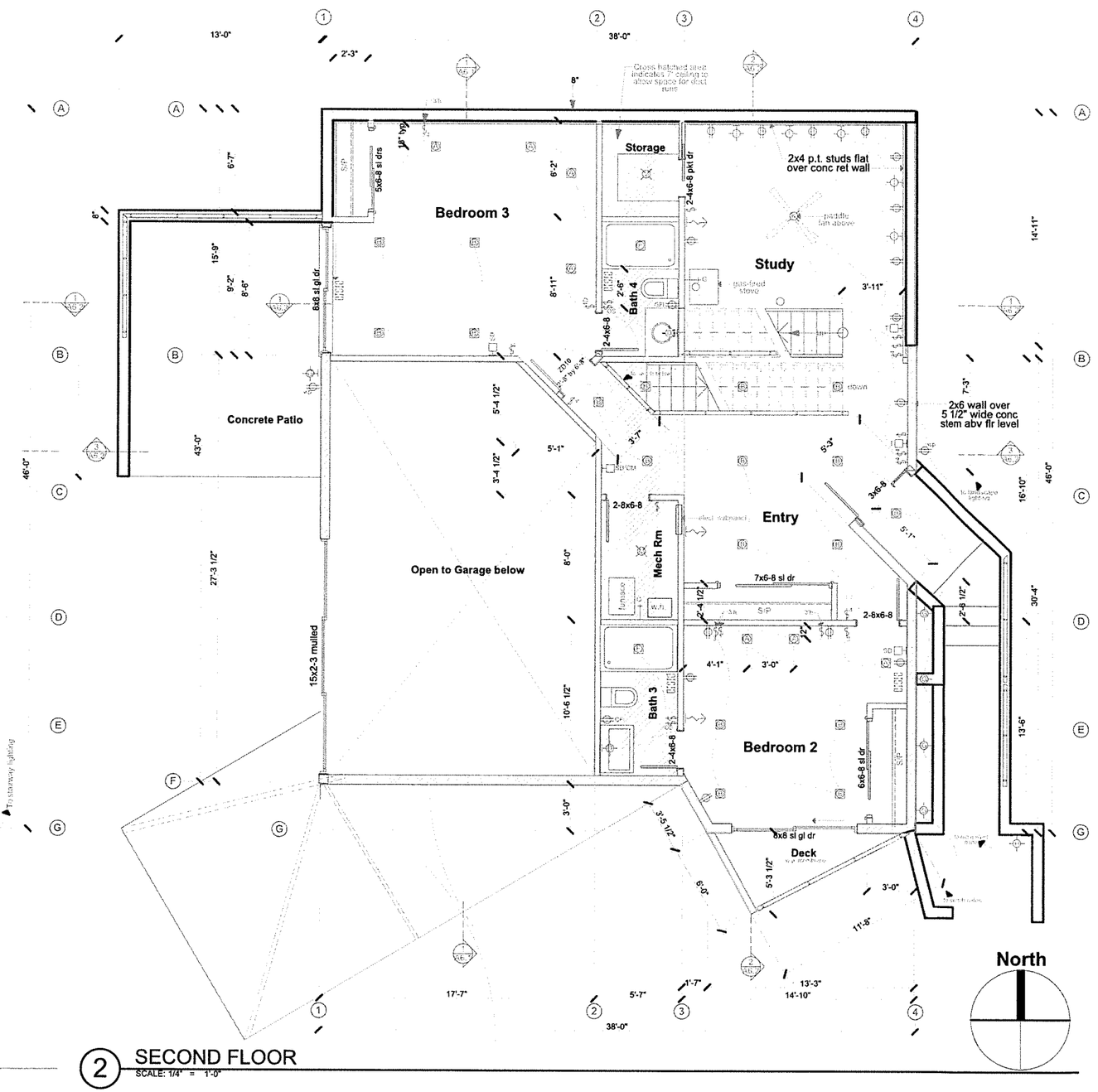
Tree #	Species	Diameter	Defensible Space Maintenance Plan
86	Monterey Pine	22"	To be removed per Arborist report
87	Coast Live Oak	26"	Deadwood removal, raise canopy to 10'
88	California Bay	10", 12"	To be removed per RVFD reqs
89	Bigleaf Maple	15"	Deadwood & minor canopy raising
90	Coast Live Oak	8", 9"	To be removed per Arborist report
91	California Bay	6"	To be removed per RVFD reqs
92	California Bay	13"	To be removed per RVFD reqs
93	Coast Live Oak	20"	To be removed per Arborist report
94	Coast Live Oak	5", 11"	Deadwood removal, raise canopy to 10'
95	Coast Live Oak	30"	To be removed per Arborist report
96	Douglas-Fir	5"	To remain
97	Coast Live Oak	17"	Tree has been topped & adventitious sprouts extend to ground, remove lower growth to 10'
98	Douglas-Fir	15"	To remain
99	Deodar Cedar	7"	To be removed per RVFD reqs
100	Douglas-Fir	13"	To be removed per RVFD reqs
101	Douglas-Fir	9"	Remove to create swale
200	California Bay	10", 12"	To be removed per RVFD reqs
201	California Bay	10", 14"	To be removed per RVFD reqs & septic
202	Douglas-Fir	17"	To remain
203	Douglas-Fir	4"	To be removed per RVFD reqs & septic
204	Coast Live Oak	2"-4"(8)	To remain
205	Douglas-Fir	4"	To be removed per RVFD reqs
206	Douglas-Fir	8"	To remain
207	Douglas-Fir	1"	To remain
208	California Bay	7"-18"(5)	To be removed per RVFD reqs
209	California Bay	15"	To remain
210	California Bay	32"	To be removed per RVFD reqs
211	California Bay	8"	To be removed per RVFD reqs
880	Coast Live Oak	39"	To be removed per Arborist report

NOTES

1. **TREE NUMBERS:** See Table 4 of the arborist's report, page 11, for tree numbers, species and maintenance plan for trees shown here.
2. **TREE REMOVAL/PROTECTION REPORT:** A registered Arborist shall inspect the site prior to the start of any grading/excavation for construction to ensure that all the required tree protection measures recommended in the report are in place and again at the conclusion of construction to assess any damage the trees may have incurred and make recommendations for reparations. Include final report indicating the arborist's finding during the first inspection and an indication that any remedial measures recommended by the arborist at the end of construction have been implemented. The report must include assessments of trees to be retained that might be impacted by the construction (include trees that will be impacted for supply line trenching and installation of the wastewater treatment system and drainage system).



1 GARAGE FLOOR
SCALE: 1/4" = 1'-0"



2 SECOND FLOOR
SCALE: 1/4" = 1'-0"

NOTES

07200 THERMAL INSULATION

1. All roof joist insulation shall be spray foam as per Section 07213.
2. Provide R-19 batt insulation in all exterior 2x6 stud walls.
3. Provide R-19 insulation in all floors over unheated space.
4. R value shall be for insulation only, not installed.

07213 SPRAY POLYURETHANE FOAM INSULATION

1. SPF injected foam insulation: R-value per heat loss calcs; Bear, Earthseal, Bayseal or equivalent.
2. Closed cell: R= 6.5/inch, 2#, 4 ½" to achieve R30
3. or Open cell: R = 3.6-3.9/inch; 7 ¾" to achieve R30.
4. No vapor retarder.

07300 ROOFING

1. Class A 25-year composition shingles (minimum). Fiberglass shingles, Pabco, Sherwood or Elk.

07561 SIDING

1. Boral cement-fiber vertical groove siding; color of siding & trim as shown on Drawings.
2. Boral 4" shiplap cement-fiber siding; color of siding and trim as shown on Drawings.

07111 LIQUID URETHANE MEMBRANE WATERPROOFING

1. Waterproof Membrane: Liquid Urethane Rubber Membrane material. Products as manufactured or supplied by Gaco Western, Inc.
   a. Meet published properties.
   b. Meet applicable Air Pollution Control regulations. LM-60 is solvent free.
   c. Urethane Coatings: Gaco Western LM-60H for horizontal surfaces and LM-60V for vertical.
   d. Other materials required: Primer, thinner and cleaner,

08150 EXTERIOR FIBERGLAS DOORS

1. DOORS; either of the following are acceptable.
   a. Therma-Tru "Smooth-Star", flush-face fiberglass door; paint-grade.
   b. Equivalent by PlastPro.

08300 GARAGE DOOR

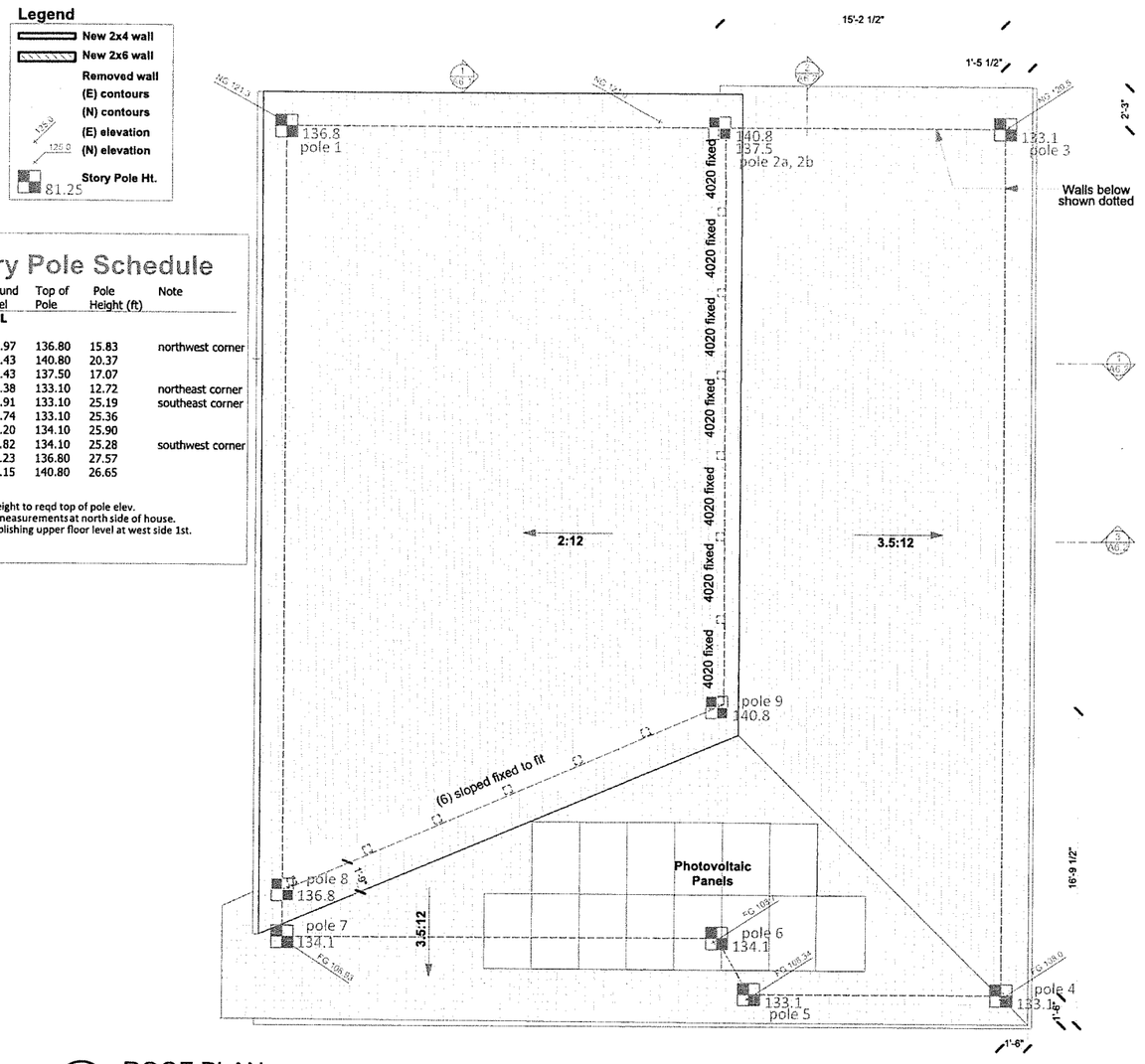
1. To be selected by Owner. Remote controlled; 2 remotes. Provide allowance.

08600 WINDOWS

1. Fleetwood aluminum frame, white finish.
2. Sliding Doors: Fleetwood, white finish.
3. All windows double-glazed and tempered to meet WUI requirements. Complete with screens where

08800 GLAZING

1. Window glazing at exterior walls shall be double-glazed through-out.
2. Safety glazing shall be installed in hazardous locations as defined in CBC and shall be identified by a label.
3. Tempered glass is required at the following locations:
   a) Glazing in ingress and egress doors.
   b) Glazing in fixed and sliding panels of sliding door assemblies and panels in swinging doors.
   c) Glazing in doors and enclosures for bathtubs and showers. Glazing in walls within these enclosures with edge less than 60" above a walking surface and drain inlet.
   d) Glazing within a 24" arc of either vertical edge of a door (in the closed position) and is less than 60" above the floor. (Except when there is an intervening wall of permanent barrier or leaded, faceted and carved glass used for decoration.)
   e) Glazing: where the area of pane is greater than 9 sq. ft.; and the window bottom is less than 18" above the floor; and the top is more than 36" above the floor; and the walking surface is within 36" horizontally.
   f) Glazing with bottom edge less than 60" above the walking surface in walls enclosing landings or within 5'-0" of the top and bottom stairways.
4. Glazing at tubs/ showers: Shower and tub enclosures shall be of shatterproof materials and/or tempered glass. Walls at shower locations shall be ceramic tile or integral fiberglass tub surround. Shower surround height shall be a minimum of 70" above the drain inlet and as shown on Drawings where shown. Shower doors shall maintain a min. 22" unobstructed opening for egress.
5. Frameless glass shower enclosures require structural design or use brackets as shown on Drawings. Silicone caulking and/or sealant are not an acceptable means of securing



2 ROOF PLAN
SCALE: 1/4" = 1'-0"

NOTES

09100 FIRE RATING

1. Interior wood paneling less than ½" thick shall be applied over ½" gypsum board or have a flame spread of class 3 or better.
2. Provide one-hour fire protection at the underside of the stair.
3. Provide one-hour fire resistive separation between garage and dwelling; provide 1-3/8" solid core self-closing door, unless shown otherwise.
4. Garage, carport, and parking deck surfaces, including ramps, shall be non-combustible materials.
5. All walls, beams, posts and ceilings supporting a horizontal occupancy separation shall be 1-hour resistive.

09250 GYPSUM WALLBOARD

1. The following are based upon U.S. Gypsum materials. Contractor may substitute equal materials.
   a. Interior Gypsum Wallboard: ½" tapered edge, 48" wide and in lengths to produce the fewest joints. At roof rafters where spacing is 24" o.c., use 5/8" sheetrock or ½" Domtar Gypsum controlled density CD ceiling board.
   b. Use 5/8" Type "X" gypsum wallboard at the following locations:
      1) At the enclosed side of walls and soffit at the enclosed space under stairs.
      2) At walls between garage and residence.
      3) At ceiling of garage.
   c. At garage ceiling, at one-hour fire assembly, where TJI's are

09310 TILEWORK

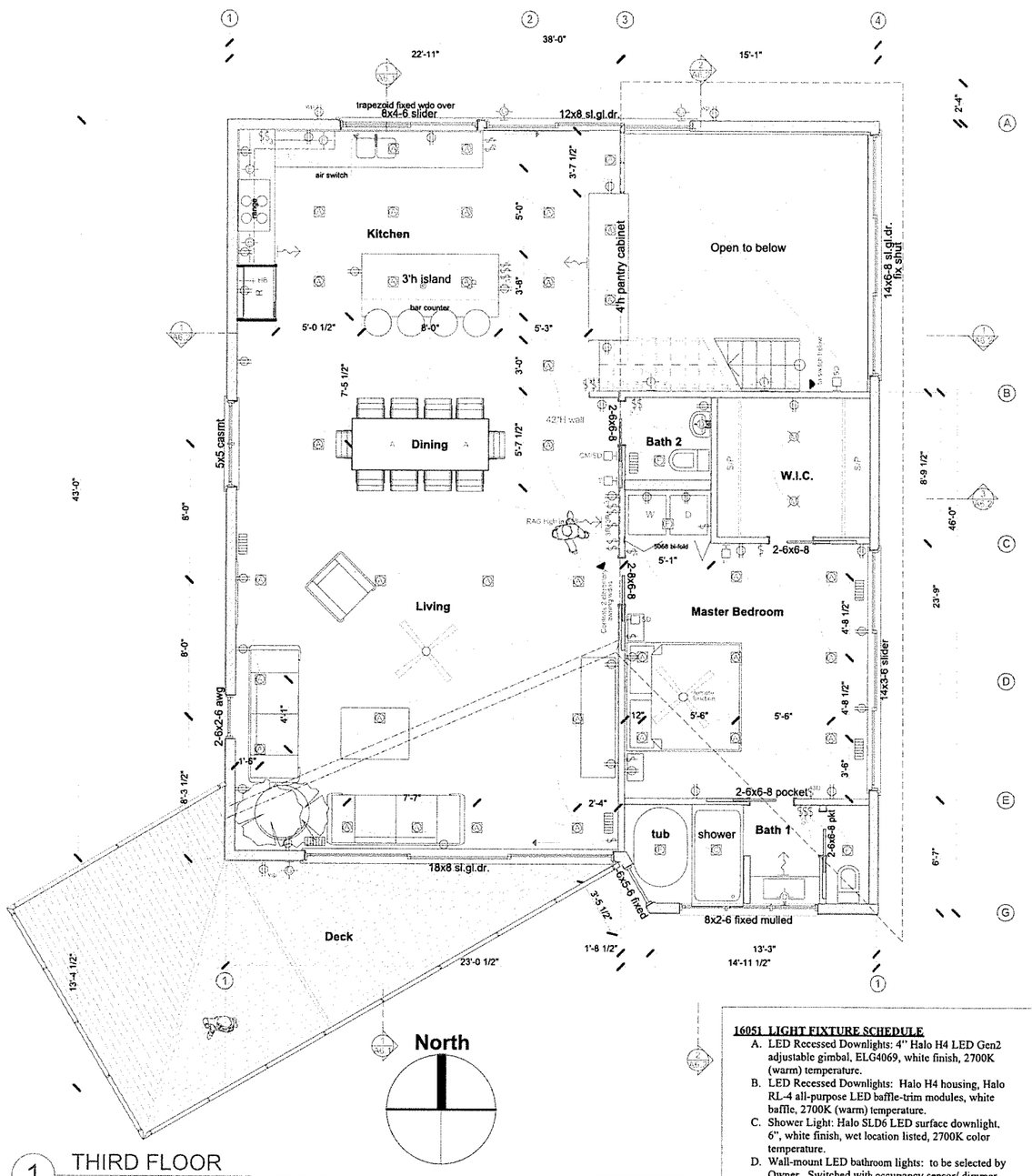
1. All shower and tub/shower walls to be finished with a smooth, hard, non-absorbent surface (e.g. ceramic tile) over a cement board moisture resistant underlayment to a minimum height of 70 inches above the drain inlet. (Gypsum board, including greenboard, is not allowed as backing).
2. Custom site-built showers:
   a. Showers are to be provided with a water dam a min. 2" high point of shower drain to retain water to drain.
   b. Finish floor in shower to have min. ¼" and max. ½" pitch to drain per foot.
   c. Waterproof membrane to extend a minimum 3" above top of finish dam at back and sides.
   d. Locate the shower head & controls per code requirements.
   e. The base for wall tile in tub and shower areas and wall and ceiling panels in shower areas shall be cement, fiber-cement or glass mat gypsum backers.

09900 PAINTING

1. GREEN POINTS:
   a. Use low/no-VOC and formaldehyde-free paint.
   b. Use low VOC, water-based wood finishes

13650 PHOTOVOLTAIC COLLECTORS (1)

1. Provide complete photovoltaic system where indicated on Drawings, including the following:
   a. Solar Collectors of size to serve residence and backup batteries.
   b. Collector installation including roof brackets for support
   c. Electrical connections and utility runs to equipment in garage.
   d. Battery backup.
   e. Provide wiring diagram and material specifications for review and approval by the Owner before proceeding with work.
2. Installation:
   a. Solar panels to generate DC voltage.
   b. The solar array's output to be routed from the roof to the inverter in the garage, mounted next to the main electric panel.
   c. The inverter to convert the solar array's power from a high voltage DC to a clean 60 Hz, 120V AC.
   d. The 120V AC output of the inverter to go through a dedicate electric meter whose only function is to record all the solar energy kWh that are produced for the entire year.
   e. The 120V AC to continue to flow from the solar meter to a dedicated breaker in the house electric panel. This integrates the solar electricity with both the house and the utility grid.
3. Operation:
   a. When the solar system is providing the exact amount of power that the house is currently using, then the electric meter will stand still.
   b. When the solar system in providing more power than the house is using, then any excess will flow backwards through the utility meter and building a credit with the utility company.



1 THIRD FLOOR
1/4" = 1'-0"

15330 RESIDENTIAL FIRE SPRINKLER SYSTEM

1. DESCRIPTION
   Work Included: Designing, furnishing and installing a hydraulically calculated fire sprinkler system, complete with low-profile heads, for the Building.
2. CODES AND STANDARDS
   A. Uniform Fire Code
   B. National Fire Protection Association
3. DESIGN
   C. Before proceeding with the work, prepare Shop Drawings of the sprinkler system and obtain written approval from the Architect. Obtain approval of the governing Fire Rating Bureau and the local Fire Department. Shop Drawings must be submitted to all authorities having jurisdiction and must be stamped and approved before submittal to the Architect.
   D. Make all arrangements with utility company for water service including required payment for piping services, connection charges and for materials furnished and installed by them. Work and materials shall be in strict accordance with the rules of the utility company.
   E. Contractor for the Fire sprinkler installation shall thoroughly familiarize himself with the Architectural, Structural, Plumbing, Electrical and Heating Drawings and shall adjust his

16051 LIGHT FIXTURE SCHEDULE

A. LED Recessed Downlights: 4" Halo H4 LED Gen2 adjustable gimbal, ELG4069, white finish, 2700K (warm) temperature.
B. LED Recessed Downlights: Halo H4 housing, Halo RL-4 all-purpose LED baffle-trim modules, white baffle, 2700K (warm) temperature.
C. Shower Light: Halo SLD6 LED surface downlight, 6", white finish, wet location listed, 2700K color temperature.
D. Wall-mount LED bathroom lights: to be selected by Owner. Switched with occupancy sensor/ dimmer, WattStopper.
E. Undercabinet Kitchen Lights: Illume, white, 36" wide, LED light. Available at Lamps Plus.
F. Bath Fan: Panasonic FV-510VSCL1 "Whisper Value fan/lite with Condensation Sensor, 50-80-11-CFM, 10W dimmable light switched separately; set for switched opeation at 50 CFM.
G. Exterior wall-mount lights: LED wall-mount, down-lights, "dark-sky" compatible; Tech Lighting "Pitch" wall sconce, silver finish, 2700K bulb; available at Lumens. All controlled by photocell and motion sensor.
H. Address Light: Luxello LED backlit Modern "Neutra" House Numbers, brushed aluminum finish, white illumination, 5" tall at Entry Stairs. See Modern Lighting at "Surrounding" website. Meet citeria shown on Sheet A6.1, Note 16050(14). Connect directly to main panel (no switching). Locations as shown on

15400 PLUMBING

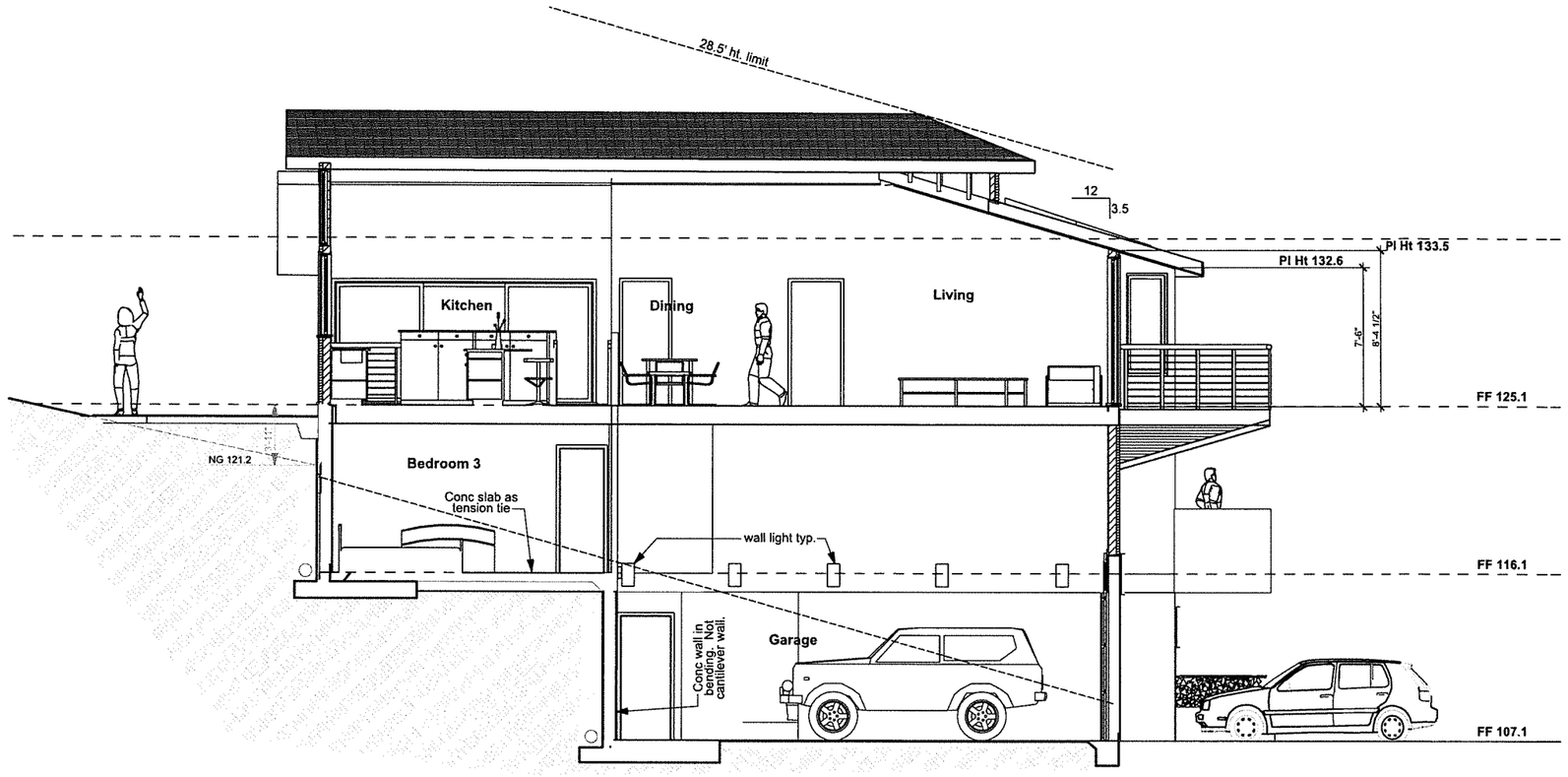
1. Plumbing equipment and materials shall comply with and be installed in accordance with the local plumbing code and CPC. Plumbing fixtures to be in compliance with Title 24.
2. Work shall be in compliance with Marin Municipal Water District Ordinance #421: all plumbing fixtures that are replaced, removed or added shall be high-efficiency fixtures and shall meet the following minimum plumbing efficiency standards (notify Architect if fixtures specified below do not meet these criteria):
   a. High-efficiency kitchen and lavatory faucets: The maximum flow rate shall not exceed 1.5 gallons of water per minute at a pressure of 60 psi at the inlet, when water is flowing. (Kitchen faucets in San Anselmo may be 1.8 gpm max.)
   b. High-efficiency Shower Head: The manufacturer shall specify a maximum flow rate equal to or less than 2.0 gallons per minute (gpm), at a pressure of 60 pounds per square inch (psi) at the inlet, when water is flowing.
   c. High-efficiency Toilet: Any WaterSense listed toilet rated at an effective flush volume of no greater than 1.28 gallons.
   d. Bar & Utility sinks: faucets shall deliver 2.2 gpm or less.
3. CALGREEN REQUIREMENTS: All newly constructed residential buildings shall be designed to include the green building measures specified as mandatory in the CalGreen State code and detailed in the application checklists found in Section A4.602. Voluntary green building measures are also included in these application checklists and may be included in the design and construction of structures covered in this code, but are not required by statute.
   a. In San Rafael, Tier 1 requirements are mandatory for all newly constructed Residential buildings.
   b. Alterations: The mandatory provisions for residential dwellings spelled out in CalGreen shall be applied to additions or alterations of existing residential buildings only where the addition or alteration increases the building's conditioned area, volume, or size. Additionally, the requirements shall apply only to and/or within the specific area of the addition or alteration.
   c. Replacement of fixtures: Residential buildings undergoing permitted alterations, additions or improvements shall replace any and all noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacements are required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building dept.
4. **GREEN POINTS:** Install flow reducers in faucets and showerheads.
5. **GREEN POINTS:** Insulate hot water pipes.
6. MIXING VALVE CONTROLS: All shower and tub/shower combination valves must be temperature balancing or thermostatic mixing. Valves shall be adjusted per the manufacturer's instructions to deliver a maximum of 120 degrees F.
7. AIR GAP: No domestic dishwashing machine shall be directly connected to a drainage system or food waste disposer without the use of an approved dishwasher air gap fitting on the discharge side of the dishwasher machine.
8. Protect fixtures against use & damage during construction.
9. Provide cleanouts at bends and angles. Extend to make flush installation with floor, wall or finish grade.
10. Install each fixture with trap, easily removable for servicing and cleaning. At completion thoroughly clean plumbing fixtures and equipment.
11. An approved BACKFLOW PREVENTION DEVICE is required for each water service. Provide the appropriate model of double check valve assembly.
12. Provide a non-removable backflow prevention device on all exterior hose bibs, and lawn sprinkler/irrigation systems.
13. WATER HEATER: 50-gallon or less water heater shall have a minimum Energy Factor of 0.62. Where backflow prevention devices are installed, an approved expansion tank shall be installed at the water heater.
14. All WATER HEATERS shall be anchored or strapped to resist horizontal displacement; strapping shall be at points within the upper one-third and lower one third of its vertical dimensions, with lower strap at least 4" above controls.
15. WATER HEATERS installed in areas where they may be subjected to mechanical damage shall be suitably guarded against such damage. Provide adequate barriers.
16. Appliances shall be accessible for inspection, service, repair, & replacement without removing permanent construction. A platform or slab-on-grade shall be provided in front of appliances, with minimum 30" in depth, width & height of appliances.
17. PRESSURE TESTS: The Contractor shall subject all supply and waster piping to pressure tests as prescribed by the local plumbing code and to assure proper operation.
18. All GAS PIPING shall be tested in accordance with the requirements of the local gas company.
19. GAS PIPING: Provide automatic natural gas shut-off device as per local requirements. Provide approved seismic or excess flow gas shut-off device per Marin County Code concerning new buildings, additions, and alterations containing gas piping. The building and safety division of the community development agency maintains a list of approved devices.
20. GAS SHUT-OFF must be located within 6' of appliance and must be accessible and shall not be located behind appliance.
21. Gas appliances in garage shall be raised 18" above the floor.

15810 FORCED AIR FURNACE

1. Work included:
   a. Forced-air furnace
   b. Ductwork and registers
   c. Sheetmetal work
   d. Ductwork insulation
2. Material: New furnace to have a minimum AFUE rating as per Title 24 calcs.
3. Codes and Standards:
   a. All work shall comply with federal, state, and local laws, ordinances and codes.
   b. 'HVAC DUCT SYSTEM DESIGN" as published by the Sheet Metal & Air Conditioning Contractors National Association (SMACNA).
   c. "Heating and Air Conditioning Systems Installation Standards for One & Two Family Dwelling & Multi-family Housing", Sheet Metal and Air Conditioning Contractors National Assoc. (SMACNA).
4. This Subcontractor shall place the system in operation and operate it for sufficient time to prove that it functions properly and in accordance with the heat loss requirements.
5. All transverse duct, plenum and fitting joints shall be sealed with pressure sensitive tape or mastic to prevent air loss.
6. Insulate ducts not in conditioned space with minimum R-4.2.

15870 VENTILATION

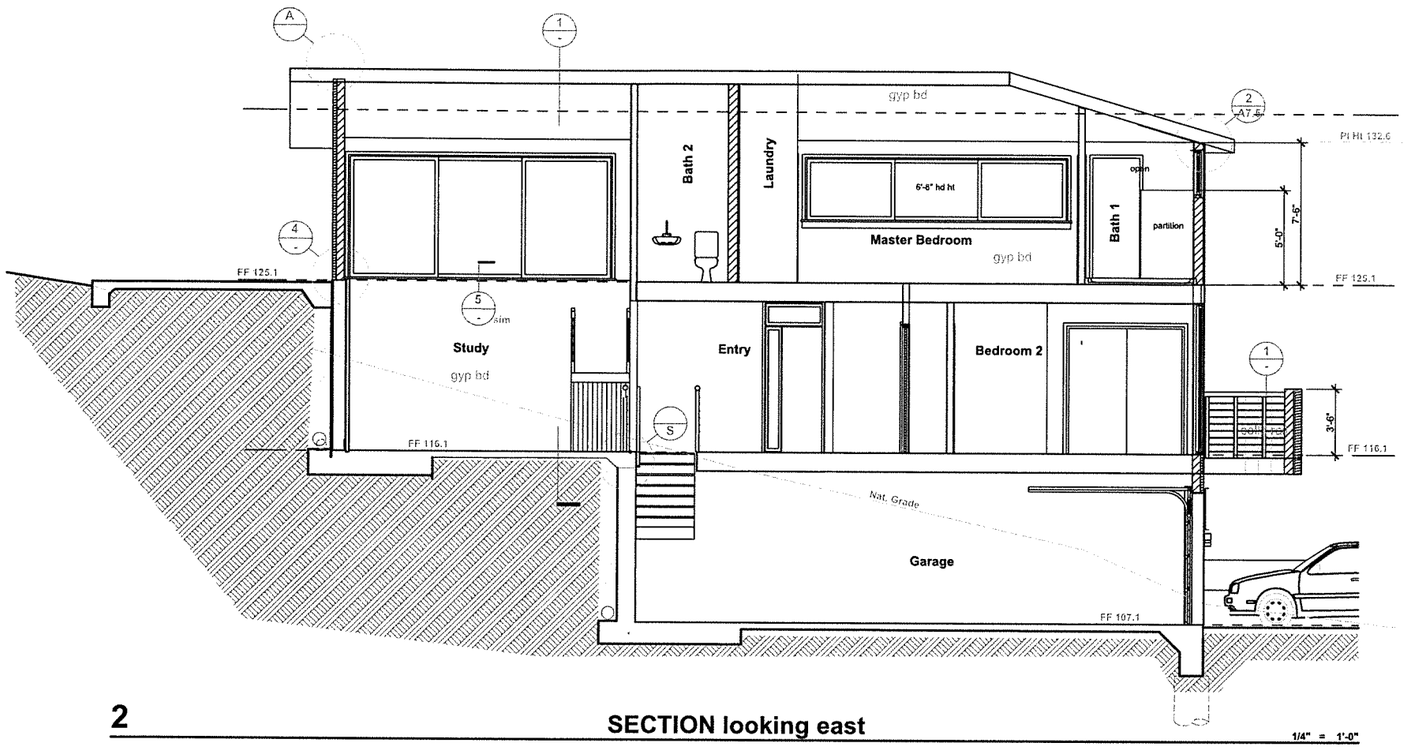
1. Clothes Dryer Vent: A dryer duct is required and shall terminate outside the building, a minimum of 3'-0" away from any openings into the building, and equipped with a back-draft damper. Duct shall be 4" min. diameter rigid with a maximum length of 14' and maximum of two 90-degree elbows. Vent shall be of metal and have smooth interior surfaces. Route of venting as shown on Drawings.
2. Clothes Dryer Make-up Air: Provide 100 square inch make-up air opening at the clothes dryer room per CMC 504.3.2. This may be provided by louvered opening in the door.
3. Mechanical ventilating systems in laundry rooms and similar rooms shall provide five air changes per hour directly to the outside.
4. Mechanical exhaust fans in bathrooms shall be ENERGY STAR compliant and be ducted to terminate outside the building. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidistat which shall be readily accessible. Humidistat controls shall be capable of adjustment between a relative humidity range of 50 to 80%. Fixture C as specified on the Light Fixture Schedule, Sheet A4.1, is 80 CFM, with 4" diameter, smooth, metal duct with a maximum run of 14'.
5. Ductwork from bathroom fans shall be 4" min. diameter, smooth interior surface, with a maximum length of run not to exceed 20', per Table 4-9 of C.E.C.
6. Kitchens require mechanical ventilation to the outside (a non-circulating fan) with a minimum of 100 cfm.
7. A whole house indoor air quality ventilation fan must be provided. It must be sized according to ANSI/ASHRAE 62.2 and run continuously. Air flow shall be a minimum of 2 cfm per square foot of conditioned space. The bathroom or kitchen fans may be utilized for this but must be sized for the whole house and switched to run continuously. A plastic engraved label must be placed on the switch noting it controls the IAG fan and must remain on at all times.



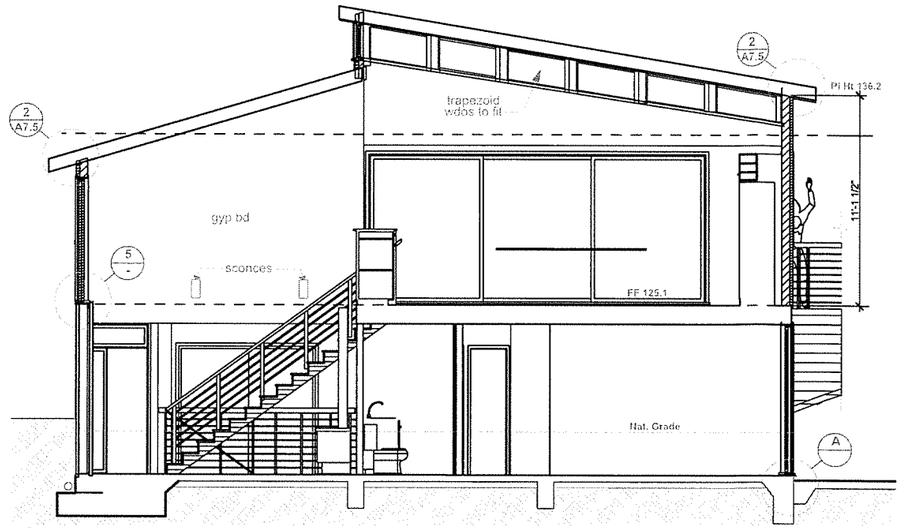
1 Section looking East
SCALE: 1/4" = 1'-0"

16050 ELECTRICAL

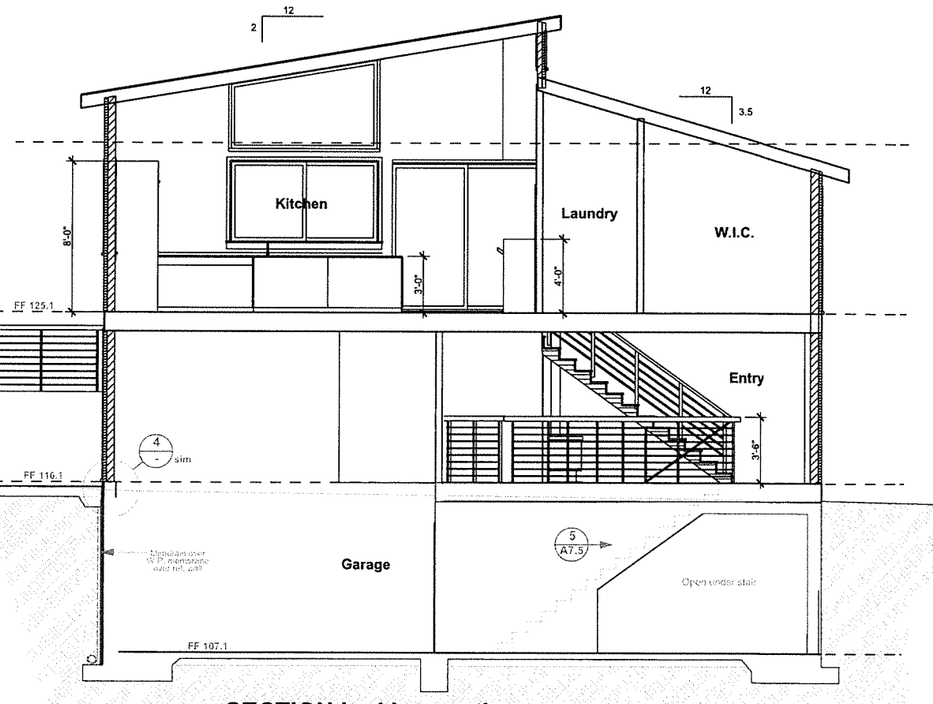
1. LIGHTING:
   a. Luminaire Efficacy: All installed luminaires shall be high-efficacy in accordance with Table 150.0-A of 2016 California Energy Code.
   b. Recessed downlight luminaires in Ceiling: shall meet all of the requirements of Section 150.0(K)-1C of 2016 California Energy Code.
   c. Under-cabinet Lighting: shall be switched separately from other lighting systems.
   d. Vacancy Sensor: At least one luminaire in bathrooms, Laundry rooms, Utility rooms and Garage shall be controlled by a vacancy sensor.
   e. All hardwired lighting in all rooms, except closets less than 70 s.f. in area, must be high efficiency and controlled by a manual-on occupant sensor or a dimmer.
   f. Outdoor Lighting attached to building: must be high efficiency and controlled by both a motion sensor and photo-control.
   g. Cans for all recessed lights must be IC/AT rated.
   h. Light fixtures in tub or shower enclosures or other wet-damp locations shall be labeled "suitable for damp locations". CEC 410.4(a).
   i. Lights in clothes closets must maintain a minimum of 6" horizontal clearance from the edge of shelves for fluorescent fixtures and recessed fixtures, and 12" for incandescent fixtures.
   j. High efficacy luminaire is one that contains only high efficacy lamps and must not contain a conventional (medium) screw-based socket.
2. LIGHT FIXTURE SCHEDULE: See Sheet A4.2.
3. SWITCHES & OUTLETS:
   a. Flush mount all switches and receptacles.
   b. Receptacle outlets shall be installed at each wall space 2' or wider. Receptacles shall be installed so that no point along the wall line is more than 6', measured horizontally, from a receptacle outlet in that space. Hallways longer than 10' require a minimum of one receptacle.
   c. Typical mounting heights from the floor to centerline shall be for wall switches, 46 inches; wall receptacles, 12 inches. Other conditions may be shown otherwise on Drawings. Verify all special conditions with Architect before proceeding.
   d. Compliant Occupant Sensors: are those that do not allow the luminaire to be turned on automatically and do not have an override that allows it to remain on. Occupant sensors must be "manual-on", i.e., the sensors must not have the ability to turn the lights on automatically and must not have a setting that can leave the lights in a permanent-on position.
      (1) Sensors: Where a motion detector is required and dimmers are desired, such as in bathrooms, provide WattStopper RD-200 Passive Infrared (PIR) Dimming Wall Switch Vacancy Sensor, white color.
   e. Dimmers shall be provided at all LED lighting unless specifically shown as "switch only."
   f. All new and replaced receptacles (both regular and GFCI) in a dwelling unit must be tamper-resistant. (CEC 406.11)
   g. The control switch for exhaust fans at bathrooms & kitchen, for indoor air quality & mechanical ventilation, shall be operated separately from lighting switches.
4. GROUND-FAULT CIRCUIT-INTERRUPER: shall be installed at receptacles in bathrooms, kitchens to serve countertop surfaces, within 6' of all sinks, outdoors, garages and accessory buildings.
5. ARC FAULT PROTECTION: Listed combination type arc fault circuit interrupters shall protect all branch circuits serving family room, dining room, living room, dens, bedrooms, closet or halls.
6. OUTDOOR: Provide outdoor outlets (one at the front and one at the back within 6'-6" of grade level). All outdoor outlets shall be GFIC protected and shall have weather proof outlet covers
7. KITCHEN: counter outlets as follows:
   a. A minimum of 1 outlet per counter space 12" wide or more.
   b. A minimum of 1 outlet within 24" of each end of each counter.
   c. Additional outlets located not more than 48" apart measured along counter edges.
8. CIRCUITS:
   a. Provide at least two separate 20 amp circuits for small appliances in kitchen, pantry, dining room and similar areas, with no other outlets on the circuits. CEC 210.11(C)(1), 210.52(B).
   b. Provide at least one separate 20 amp circuit to laundry appliances with no other outlets on the circuit. 210.11(C)(2).
   c. Provide at least one 20 amp circuit for bathroom outlets with no other outlets on the circuit. 210.11(C)(3).
   d. All receptacles in dwelling units for 125-volt, 15 & 20 amp shall be listed tamper-resistant receptacles.
   e. At least one receptacle, in addition to any provided for laundry equipment, shall be installed in each basement & in each attached garage, and in each detached garage with electric power.
   f. Receptacles for fixed appliances shall be accessible, not behind appliance.
9. SMOKE DETECTORS AND CARBON MONOXIDE ALARMS: State law requires smoke alarms and carbon monoxide alarms be installed throughout the house, including areas not otherwise affected by the proposed work. To comply, the Contractor is to install or verify the existence of smoke detectors & carbon monoxide alarms outside each bedroom as well as one on every level. Smoke alarms shall also be provided in each bedroom. Power Source - in new construction & existing buildings where accessible, smoke alarms shall receive their primary power from the building wiring where such wiring is served from a commercial source & shall be equipped with a battery backup. Alarms in existing areas where wiring is not accessible may be powered by a DC battery source.
   a. Install SMOKE DETECTORS in the following locations:
      1) Each level, including basements
      2) In all sleeping rooms
      3) Corridor or area giving access to sleeping areas
      4) Top of all stairways leading to sleeping areas
      5) In dwelling units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by 24" or more, smoke detectors shall be installed in the hallway and in the adjacent room.



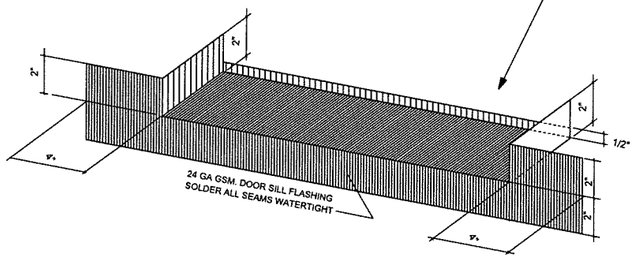
2 **SECTION looking east** 1/4" = 1'-0"

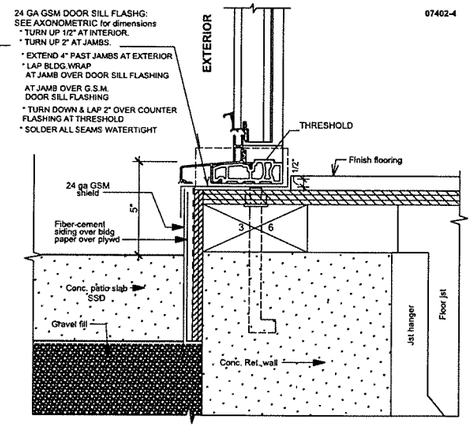


1 **SECTION looking south** 1/4" = 1'-0"

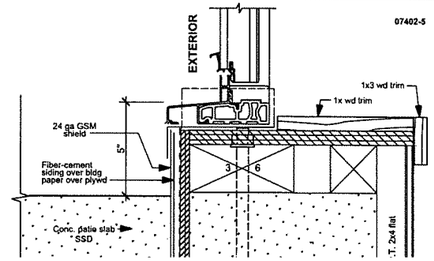


3 **SECTION looking north** 1/4" = 1'-0"





4 Threshold at Patio Slab
SCALE: 3" = 1'-0"



ABBREVIATIONS

A
A.B. ANCHOR BOLT
ADJ. ADJUSTABLE
AGGR. AGGREGATE
AFI ARC FAULT INTERRUPTER
APPROX. APPROXIMATE
ARCH. ARCHITECTURAL
ASPH. ASPHALT
AWN. AWNING

B
BLDG. BUILDING
BLK. BLOCK
BLKG. BLOCKING
BM. BEAM
BOT. BOTTOM
BRKT. BRACKET
BRM. BEDROOM

C
CAB. CABINET
C.B. CATCH BASIN
CEM. CEMENT
CER. CERAMIC
C&G. CURB & GUTTER
C.I. CAST IRON
C.J. CONTROL JOINT
CL. CENTERLINE
CLG. CEILING
CLKG. CAULKING
CLR. CLEAR
C.O. CONVENIENCE OUTLET
COL. COLUMN
COMP. COMPOSITION
CONC. CONCRETE
CONN. CONNECTION
CONST. CONSTRUCTION
CONT. CONTINUOUS
CSMT. CASEMENT
CTR. CENTER
CTSK. COUNTERSINK

D
D. DRYER
DBL. DOUBLE
DET. DETAIL
D.F. DOUGLAS FIR
DIA. DIAMETER
DIAG. DIAGONAL
DIM. DIMENSION
DISP. DISPOSER
DKG. DECKING
DN. DOWN
DR. DOOR
DRN. DRAIN
DS. DOWNSPOUT
DW. DISHWASHER
DWG. DRAWING
DWR. DRAWER

E
(E) EXISTING
EA. EACH
EL. ELEVATION
ELECT. ELECTRICAL
E.N. EDGE NAILING
ENCL. ENCLOSURE
E.P. EDGE OF PAVING
EQ. EQUAL
EQPT. EQUIPMENT
E.W. EACH WAY
EXH. EXHAUST
EXP. EXPANSION
(E) EXISTING
EXT. EXTERIOR

F
FBRGL. FIBERGLAS
F.C. FACE OF CONCRETE
F.D. FLOOR DRAIN
FDN. FOUNDATION
F.F. FACE OF FINISH
F.H. FIRE HYDRANT
F.H.W.S. FLAT HEAD WOOD SCREW
FIN. FINISH
FIXT. FIXTURE
FLASH. FLASHING
FLR. FLOOR
FLRG. FLOORING
FLUOR. FLUORESCENT
F.N. FIELD NAIL
F.O.H.C. FREE OF HEART CENTERS
FPL. FIREPLACE
FRMG. FRAMING
F.S. FACE OF STUD
FT. FOOT or FEET
FTG. FOOTING
FURN. FURNACE
FUT. FUTURE
FXD. FIXED

G
GA. GAUGE
GALV. GALVANIZED
G.B. GRAB BAR
GL. GLASS
GL.BM. GLU LAM BEAM
GR. GRADE
G.S.M. GALVANIZED SHEET METAL
GWB. GYPSUM WALLBOARD
GYP. GYPSUM

H
H.B. HOSE BIBB
H.C. HOLLOW CORE
HD. HOLDOWN
HDR. HEADER
HDRL. HANDRAIL
HDWD. HARDWOOD
HGR. HANGER
HT. HEIGHT
HORIZ. HORIZONTAL
HTR. HEATER
HVAC HEATING VENTILATING & AIR CONDITIONING

I
I.D. INSIDE DIAMETER
INCL. INCLUDING
INSUL. INSULATION
INT. INTERIOR

J
JST. JOIST
JT. JOINT

K
KIT. KITCHEN
K.D. KILN DRIED

L
LAM. LAMINATE
LAV. LAVATORY
L.R. LIVING ROOM
L.S. LAZY SUSAN
LT. LIGHT
LVRD. LOUVERED

M
MAX. MAXIMUM
M.B. MACHINE BOLT
M.C. MEDICINE CABINET
MECH. MECHANICAL
MEMB. MEMBRANE
MET. METAL
MFR. MANUFACTURER
MIN. MINIMUM
MIR. MIRROR
MISC. MISCELLANEOUS
M.L.BM. MINI LAM BEAM
M.T. METAL THRESHOLD
MTL. MATERIAL
MUL. MULLION
MICRO. MICROWAVE OVEN

N
N. NORTH
(N) NEW
N.I.C. NOT IN CONTRACT
NO. NUMBER
NOM. NOMINAL
N.T.S. NOT TO SCALE

O
OBS. OBSCURE
O.C. ON CENTER
O.D. OUTSIDE DIAMETER
OH. OVERHANG
OPNG. OPENING
OPP. OPPOSITE

P
PAV. PAVING
PERF. PERFORATED
PKT. POCKET
PL. PLATE
P.LAM. PLASTIC LAMINATE
PLAS. PLASTER
PLBG. PLUMBING
PLHT. PLATE HEIGHT
PNL. PANEL
PR. PAIR
PT. POINT
P.T. PRESSURE TREATED
PVC. POLYVINYLCHLORIDE
PWD. PLYWOOD

Q
Q.T. QUARRY TILE

R
R. RISER
RAD. RADIUS
REC. RECESS
REF. REFERENCE
REFR. REFRIGERATOR
REINF. REINFORCING
REQ. REQUIRED
RESIL. RESILIENT
RET. RETAINING
RFTR. RAFTER
REG. REGISTER
RM. ROOM
RG. ROUGH
R.O. ROUGH OPENING
RWD. REDWOOD
RWL. RAINWATER LEADER

S
S. SOUTH
S.C. SOLID CORE
SCHED. SCHEDULE
SCPR. SCUPPER
S.D. SMOKE DETECTOR
S.D. SOAP DISH
SEC. SECTION
S.F. SQUARE FEET
SLGLDR. SLIDING GLASS DOOR
SH. SHELF
S.H. SINGLE HUNG
SHGL. SHINGLE
SHR. SHOWER
SHR.HD. SHOWER HEAD
SHT. SHEET
SHTG. SHEATHING
SIM. SIMILAR
SKLT. SKYLIGHT
SL. SLIDING
SHTMET. SHEET METAL
S.P. SHELF AND POLE
SPEC. SPECIFICATION
SPL. SPLASH
SQ. SQUARE
S.S. SELECT STRUCTURAL
SSD. See structural drawings
SST. STAINLESS STEEL
STAG. STAGGERED
STD. STANDARD
STL. STEEL
STOR. STORAGE
STRL. STRUCTURAL
SW. SWITCH

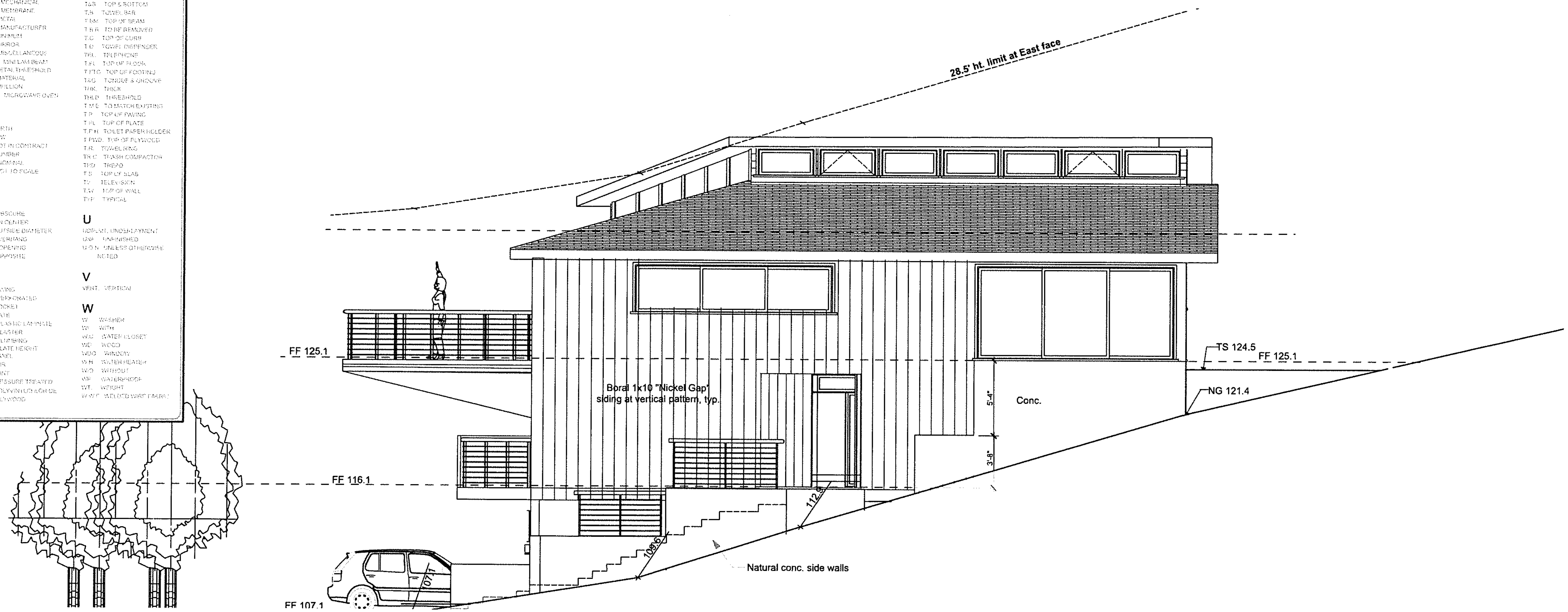
T
T. TREAD
T&B TOP & BOTTOM
T.B. TOWEL BAR
T.BM. TOP OF BEAM
T.B.R. TO BE REMOVED
T.C. TOP OF CURB
T.D. TOWEL DISPENSER
TEL. TELEPHONE
T.FL. TOP OF FLOOR
T.FTG. TOP OF FOOTING
T&G TONGUE & GROOVE
THK. THICK
THLD. THRESHOLD
T.M.E. TO MATCH EXISTING
T.P. TOP OF PAVING
T.PL. TOP OF PLATE
T.P.H. TOILET PAPER HOLDER
T.PWD. TOP OF PLYWOOD
T.R. TOWEL RING
TR.C. TRASH COMPACTOR
TRD. TREAD
T.S. TOP OF SLAB
TV. TELEVISION
T.W. TOP OF WALL
TYP. TYPICAL

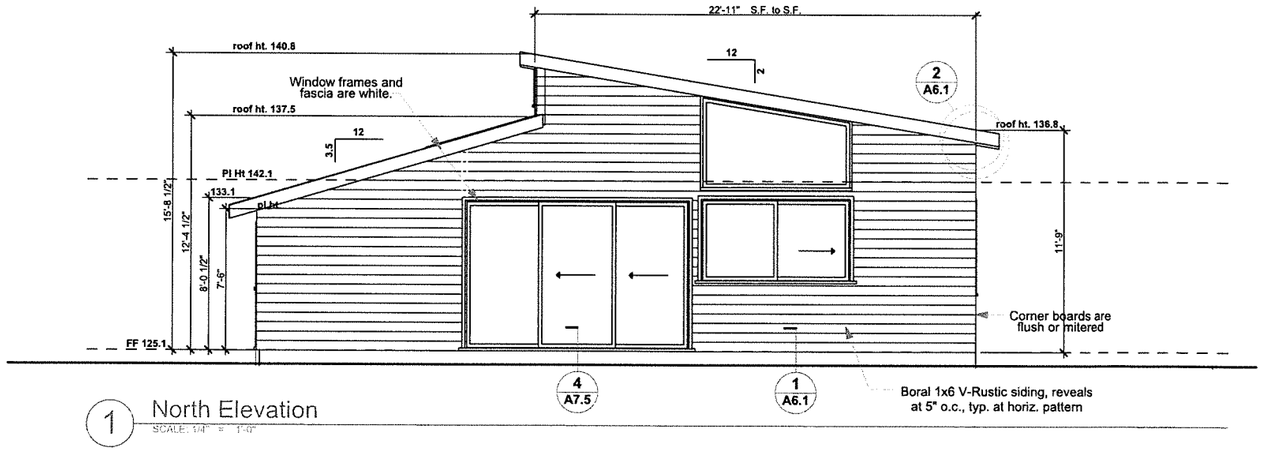
U
UDRLAY. UNDERLAYMENT
UNF. UNFINISHED
U.O.N. UNLESS OTHERWISE NOTED

V
VERT. VERTICAL

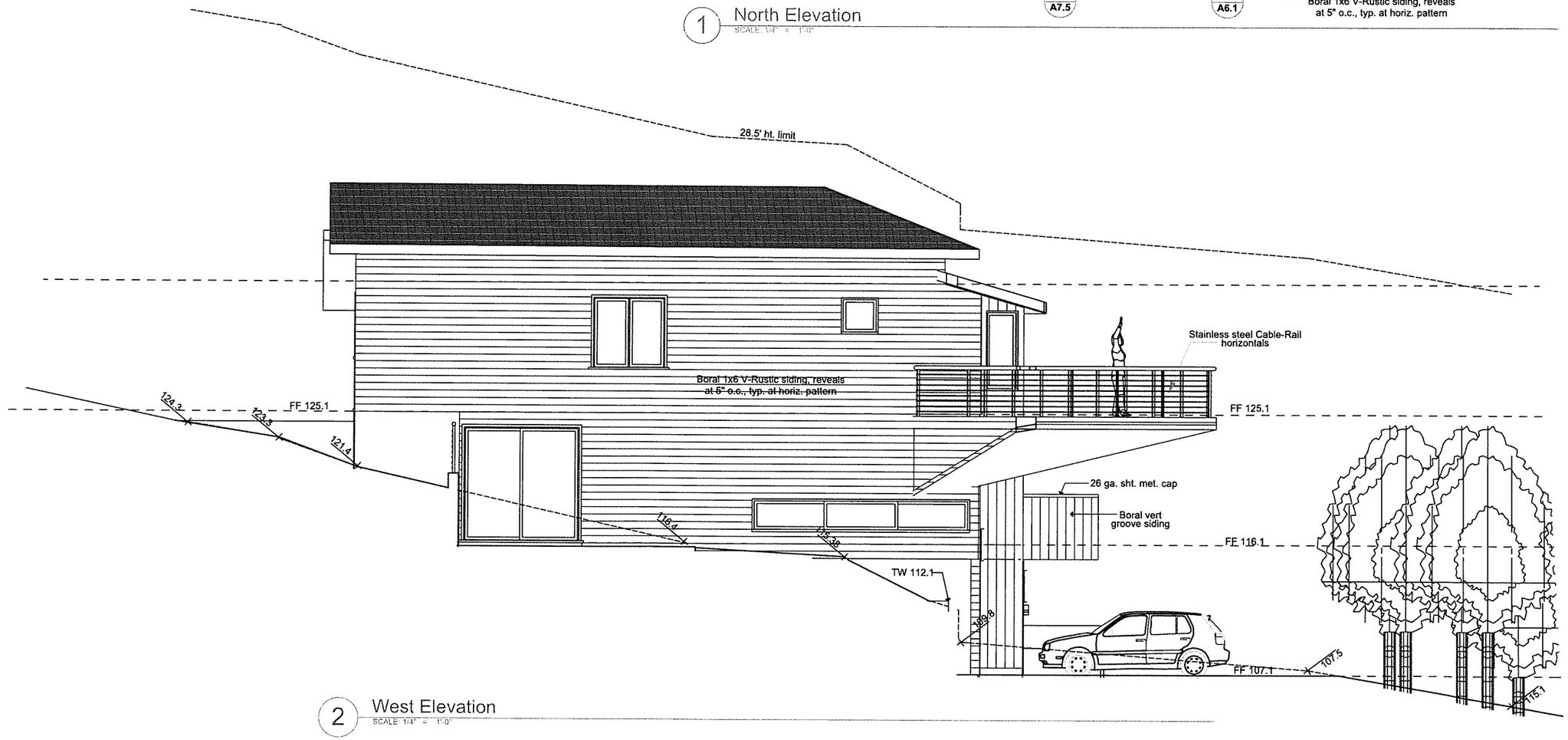
W
W. WASHER
W/ WITH
W.C. WATER CLOSET
WD. WOOD
WDO. WINDOW
W.H. WATER HEATER
W/O WITHOUT
WP. WATERPROOF
WT. WEIGHT
W.W.F. WELDED WIRE FABRIC

1 South Elevation
SCALE: 1/4" = 1'-0"

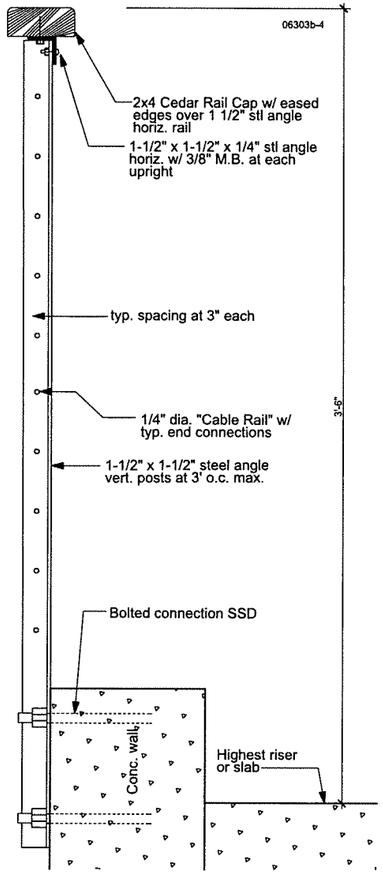




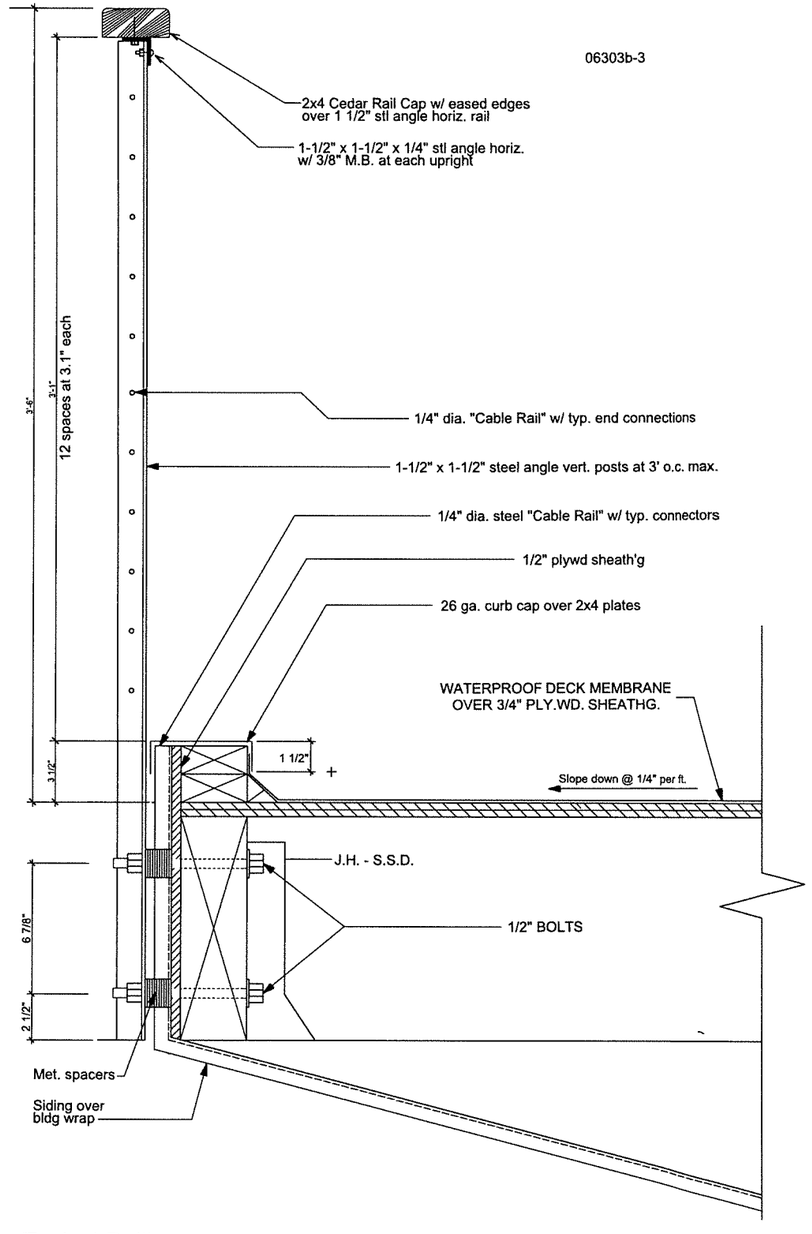
1 North Elevation
SCALE: 1/4" = 1'-0"



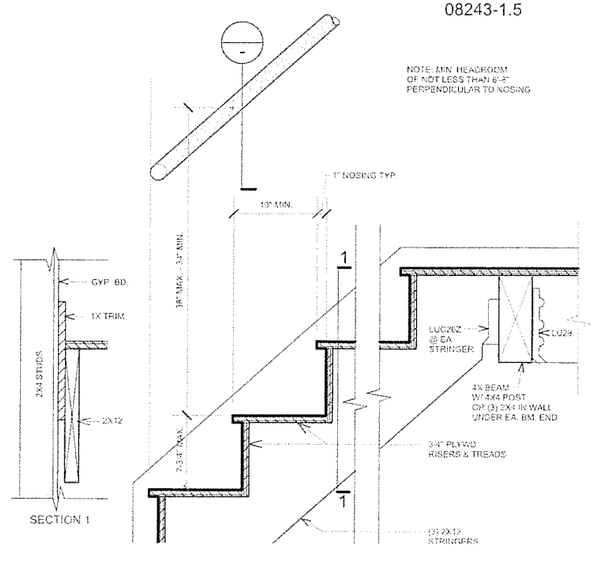
2 West Elevation
SCALE: 1/4" = 1'-0"

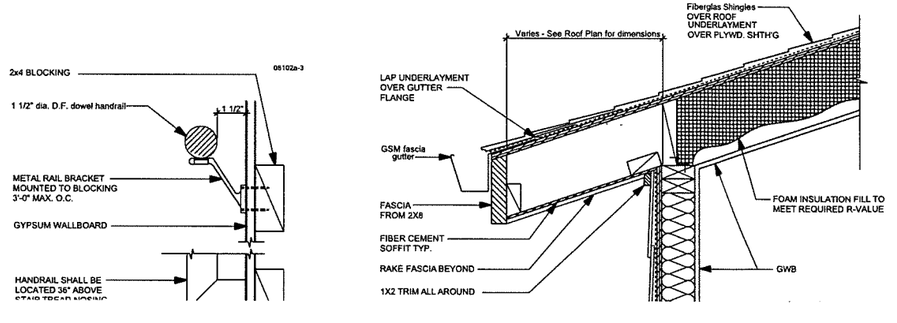


4 Railing at Concrete Wall
SCALE: 3" = 1'-0"



1 Typical Railing
SCALE: 3" = 1'-0"





PEDERSEN RESIDENCE

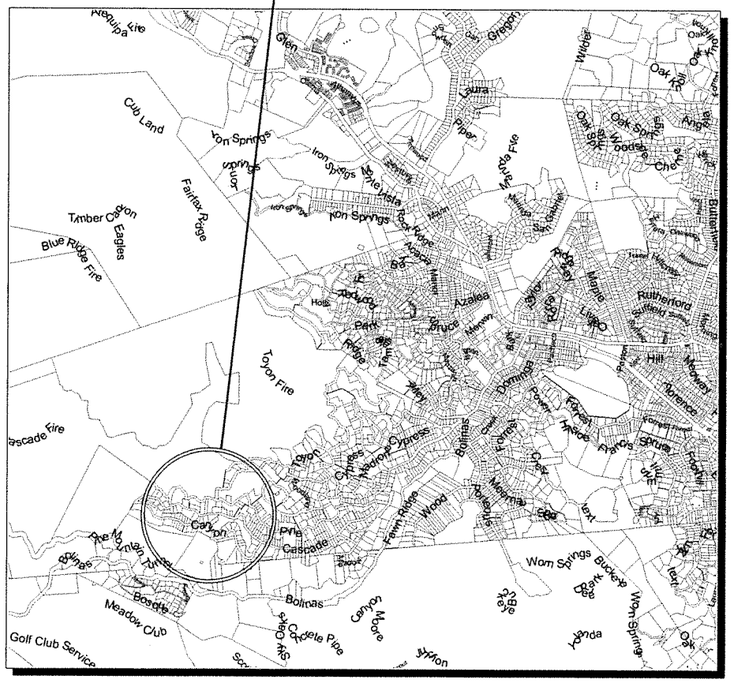
572 CASCADE DR., FAIRFAX, CA

A.P.N. NO: 003-022-20

LEGEND:

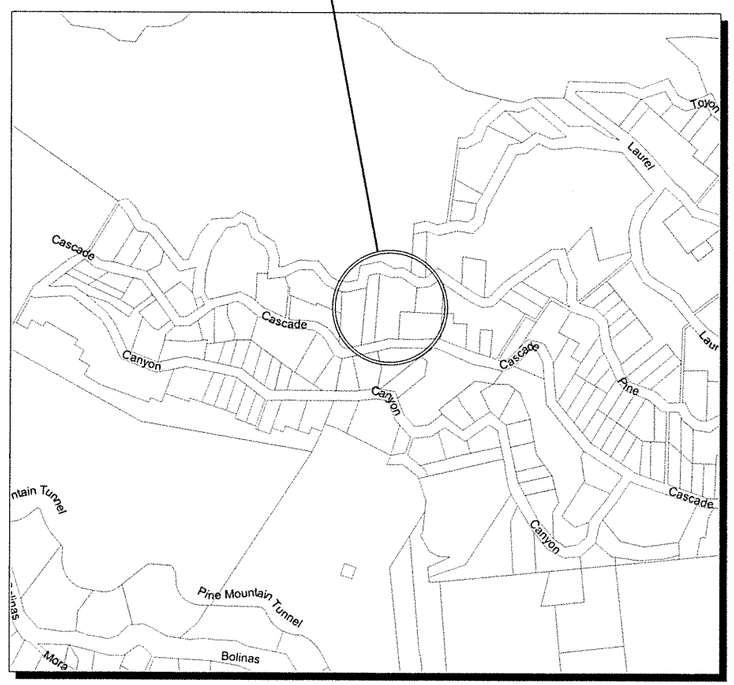
- SUBDIVISION BOUNDARY
- ROADWAY CENTERLINE
- RIGHT-OF-WAY
- EASEMENT AS NOTED
- SANITARY SEWER MAIN PIPE (PUBLIC)
- SANITARY SEWER MAIN PIPE (PRIVATE)
- SANITARY SEWER MANHOLE
- SANITARY SEWER MAIN PLUG
- SANITARY SEWER LATERAL
- WATER MAIN PIPE
- WATER FIRE HYDRANT
- WATER VALVE
- WATER REDUCER
- WATER MAIN PLUG
- WATER AIR RELEASE VALVE
- WATER BLOW-OFF
- WATER SERVICE AND METER
- ACCESS HATCH IN U/G STORAGE TANK
- STORM DRAIN PIPE
- STORM DRAIN MANHOLE
- STORM DRAIN PIPE PLUG
- VERTICAL CURB AND GUTTER
- ROLL CURB AND GUTTER
- VERTICAL CURB/EXTRUDED CURB
- SIDEWALK
- LOT LINE
- 449 — LOT NUMBER
- RETAINING WALL
- TRW=20.67 / TF=17.33 — TOP OF RETAINING WALL ELEV / TOP OF FOOTING ELEV
- 1202.81 — EXISTING SPOT ELEVATION
- 1203.85 — PROPOSED SPOT ELEVATION
- PROPOSED CONTOUR (5' INTERVAL)
- PROPOSED CONTOUR (1' INTERVAL)
- 12+00 — ROAD STATION

SEE VICINITY MAP



AREA MAP
SCALE: 1" = 700'

SITE LOCATION
278 CASCADE DR.



VICINITY MAP
SCALE: 1" = 100'

LEGEND (cont.):

- GRADE BREAK
- EXISTING ROADWAY CENTERLINE
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT AS NOTED
- 8"SS — EXISTING SANITARY SEWER MAIN PIPE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MAIN PLUG
- 12"W — EXISTING WATER MAIN PIPE
- EXISTING WATER FIRE HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER REDUCER
- EXISTING WATER MAIN PLUG
- EXISTING WATER AIR RELEASE VALVE
- EXISTING WATER BLOW-OFF
- EXISTING STORM DRAIN PIPE
- EXISTING STORM DRAIN MANHOLE
- EXISTING STORM DRAIN PIPE PLUG
- EXISTING VERTICAL CURB AND GUTTER
- EXISTING ROLL CURB AND GUTTER
- EXISTING VERTICAL CURB/EXTRUDED CURB
- EXISTING SIGN AS NOTED
- EXISTING CONTOUR (1' INTERVAL)
- FL= — FLOW LINE (GUTTER ELEVATION)
- TC= — TOP OF CURB ELEVATION
- P= — PAVEMENT ELEVATION
- HWE= — HIGH WATER ELEVATION
- FFE= — FINISH FLOOR ELEVATION
- PAD= — FINISH PAD ELEVATION
- POT= — POINT OF TANGENCY
- POC= — POINT OF CURVATURE
- PRC — POINT OF REVERSE CURVATURE
- BTM= — BASIN BOTTOM ELEVATION
- TL= — TRUE LENGTH
- SURVEY CONTROL POINT
- SLOPE INDICATOR
- 0.75% — ROAD SLOPE INDICATOR
- CMU= — CONCRETE MASONRY UNIT
- EXG= — EXISTING
- L/S= — LANDSCAPE
- STREET LIGHT

DESIGN TEAM:

ARCHITECT
RUSHTON-CHARTOCK ARCHITECTS
1620 SIR FRANCIS DRAKE BLVD.
FAIRFAX, CA
T: (415) 457-2802
E: RUSHTONCHARTOCK@COMCAST.NET

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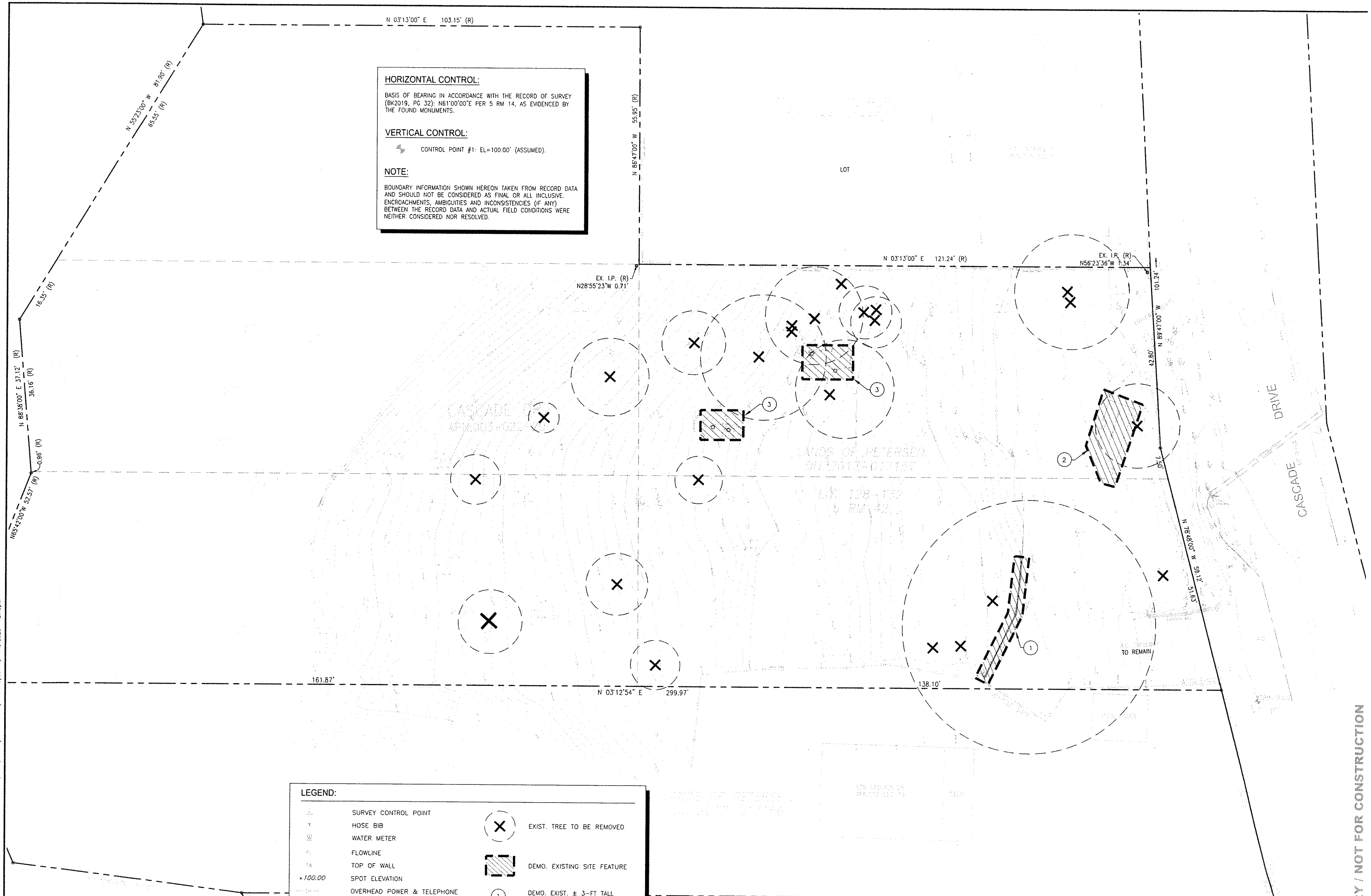
LAND SURVEYOR:
JLH ENGINEERING, INC.
1539 FOURTH ST.
SAN RAFAEL
T: 415-457-6647,
CONTACT: JAY HALLBERG

CIVIL / LANDSCAPE SHEET INDEX

NOT FOR CONSTRUCTION



HORIZONTAL CONTROL:

BASIS OF BEARING IN ACCORDANCE WITH THE RECORD OF SURVEY (BK2019, PG 32): N61°00'00"E PER 5 RM 14, AS EVIDENCED BY THE FOUND MONUMENTS.

VERTICAL CONTROL:

CONTROL POINT #1: EL=100.00' (ASSUMED).

NOTE:

BOUNDARY INFORMATION SHOWN HEREON TAKEN FROM RECORD DATA AND SHOULD NOT BE CONSIDERED AS FINAL OR ALL INCLUSIVE. ENCROACHMENTS, AMBIGUITIES AND INCONSISTENCIES (IF ANY) BETWEEN THE RECORD DATA AND ACTUAL FIELD CONDITIONS WERE NEITHER CONSIDERED NOR RESOLVED.

LEGEND:

- SURVEY CONTROL POINT
- HOSE BIB
- WATER METER
- FLOWLINE
- TOP OF WALL
- ×100.00 SPOT ELEVATION
- OVERHEAD POWER & TELEPHONE
- EXIST. TREE TO BE REMOVED
- DEMO. EXISTING SITE FEATURE
- (1) DEMO. EXIST. ± 3-FT TALL TIMBER RETAINING WALL

ents\VA\1711D_Pedersen Residence, Fairfax\Cadd\C20.dwg Plotted by: Vlad Iojica Apr 11, 2020 12:10pm

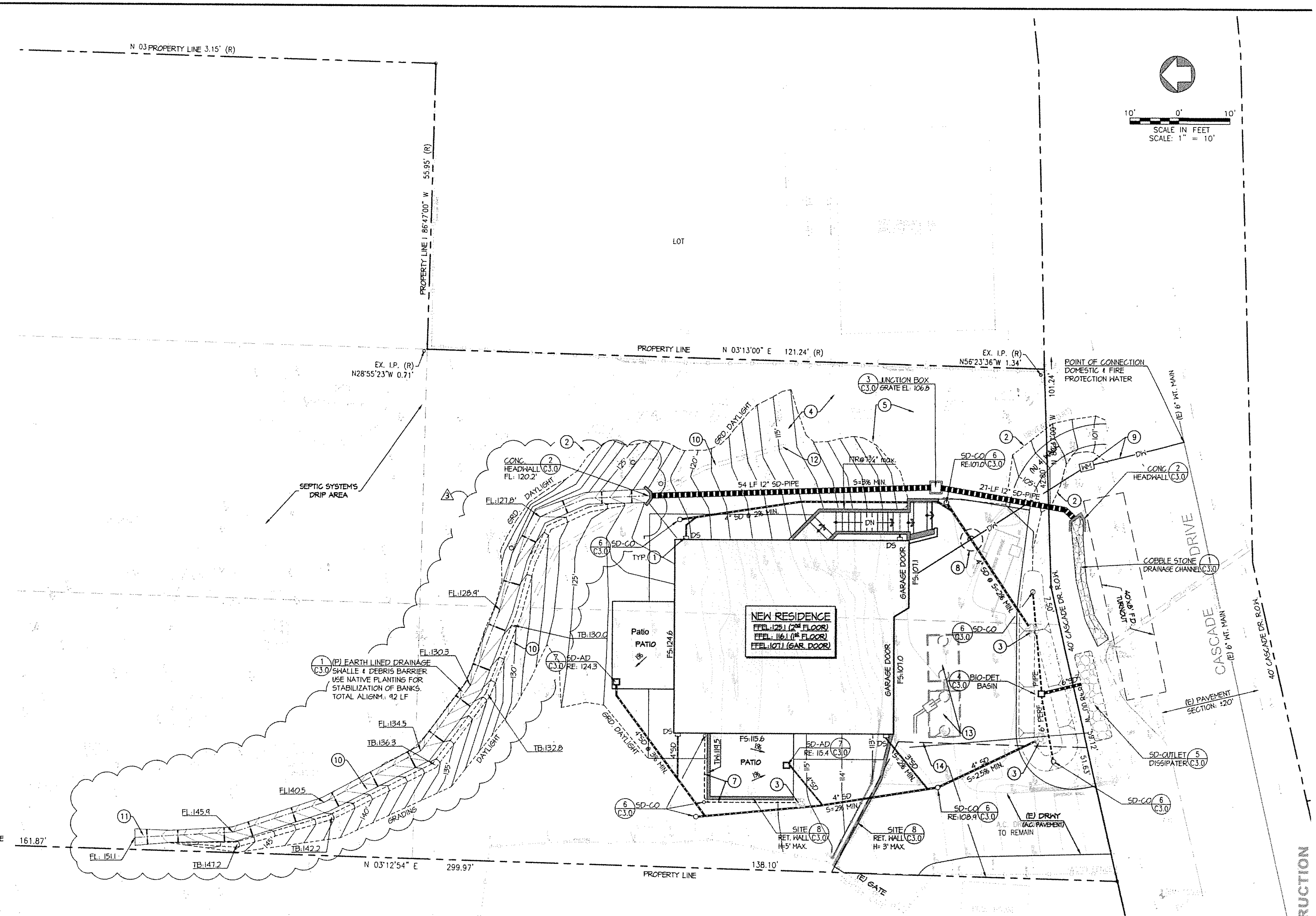
RY / NOT FOR CONSTRUCTION

ABBREVIATIONS:

CL	CENTER LINE
CO	CLEAN OUT
DIA.	DIAMETER
(E)	EXISTING
FC	FACE OF CURB
FF	FINISHED FLOOR ELEVATION
FG	FINISH GRADE
FL	FLOWLINE
FN	FENCE
GM	GAS METER
GR	GRATE
GV	GATE VALVE
HB	HEADER BOARD
HGL	HYDRAULIC GRADE LINE
I.E. OR INV.	INVERT ELEVATION OR FLOWLINE OF PIPES
ICV	IRRIGATION CONTROL VALVE
LF	LINEAR FEET
LIP	LIP OF GUTTER
L.O.W.	LIMITS OF WORK
LRP	LEGALLY RESPONSIBLE PERSON
MON	MONUMENT
O.C.	ON CENTER
(P)	PROPOSED
(R)	RECORD
R	RADIUS
RIM	GRATE OF CATCH BASIN, MANHOLE OR AREA DRAIN RIM ELEVATION
SDCB	STORM DRAIN CATCH BASIN
SDMH	STORM DRAIN MANHOLE
SJ	SCORE JOINT
SV	SHUT-OFF VALVE
SSMH	SANITARY SEWER MANHOLE
TC	TOP OF CURB
TR	TOP OF RAMP
TS	TOP OF STAIR
TW	TOP OF WALL
U.N.O.	UNLESS NOTED OTHERWISE
TB	TOP OF BERM

PLAN NOTES:

1. CONNECT ALL ROOF DOWNSPOUTS TO THE ON-SITE STORM WATER DRAINAGE SYSTEM (9/C3.0)
2. GRADING DAYLIGHT
3. PROTECT SOIL FROM ERODING AT DRAINAGE PIPES AND SWALLE OUTLETS BY INSTALLING MIN. 6" RIP-RAP
4. SEPTIC SYSTEM'S RE-CIRCULATING SAND FILTER DESIGN BY OTHERS
5. SEPTIC SYSTEM'S 1,200 GAL. TANK, DESIGN BY OTHERS
6. GRADE SURFACES ALONG THE PERIMETER OF THE HOUSE FOR MINIMUM OF 10' AS FOLLOWS: 2% MIN. FOR PAVED SURFACES 5% MIN. FOR LANDSCAPED AREAS.
7. INSTALL 4-IN PERFORATED PIPE EMBEDDED IN DRAINROCK SUB-DRAIN AT THE BACK OF THE RETAINING WALLS. INSTALL CLEANOUTS AT EACH TURN OF THE SUB-DRAIN SYSTEM.
8. PROVIDE MIN. 12-IN IN VERTICAL CLEARANCE AT UTILITY CROSSINGS
9. INSTALL NEW 1" WATER SERVICE AND WATER METER FOR DOMESTIC AND FIRE USE.
10. ALIGNMENT OF EXIST. 8-IN STORM DRAIN PIPE TO BE ABANDONED IN PLACE. TOTAL LENGTH OF PIPE: 155 LF.
11. EXIST. CATCH BASIN INLET, TO BE ABANDONED AND REMOVED
12. EXIST. STORM DRAIN PIPE OUTLET, TO BE ABANDONED AND RE-GRADED TO NATURAL CONDITION
13. NEW SEPTIC TANKS, DESIGN BY OTHERS.
14. NEW 24-FT WIDE INGRESS EGRESS EASEMENT DEFINED UNDER SEPARATE DOCUMENT



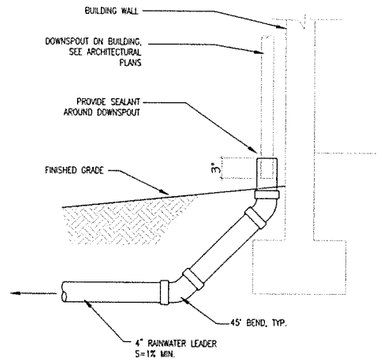
PRELIMINARY GRADING QUANTITIES:

Pedersen Residence
Cascade Drive, Fairfax

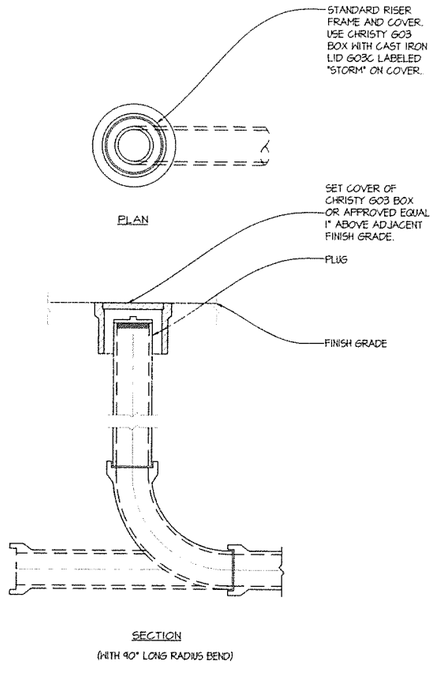
Date: 5-Jul-18
Rev.: 31-Mar-20

item	location on the site	estimated quantities [cu.yd.]	
		cut	fill
1	New House Pad	556.8	
2	West Elevation Patio	16.3	
3	Stormwater Detention Basin	10.7	1.2
4	Drainage Swalle Above the House	19.3	98.3

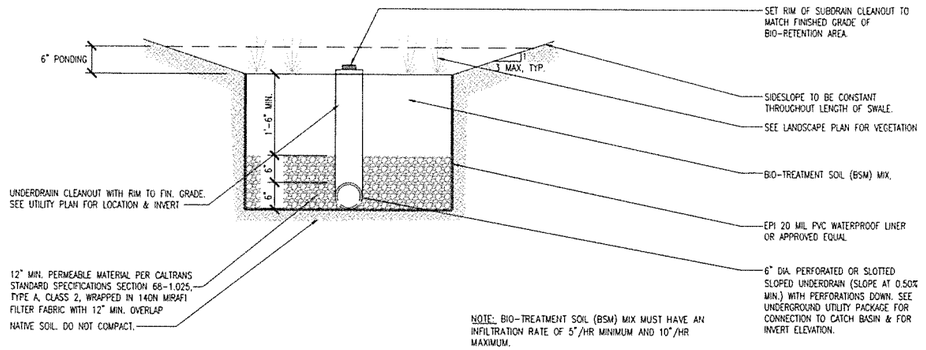
ents\VIA\1711D_Pedersen Residence, Fairfax\Cadd\C30.dwg Plotted by: Vlad Iojica Apr 06, 2020 4:04pm



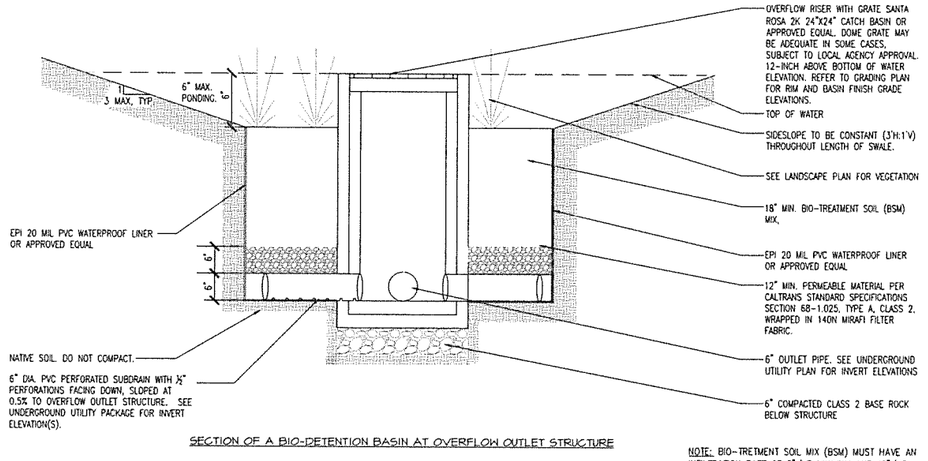
9 CONNECT DOWNSPOUT TO SD
Scale: N.T.S.



6 DRAIN CLEAN OUT
Scale: N.T.S.



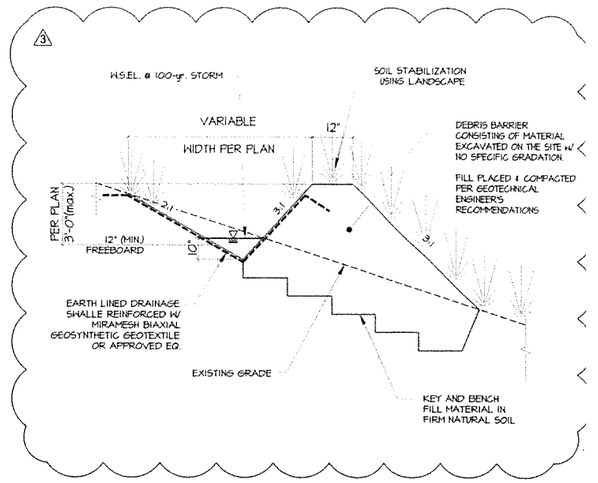
CROSS-SECTION OF LINED BIO-RETENTION BASIN



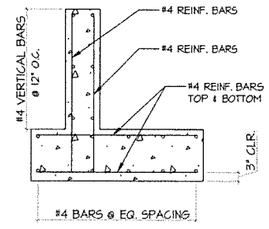
SECTION OF A BIO-DETENTION BASIN AT OVERFLOW OUTLET STRUCTURE

NOTE: BIO-TRETMENT SOIL MIX (BSM) MUST HAVE AN INFILTRATION RATE OF 5"/HR MINIMUM AND 10"/HR MAXIMUM.

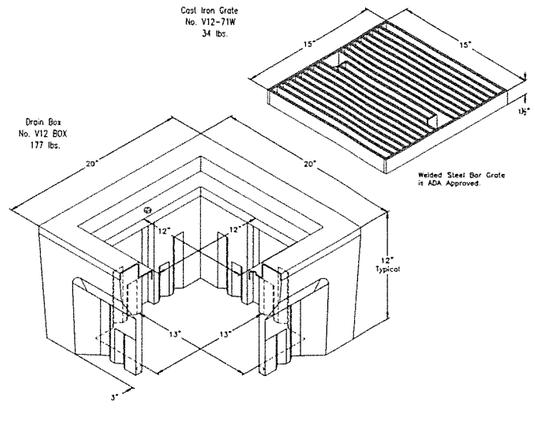
4 BIO-DETENTION BASIN
Scale: N.T.S.



1 DRAINAGE SWALE & DEBRIS BARRIER
Scale: N.T.S.

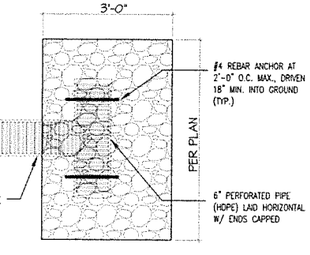


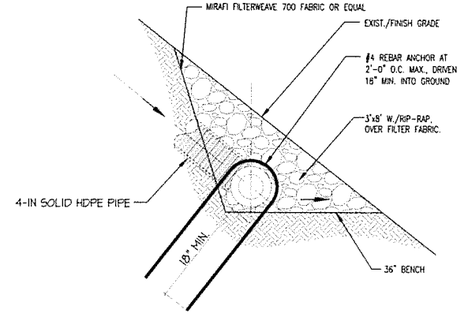
2 CONCRETE HEADWALL
Scale: N.T.S.



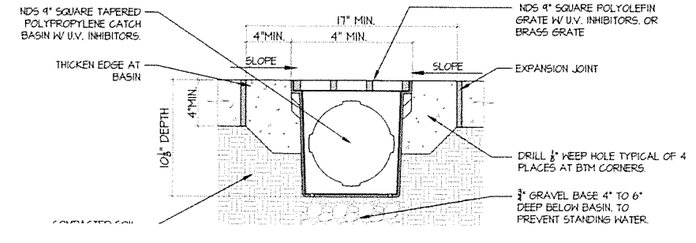
A high density reinforced concrete box with cast in galvanized frame, specifically engineered for heavy traffic areas. Approximate dimensions and weight shown.

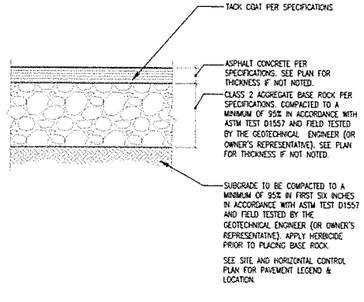
Oldcastle Ordering Code	Item	Approx. Shipping Weight	Description
V12BOX	BOX	177 lbs.	V12 Drain Box (12" x 12") – H/20 Loading, Bolt Down, Interchangeable with Brooks #1212 Box– 12 per pallet
V12-71W	LID	34 lbs.	Welded, Steel Cross Bars, H/20 Loading, Galvanized, ADA Approved
V12X12	EXTENSION	120 lbs.	12" Reinforced Concrete – 12 per pallet



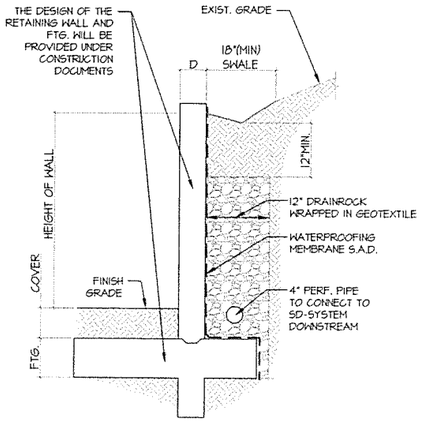


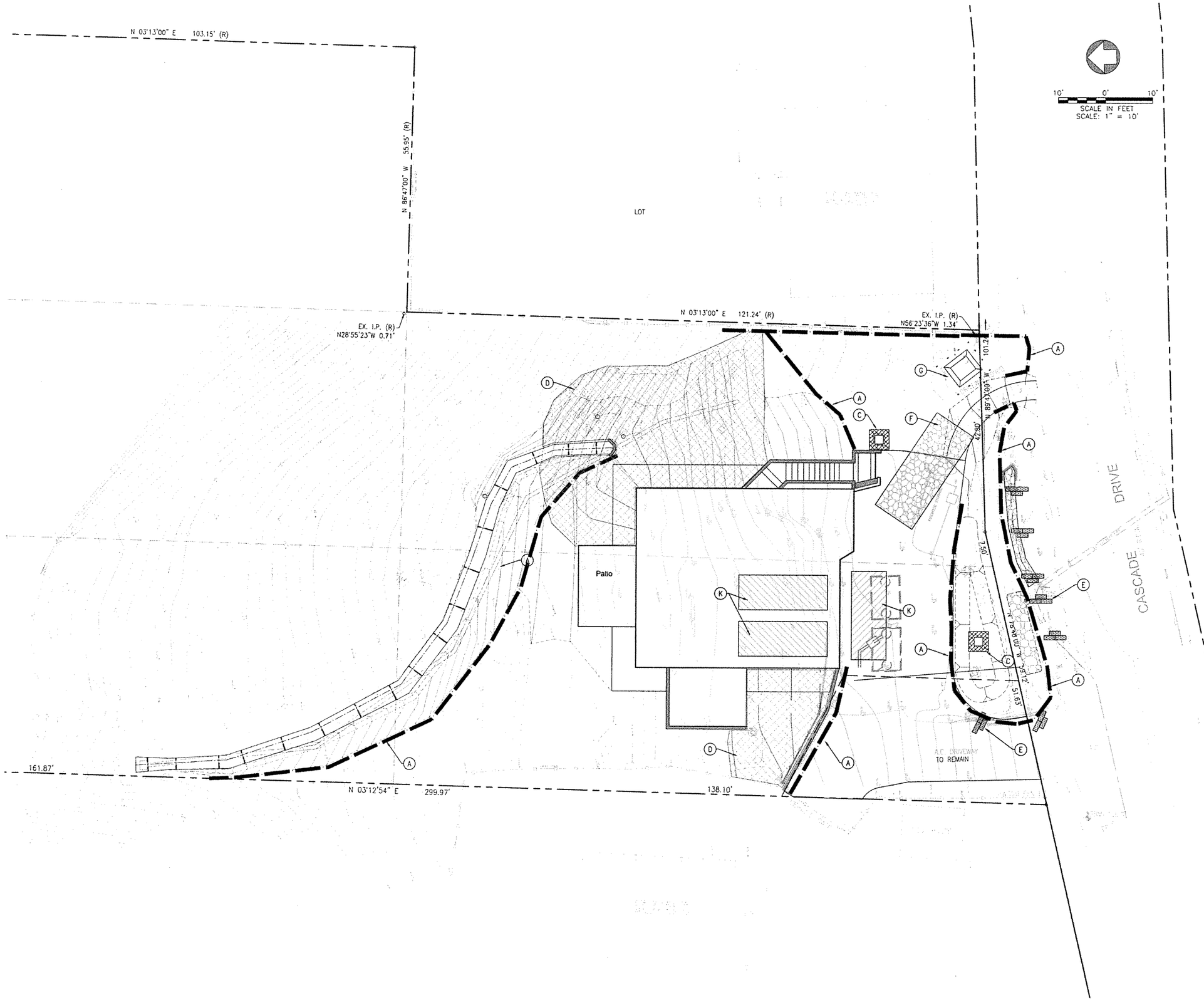
5 STORMWATER DISSIPATOR
Scale: N.T.S.





10 A.C. PAVEMENT AT DRWY.
Scale: N.T.S.



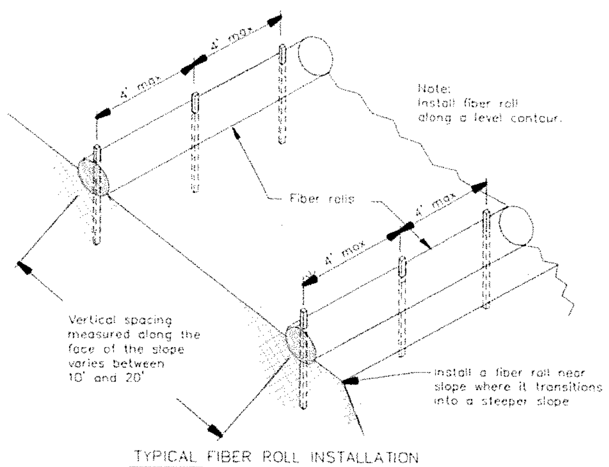


PLAN NOTES:

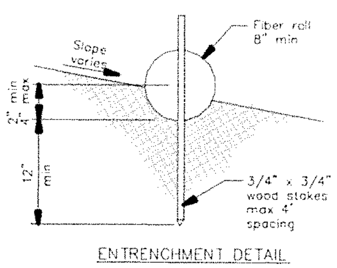
1. ALL DISTURBED AREAS TO BE REVEGETATED OR LANDSCAPED WITHIN A REASONABLE TIME. PROVIDE EROSION BLANKETS IF RAIN IS EMINENT.
2. LIMITS OF DISTURBED AREAS ARE APPROXIMATE ONLY. LIMITS TO BE ADJUSTED AS NEEDED TO PROTECT ALL DISTURBED AREAS.
3. THIS PLAN IS FOR EROSION, SEDIMENT CONTROL, AND TREE PROTECTION ONLY. SEE OTHER CIVIL SHEETS FOR GRADING AND UTILITIES.
4. SEE EROSION CONTROL DETAILS ON C5.1
5. REFER TO ARBORIST REPORT AND TREE PROTECTION PLAN FOR ADDITIONAL INFORMATION, AND FOR EROSION CONTROL PROTECTION WITHIN DRIPLINE AREAS OF TREES.
6. PER COMPLIANCE WITH CALGREEN SECT.4.1062, MAINTAIN CONTINUOUS EROSION AND SEDIMENTATION CONTROL TO PREVENT FLOODING OF ADJACENT PROPERTIES AND STREETS, AS WELL AS PREVENT EROSION AND RETAIN SOIL RUNOFF ONSITE. CONTRACTOR SHALL TAKE MEANS AS NECESSARY TO COMPLY WITH THIS MANDATORY MEASURE INCLUDING, BUT NOT LIMITED TO, INSTALLING RETENTION BASINS AND INSTALLING ADDITIONAL EROSION CONTROL MEASURES.

EROSION CONTROL LEGEND:

- (A) *INSTALL FIBER ROLLS PER CASQA SE-5* — 1/C5.1
- (B) *INSTALL SILT FENCE PER CASQA SE-1* — 2/C5.1
- (C) *INSTALL STORM DRAIN INLET PROTECTION PER CASQA SE-10* — 3/C5.1
- (D) *UTILIZE GEOTEXTILE MATTING (PER CASQA EC-7) OF DISTURBED SOILS UNTIL LANDSCAPE IMPROVEMENTS ARE COMPLETED. APPROX. LIMITS SHOWN.* — 4/C5.1
- (E) *INSTALL GRAVEL BAG SEDIMENT TRAP DURING CONSTRUCTION TO PREVENT SEDIMENT TRANSPORT PER CASQA SE-6.* — 5/C5.1
- (F) *CONSTRUCTION ENTRANCE PER CASQA TC-1* — 6/C5.1
- (G) *CONCRETE WASH AREA* — 7/C5.1
- (H) *TREE FENCE (Tree Protection Zone)* — *NOT PER THIS PLAN, SEE LANDSCAPE PLANS*
- (J) *LIMITS AND DISTURBED AREA*
- (K) *CONSTRUCTION STORAGE AREAS*



TYPICAL FIBER ROLL INSTALLATION



ENTRENCHMENT DETAIL

Purpose:

A fiber roll consists of straw, coir, or other biodegradable materials bound into a tight tubular roll wrapped by netting, which can be biodegradable or natural. Additionally, gravel core fiber rolls are available, which contain an imbedded ballast material such as gravel or sand for additional weight when staking the rolls are not feasible (such as use as inlet protection). When fiber rolls are placed at the toe and on the face of slopes along the contours, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff (through sedimentation). By interrupting the length of a slope, fiber rolls can also reduce sheet and rill erosion until vegetation is established.

Application:

- *Along the toe, top, face, and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.*
- *At the end of a downward slope where it transitions to a steeper slope.*
- *Along the perimeter of a project.*
- *As check dams in unlined ditches with minimal grade.*
- *Down-slope of exposed soil areas.*
- *At operational storm drains as a form of inlet protection.*
- *Around temporary stockpiles.*

Installation:

Follow manufacturer's recommendations for installation. In general, these will be as follows:
Locate fiber rolls on level contours spaced as follows:

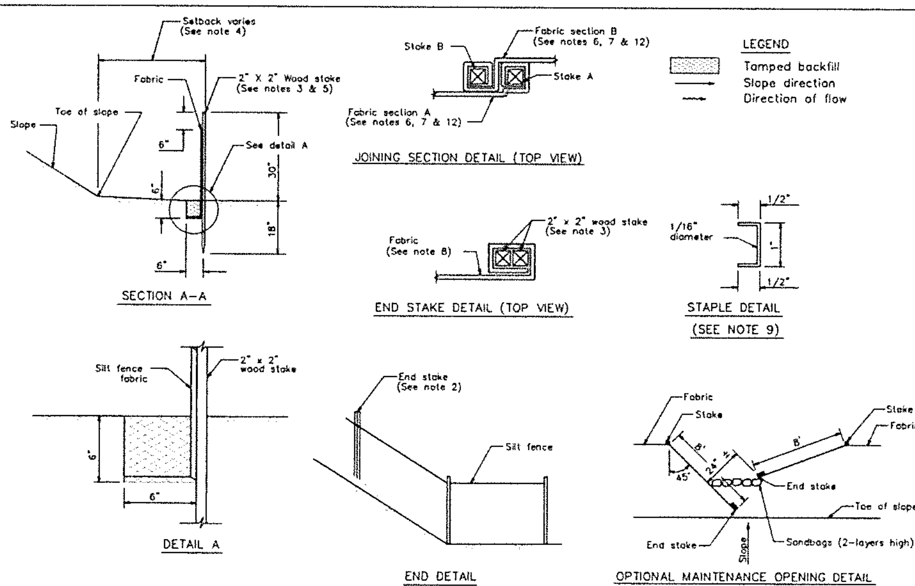
- *Slope inclination of 4:1 (H:V) or flatter: Fiber rolls should be placed at a maximum interval of 20 ft.*
- *Slope inclination between 4:1 and 2:1 (H:V): Fiber Rolls should be placed at a maximum interval of 15 ft. (a closer spacing is more effective).*
- *Slope inclination 2:1 (H:V) or greater: Fiber Rolls should be placed at a maximum interval of 10 ft. (a closer spacing is more effective).*

- *Prepare the slope before beginning installation.*
- *Dig small trenches across the slope on the contour. The trench depth should be ¼ to 1/3 of the thickness of the roll, and the width should equal the roll diameter, in order to provide area to backfill the trench.*
- *It is critical that rolls are installed perpendicular to water movement, and parallel to the slope contour.*
- *Start building trenches and installing rolls from the bottom of the slope and work up.*
- *It is recommended that pilot holes be driven through the fiber roll. Use a straight bar to drive holes through the roll and into the soil for the wooden stakes.*
- *Turn the ends of the fiber roll up slope to prevent runoff from going around the roll.*
- *Stake fiber rolls into the trench.*
  - *Drive stakes at the end of each fiber roll and spaced 4 ft maximum on center.*
  - *Use wood stakes with a nominal classification of 0.75 by 0.75 in. and minimum length of 24 in.*
- *If more than one fiber roll is placed in a row, the rolls should be overlapped, not abutted.*

Inspection and maintenance:

- *BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.*
- *Repair or replace split, torn, unraveling, or slumping fiber rolls.*
- *If the fiber roll is used as a sediment capture device, or as an erosion control device to maintain sheet flows, sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when sediment accumulation reaches one-third the designated sediment storage depth.*
- *If fiber rolls are used for erosion control, such as in a check dam, sediment removal should not be required as long as the system continues to control the grade. Sediment control BMPs will likely be required in conjunction with this type of application.*
- *Repair any rills or gullies promptly.*

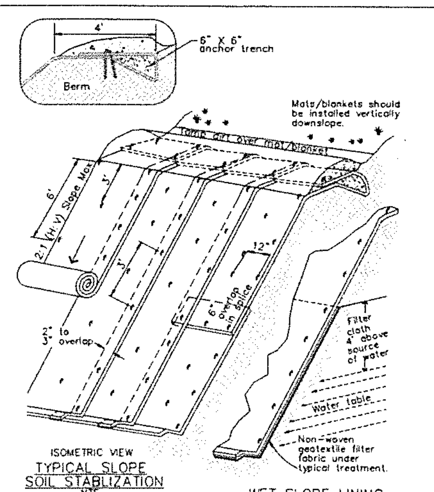
(1) FIBER ROLL — CASQA-BMP SE-5 — SECTION — SCALE: NO SCALE



Notes:

1. *Construct the length of each reach so that change in base elevation along the reach does not exceed 1/3 the height of the linear barrier. In no case shall the reach length exceed 500'.*
2. *The last 8'-0" of fence shall be turned up slope.*
3. *Stake dimensions are nominal.*
4. *Dimensions may vary to fit field conditions.*
5. *Stakes shall be spaced at 8'-0" maximum and shall be positioned on downstream side of fence.*
6. *Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.*
7. *Stakes shall be driven tightly together to prevent potential flow-through of sediment at joint. The tops of the stakes shall be secured with wire.*
8. *For end stake, fence fabric shall be folded around two stakes one full turn and secured with 4 staples.*
9. *Minimum 4 staples per stake. Dimensions shown are typical.*
10. *Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the barrier.*
11. *Maintenance openings shall be constructed in a manner to ensure sediment remains behind silt fence.*
12. *Sandbag rows and layers shall be offset to eliminate gaps.*
13. *Add 3-4 bags to cross barrier on downgradient side of silt fence as needed to prevent bypass or undermining and as allowable based on site limits of disturbance.*

(2) SILT FENCE — CASQA-BMP SE-1 — SECTION/ELEVATIONS — SCALE: NO SCALE



NOTES:
1. Slope surface shall be free of rocks, clods, sticks and grass. Mats/blankets shall have good soil contact.

Purpose:

Mattings, or Rolled Erosion Control Products (RECPs), can be made of natural materials. RECPs are used to cover the soil surface to reduce erosion from rainfall impact, hold soil in place, and absorb and hold moisture near the soil surface. Additionally, RECPs may be used to stabilize soils until vegetation is established or to reinforce non-woody surface vegetation.

Application:

RECPs are typically applied on slopes where erosion hazard is high and vegetation will be slow to establish. Mattings are also used on stream banks, swales and other drainage channels where moving water at velocities between 3 ft/s and 6 ft/s are likely to cause scour and wash out new vegetation, and in areas where the soil surface is disturbed and where existing vegetation has been removed. RECPs may also be used when seeding cannot occur (e.g., late season construction and/or the arrival of an early rain season). RECPs should be considered when the soils are fine grained and potentially erosive. RECPs should be considered in the following situations.

- *Steep slopes, generally steeper than 3:1 (H:V)*
- *Slopes where the erosion potential is high*
- *Slopes and disturbed soils where mulch must be anchored*
- *Disturbed areas where plants are slow to develop*
- *Channels with flows exceeding 3.3 ft/s*
- *Channels to be vegetated*
- *Stockpiles*
- *Slopes adjacent to water bodies*

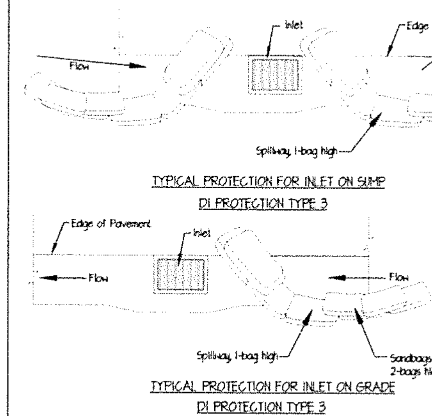
Installation:

Installation should be in accordance with the manufacturer's recommendations. In general, these will be as follows:

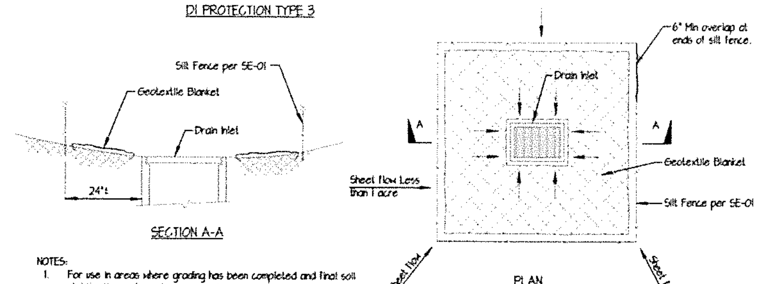
- *Begin at the top of the slope and anchor the blanket in a 6 in. deep by 6 in. wide trench. Backfill trench and tamp earth firmly.*
- *Unroll blanket down slope in the direction of water flow.*
- *Overlap the edges of adjacent parallel rolls 2 to 3 in. and staple every 3 ft (or greater, per manufacturer's specifications).*
- *When blankets must be spliced, place blankets end over end (shingle style) with 6 in. overlap. Staple through overlapped area, approximately 12 in. apart.*
- *Lay blankets loosely and maintain direct contact with the soil. Do not stretch.*
- *Staple blankets sufficiently to anchor blanket and maintain contact with the soil. Staples should be placed down the center and staggered with the staples placed along the edges. Steep slopes, 1:1 (H:V) to 2:1 (H:V), require a minimum of 2 staples/yd2. Moderate slopes, 2:1 (H:V) to 3:1 (H:V), require a minimum of 1 ½ staples/yd2. Check manufacturer's specifications to determine if a higher density staple pattern is required.*

Inspection & Maintenance:

- *RECPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion*



NOTES:
1. Intended for short-term use.
2. Use to inhibit non-storm water flow.
3. Allow for proper maintenance and cleanup.
4. Bags must be removed after adjacent operation is completed.
5. Not applicable in areas with high silts and clays without filter fabric.



NOTES:
1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

DI PROTECTION TYPE I

Purpose:

Storm drain inlet protection consists of a sediment filter or an impounding area in, around or upstream of a storm drain, drop inlet, or curb inlet. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Some filter configurations also remove sediment by filtering, but usually the ponding action results in the greatest sediment reduction. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

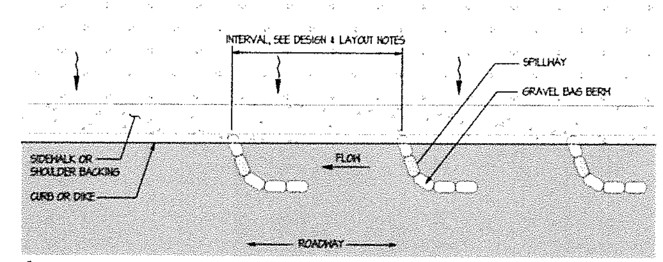
Application:

Every storm drain inlet receiving runoff from unstabilized or otherwise active work areas should be protected. Inlet protection should be used in conjunction with other erosion and sediment controls to prevent sediment-laden stormwater and non-stormwater discharges from entering the storm drain system.

Inspection & Maintenance:

- *BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.*
- *Silt Fences. If the fabric becomes clogged, torn, or degrades, it should be replaced. Make sure the stakes are securely driven in the ground and are in good shape (i.e., not bent, cracked, or splintered, and are reasonably perpendicular to the ground). Replace damaged stakes. At a minimum, remove the sediment behind the fabric fence when accumulation reaches one-third the height of the fence or barrier height.*
- *Gravel Filters. If the gravel becomes clogged with sediment, it should be carefully removed from the inlet and either cleaned or replaced. Since cleaning gravel at a construction site may be difficult, consider using the sediment-laden stone as fill material and put fresh stone around the inlet. Inspect bags for holes, gashes, and snags, and replace bags as needed. Check gravel bags for proper arrangement and displacement.*
- *Sediment that accumulates in the BMP should be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height.*
- *Inspect and maintain temporary geotextile insert devices according to manufacturer's specifications.*
- *Remove storm drain inlet protection once the drainage area is stabilized.*
  - *Clean and regrade area around the inlet and clean the inside of the storm drain inlet, as it should be free of sediment and debris at the time of final inspection.*

(3) STORM DRAIN INLET PROTECTION — CASQA-BMP SE-10 — SCALE: NO SCALE



Purposes:

A gravel bag berm is a series of gravel-filled bags placed on a level contour to intercept sheet flows. Gravel bags pond sheet flow runoff, allowing sediment to settle out, and release runoff slowly as sheet flow, preventing erosion.

Application:

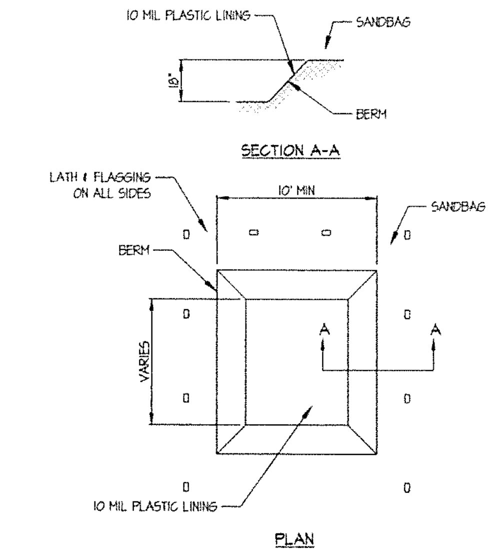
- *As a linear sediment control measure:*
  - *Below the toe of slopes and erodible slopes*
  - *As sediment traps at culvert/pipe outlets*
  - *Below other small cleared areas*
  - *Along the perimeter of a site*
  - *Down slope of exposed soil areas*
  - *Around temporary stockpiles and spoil areas*
  - *Parallel to a roadway to keep sediment off paved areas*
  - *Along streams and channels*
- *As a linear erosion control measure:*
  - *Along the face and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet flow.*
  - *At the top of slopes to divert runoff away from disturbed slopes.*
  - *As chevrons (small check dams) across mildly sloped construction roads. For check dam use in channels, see SE-4, Check Dams.*

Design and Layout:

- *When used for slope interruption, the following slope/sheet flow length combinations apply:*
  - *Slope inclination of 4:1 (H:V) or flatter: Gravel bags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.*
  - *Slope inclination between 4:1 and 2:1 (H:V): Gravel bags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe*

Inspection and Maintenance:

- *BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.*
- *Gravel bags exposed to sunlight will need to be replaced every two to three months due to degrading of the bags.*



(7) CONCRETE WASTE MANAGEMENT — PLAN/SECTION — SCALE: NO SCALE

URBAN RUNOFF POLLUTION NOTES

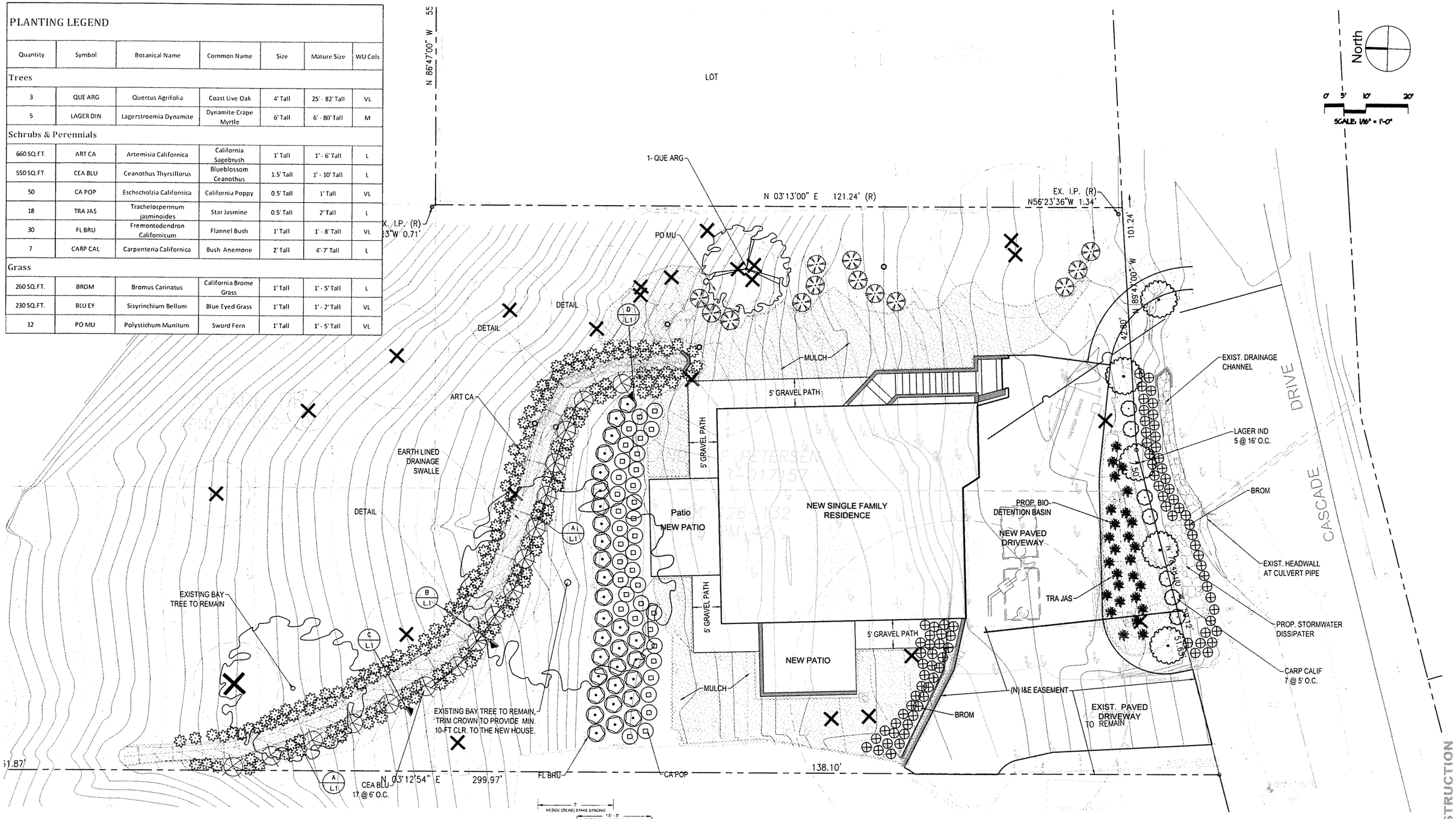
1. STABILIZE ALL DENUDED AREAS AND MAINTAIN EROSION CONTROL MEASURES CONTINUOUSLY BETWEEN OCTOBER 1 AND MAY 1. REMOVE OFF-HAUL MATERIALS PROMPTLY. STOCKPILED SOILS AND OTHER MATERIALS SHALL BE TARPED, AT THE REQUEST OF THE BUILDING DEPARTMENT OR PUBLIC WORKS.
2. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO PREVENT THEIR ENTRY TO THE STORM DRAIN SYSTEM. CONTRACTOR MUST NOT ALLOW CONCRETE, WASHWATERS, SLURRIES, PAINT OR OTHER MATERIALS TO ENTER CATCH BASINS, THE ONSITE STORM DRAIN SYSTEM, OR ONSITE OR OFFSITE SURFACE FLOW RUNOFF.
3. USE FILTRATION OR OTHER MEASURES TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
4. NO CLEANING, FUELING OR MAINTAINING VEHICLES ON SITE SHALL BE PERMITTED IN ANY MANNER THAT ALLOWS DELETERIOUS MATERIALS FROM ENTERING CATCH BASINS OR TO ENTER SITE RUNOFF.
5. USE OF PESTICIDES AND/OR FERTILIZERS SHALL BE REDUCED AND SHALL BE CONTROLLED TO PREVENT POLLUTION RUNOFF.

EROSION & SEDIMENT CONTROL NOTES

1. EROSION, SEDIMENTATION AND POLLUTION CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH CASQA'S BEST MANAGEMENT PRACTICES, CURRENT EDITION AND WITH THE CA RWQCB'S EROSION AND SEDIMENT CONTROL FIELD MANUAL, CURRENT EDITION.
2. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO OCTOBER 15 AND SHALL BE MAINTAINED BY THE CONTRACTOR IN PROPER WORKING ORDER THROUGHOUT THE FIRST WINTER. THIS PROTECTION SHALL CONSIST OF APPROPRIATE FILTER FENCES, DIVERSION BERMS, STRAW BALE DIKES, ETC. THESE DEVICES SHALL BE PLACED IN ORDER TO MINIMIZE EROSION AND TO COLLECT SEDIMENT GENERATED BY THE CONSTRUCTION OF THIS PROJECT. EXCEPT FOR PAVED AND LANDSCAPED AREAS ALREADY COMPLETED, ALL GRADED AREAS SHALL BE HYDROSEEDED IN ORDER TO PREVENT EROSION OF BARE EARTH. THE CONTRACTOR IS RESPONSIBLE FOR EROSION & SEDIMENT CONTROL ALL YEAR LONG DURING ALL SITE WORK.
3. ALL BANKS AND ALL GRADED AREAS SHALL BE HYDROSEEDED TO CONTROL EROSION OR THE APPROVED GROUNDCOVER INSTALLED BY OCTOBER 15.
4. THE CONTRACTOR SHALL MAINTAIN A CLEAN SITE AT ALL TIMES WHICH IS FREE OF DEBRIS, HAZARDOUS WASTES, OR STOCKPILED MATERIAL UNLESS APPROVED BY THE PROJECT ENGINEER. ALL APPROVED STOCKPILES SHALL BE COVERED AND PROTECTED TO PREVENT STORM WATER POLLUTION.
5. STABILIZE ALL DENUDED AREAS AND MAINTAIN EROSION CONTROL MEASURES CONTINUOUSLY BETWEEN OCTOBER 1 AND APRIL 15.
6. REMOVE SPOILS PROMPTLY, AND AVOID STOCKPILING OF FILL MATERIALS WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHOULD BE TARPED, AT THE REQUEST OF THE TOWN ENGINEER.
7. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM SYSTEM. CONTRACTOR MUST NOT ALLOW CONCRETE, WASHWATERS, SLURRIES, PAINT OR OTHER MATERIALS TO ENTER CATCH BASINS OR TO ENTER SITE RUNOFF.
8. USE FILTRATION OR OTHER MEASURES TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.
9. INSTALL FILTER FABRIC BAGS INSIDE ALL CATCH BASINS AND MAINTAIN DURING WINTER STORMS.
10. NO CLEANING, FUELING, OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN AN AREA DESIGNED TO CONTAIN AND TREAT RUNOFF.
11. USE OF PESTICIDES AND/OR FERTILIZERS, WHEN APPLIED, SHALL BE CONTROLLED TO PREVENT POLLUTION RUNOFF.
12. ALL AREAS OF CUT, FILL AND UNGRADED AREAS DISTURBED BY THE GRADING OPERATION SHALL BE HYDROMULCHED OR AND APPROVED LANDSCAPING GROUNDCOVER PLANTED AFTER ALL WORK HAS BEEN COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING LABOR AND MATERIAL TO ACCOMPLISH A DENSE PLANT COVER FOR EROSION CONTROL.
13. DEWATER BASEMENT AND EXCAVATIONS WITH TANK AND FILTRATION DEVICE PRIOR TO DISCHARGE INTO SD SYSTEM. PROVIDE EFFLUENT SAMPLES FOR TESTING HOURLY PER REGIONAL WATER STANDARDS.
14. PER THE FEDERAL AND STATE WATER QUALITY ACTS, THE OWNER IS SOLELY RESPONSIBLE FOR CONTROLLING CONSTRUCTION WATER DISCHARGE.
15. PROJECT IS SUBJECT TO THE REQUIREMENTS OF THE WINTER GRADING MORATORIUM AS PER THE TOWN'S ORDINANCES.

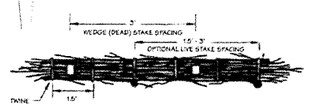
PLANTING LEGEND

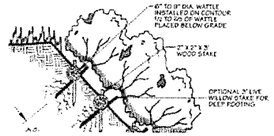
Quantity	Symbol	Botanical Name	Common Name	Size	Mature Size	WU Cols
Trees						
3	QUE ARG	Quercus Agrifolia	Coast Live Oak	4' Tall	25' - 82' Tall	VL
5	LAGER DIN	Lagerstroemia Dynamite	Dynamite Crape Myrtle	6' Tall	6' - 80' Tall	M
Schrubs & Perennials						
660 SQ.FT.	ART CA	Artemisia Californica	California Sagebrush	1' Tall	1' - 6' Tall	L
550 SQ.FT.	CEA BLU	Ceanothus Thyrsiflorus	Blueblossom Ceanothus	1.5' Tall	1' - 10' Tall	L
50	CA POP	Eschscholzia Californica	California Poppy	0.5' Tall	1' Tall	VL
18	TRA JAS	Trachelospermum jasminoides	Star Jasmine	0.5' Tall	2' Tall	L
30	FL BRU	Fremontodendron Californicum	Flannel Bush	1' Tall	1' - 8' Tall	VL
7	CARP CAL	Carpenteria Californica	Bush Anemone	2' Tall	4'-7' Tall	L
Grass						
260 SQ.FT.	BROM	Bromus Carinatus	California Brome Grass	1' Tall	1' - 5' Tall	L
230 SQ.FT.	BLU EY	Sisyrinchium Bellum	Blue Eyed Grass	1' Tall	1' - 2' Tall	VL
12	PO MU	Polystichum Munitum	Sword Fern	1' Tall	1' - 5' Tall	VL

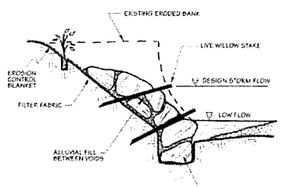


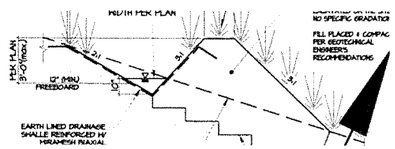
PLANTING AND IRRIGATION NOTES

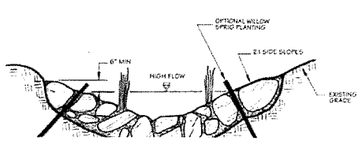
- NEW LANDSCAPING AROUND IMMEDIATE VICINITY OF HOUSE WILL BE COMPRISED OF WIDELY SPACED TREES, IRRIGATED, WIDELY-SPACED ORNAMENTAL SHRUBS AND IRRIGATED GROUNDCOVERS. AREAS OF PAVEMENT, PATHS OR IRRIGATED LAWN OCCUR AROUND THE PERIMETER OF THE HOUSE PROVIDING A FIRE SAFE BUFFER. THE STREET ON THE SOUTHERN SIDE OF THE PROPERTY PROVIDE AN ADDITIONAL BUFFER.
- NEW LANDSCAPING IN INTERFACE AREAS TO THE EXISTING NATIVE VEGETATION ARE LOW PYROPHYTIC PLANTS, AND SPACED TO PROVIDE A FIRE SAFETY BUFFER, PER REGULATORY REQUIREMENTS. (30' MIN. VEGETATION MANAGEMENT ZONE)
- ALL PLANTING AREAS ARE WATERED BY AN AUTOMATIC IRRIGATION SYSTEM
- SEPARATE IRRIGATION VALVES ARE PROVIDED FOR AREAS OF DIFFERENT WATER REQUIREMENTS (E.G. FULL SHADE, PARTIAL SHADE, FULL SUN, ETC.)
- CONVENTIONAL 6' & 12' POP-UP STREAM SPRAY HEADS ARE USED IN ALL LAWN AREAS AROUND THE IMMEDIATE VICINITY OF THE HOUSE (MODERATE WATER USE AREAS)
- DRIP IRRIGATION IS USED FOR ALL OTHER NEW PLANTS WITHIN THE PROPERTY LINE (LOW WATER USE AREAS)
- THE PROPERTY IS AND WILL BE MAINTAINED REGULARLY BY PROFESSIONAL GARDENERS











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VEGETATION MANAGEMENT REQUIREMENTS:

WITHIN DESIGNATED DEFENSIBLE SPACE OF ALL STRUCTURES DEFENSIBLE SPACE MUST BE MAINTAINED.

WITHIN THE FIRST 10 FEET:

1) NO PYROPHYTIC PLANTS WITHIN 10 FT. OF THE HOUSE.
2) TRIM TREE LIMBS TO A MINIMUM OF 10 FEET AWAY FROM THE ROOF OF HOUSE.
3) REMOVE OR CUT ALL COMBUSTIBLE VEGETATION SUCH AS, DEAD TREES, AND ALL DEAD VEGETATION.
4) REGARDLESS OF PLANT SELECTION, SHRUBS SHOULD BE SPACED SO THAT NO CONTINUITY EXISTS BETWEEN THE GROUND FUELS AND TREE CROWNS.

WITHIN 11-100 FEET:

1) REMOVE DEAD AND DYING GRASS, SHRUBS, AND TREES.
2) REDUCE THE DENSITY OF VEGETATION AND LADDER FUELS.
3) CUT GRASSES TO 3 INCHES IN HEIGHT ABOVE THE GROUND.

ADJACENT TO ROADWAYS AND DRIVEWAYS.

A. TRIM AND MAINTAIN VEGETATION WITHIN 10 FEET OF ROADWAYS AS FOR DEFENSIBLE SPACE.
B. TRIM TREES SO THEY DO NOT HANG LOWER THAN 15-FT. ABOVE THE ROADWAY.

PLANT SPACING AND CROWN SEPARATION

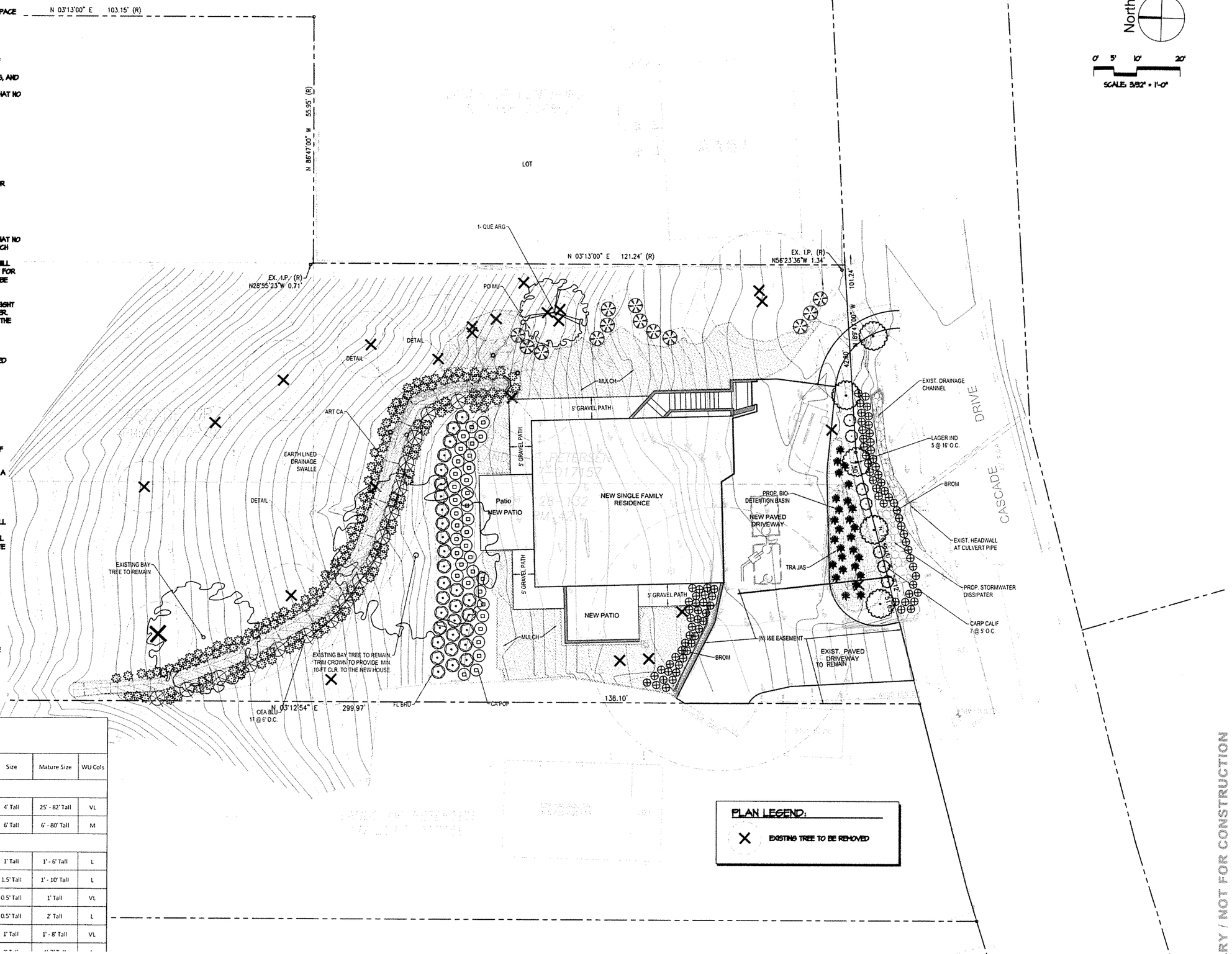
A. REGARDLESS OF PLANT SELECTION, SHRUBS SHOULD BE SPACED SO THAT NO CONTINUITY EXISTS BETWEEN THE GROUND FUELS AND TREE CROWNS, SUCH THAT A GROUND FIRE WILL NOT EXTEND INTO THE TREE CANOPY.
B. TREES SHOULD BE PLANTED SUCH THAT WHEN MATURE, THEIR CROWNS WILL BE SEPARATED BY AT LEAST 10 FEET. ADD AN ADDITIONAL FIVE FEET FOR EVERY TEN (10%) PERCENT INCREASES IN SLOPE. EXISTING TREES MAY BE REQUIRED TO BE THINNED AND/OR REMOVED DEPENDING ON THEIR CONFIGURATION AND DISTANCE FROM THE STRUCTURE(S).
C. SEPARATE INDIVIDUAL SHRUB CROWNS BY AT LEAST TWO TIMES THE HEIGHT OR CLUMP SHRUBS INTO ISLANDS OF NO GREATER THAN 18-FT. DIAMETER. SEPARATE THE ISLANDS BY A DISTANCE OF NO LESS THAN TWO TIMES THE CANOPY HEIGHT.

NOTE:

ALL NEW SHRUBS & GRASSES WITHIN 30' OF HOUSE SHALL BE DRIP IRRIGATED WITH DRIP TYPE 1 OR 2, PER IRRIGATION PLAN

PLANTING & IRRIGATION NOTES:

1. NEW LANDSCAPING AROUND IMMEDIATE VICINITY OF HOUSE WILL BE COMPRISED OF WIDELY SPACED (10-FT CLEARANCE AT CROWN ELEVATION) TREES, IRRIGATED, WIDELY-SPACED ORNAMENTAL SHRUBS AND IRRIGATED GROUNDCOVERS. AREAS OF PAVEMENT, PATHS OR IRRIGATED LAWN OCCUR AROUND THE PERIMETER OF THE HOUSE PROVIDING A FIRE SAFE BUFFER. THE STREET ON THE SOUTHERN SIDE OF THE PROPERTY PROVIDE AN ADDITIONAL BUFFER.
2. NEW LANDSCAPING IN INTERFACE AREAS TO THE EXISTING NATIVE VEGETATION ARE LOW PYROPHYTIC PLANTS, AND SPACED TO PROVIDE A FIRE SAFETY BUFFER, PER REGULATORY REQUIREMENTS. (30' MIN. VEGETATION MANAGEMENT ZONE)
3. ALL PLANTING AREAS ARE WATERED BY AN AUTOMATIC IRRIGATION SYSTEM (BY OTHERS).
4. SEPARATE IRRIGATION VALVES ARE PROVIDED FOR AREAS OF DIFFERENT WATER REQUIREMENTS (E.G. FULL SHADE, PARTIAL SHADE, FULL SUN, ETC.)
5. CONVENTIONAL 6" & 12" POP-UP STREAM SPRAY HEADS ARE USED IN ALL LAWN AREAS AROUND THE IMMEDIATE VICINITY OF THE HOUSE (MODERATE WATER USE AREAS)
6. DRIP IRRIGATION IS USED FOR ALL OTHER NEW PLANTS WITHIN THE PROPERTY LINE (LOW WATER USE AREAS)
7. THE PROPERTY IS AND WILL BE MAINTAINED REGULARLY BY PROFESSIONAL GARDENERS.
8. ALL TREE CROWN SPACING TO BE WITH ACCORDANCE OF ROSS VALLEY FIRE DEPARTMENT.
9. A MINIMUM OF 8" OF NON-MECHANICALLY COMPACTED SOIL SHALL BE AVAILABLE FOR WATER ABSORPTION AND ROOT GROWTH IN PLANTED AREAS.
10. INCORPORATE COMPOST OR NATURAL FERTILIZER INTO THE SOIL TO A MINIMUM
11. DEPTH OF 8" AT A MINIMUM RATE OF 6 CUBIC YARDS PER 1000 SQUARE FEET OR PER SPECIFIC AMENDMENT RECOMMENDATIONS FROM A SOILS LABORATORY REPORT.
12. A MINIMUM 3" LAYER OF MULCH SHALL BE APPLIED ON ALL EXPOSED SOIL.
13. SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS, CREEPING OR ROOTING GROUND COVERS, AND DIRECT SEEDING APPLICATION.

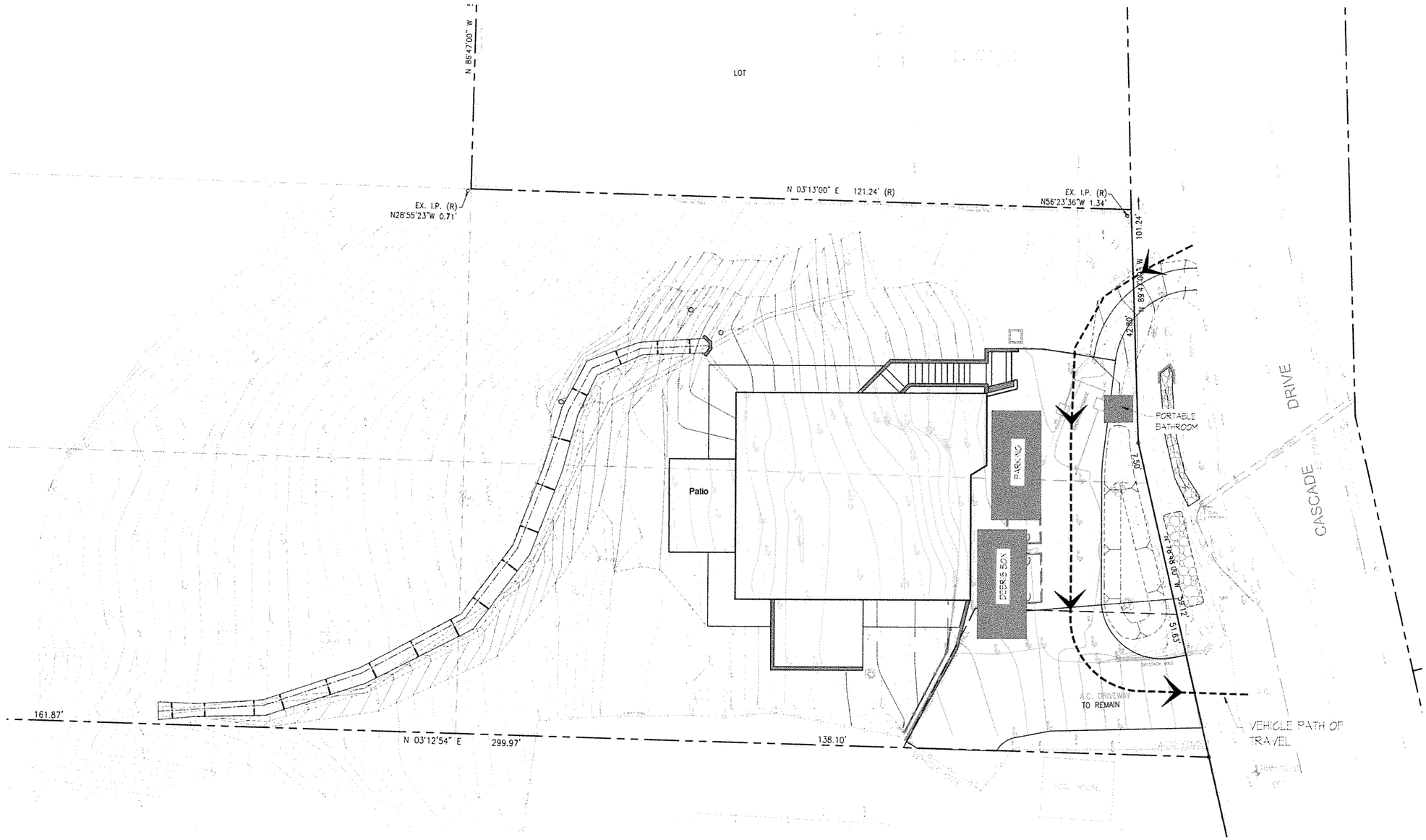


PLANTING LEGEND

Quantity	Symbol	Botanical Name	Common Name	Size	Mature Size	WU Cols
Trees						
3	QUE ARG	Quercus Agrifolia	Coast Live Oak	4' Tall	25' - 82' Tall	VL
5	LAGER DIN	Lagerstroemia Dynamite	Dynamite Crape Myrtle	6' Tall	6' - 80' Tall	M
Schrubs & Perennials						
660 SQ.FT.	ART CA	Artemisia Californica	California Sagebrush	1' Tall	1' - 6' Tall	L
550 SQ.FT.	CEA BLU	Ceanothus Thyrsiflorus	Blueblossom Ceanothus	1.5' Tall	1' - 10' Tall	L
50	CA POP	Eschscholzia Californica	California Poppy	0.5' Tall	1' Tall	VL
18	TRA JAS	Trachelospermum jasminoides	Star Jasmine	0.5' Tall	2' Tall	L
30	FL BRU	Fremontodendron Californicum	Flannel Bush	1' Tall	1' - 8' Tall	VL

PLAN LEGEND:

X EXISTING TREE TO BE REMOVED



PLAN NOTES:

1. PARKING FOR THE CONSTRUCTION WORKERS WILL BE PROVIDED IN FRONT OF THE PROJECT'S PARCEL AND ADJACENT LOT WITH PERMISSION FROM THE PARCEL'S OWNER .
2. DURING CONSTRUCTION ACTIVITIES THE ELECTRIC POWER WILL BE SUPPLIED BY TEMPORARY SOURCE.
3. LOADING AND UNLOADING AREAS ON THE PARKING LOT.
4. MATERIAL STORAGE AREAS ON THE PARKING AREA.
5. TEMPORARY TOILET DURING CONSTRUCTION TO BE LOCATED ON THE PARKING AREA, SEE PLAN.
6. CONSTRUCTION VEHICLES HAVE THE SPACE TO TURN AROUND IN FRONT OF THE PROPERTY AND RETURN THE SAY WAY THEY COME.
7. NO ROAD CLOSURE DUE TO THIS PROJECT IS ANTICIPATED AS NECESSARY.
8. PROJECT'S START DATE: ..... April 2020
9. PROJECT'S END DATE: ..... June 2021
10. TOTAL RE-VEGETATION (LANDSCAPING) WILL BE COMPLETED BEFORE THE REQUEST FOR THE FINAL INSPECTION.
11. INSTALL WIND EROSION CONTROL MEASURES ALONG THE PERIMETER OF THE CONSTRUCTION SITE IN ACCORDANCE WITH THE CASQA's SPEC. WE-1.

CONSTRUCTION MANAGEMENT PLAN

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

10' 0' 10'
SCALE IN FEET
SCALE: 1" = 10'

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	Resource Names
1		Mobilization	3 days	Mon 4/20/20	Wed 4/22/20		
2		Demolition - Tree Removal	8 days	Thu 4/23/20	Mon 5/4/20	1	
3		Rough Grading	20 days	Tue 5/5/20	Mon 6/1/20	2	
4		Utilities	45 days	Tue 6/2/20	Mon 8/3/20	3	
5		Foundations & Site Walls	30 days	Tue 6/2/20	Mon 7/13/20	3	
6		Framing	90 days	Fri 9/11/20	Thu 1/14/21	5	
7		Plumbing	30 days?	Fri 1/15/21	Thu 2/25/21	6	
8		Pavement	15 days	Tue 7/14/20	Mon 8/3/20	5	
9		Finishes	90 days	Fri 2/26/21	Thu 7/1/21	7	
10		Fine Grading & Landscaping	30 days	Tue 8/4/20	Mon 9/14/20	8