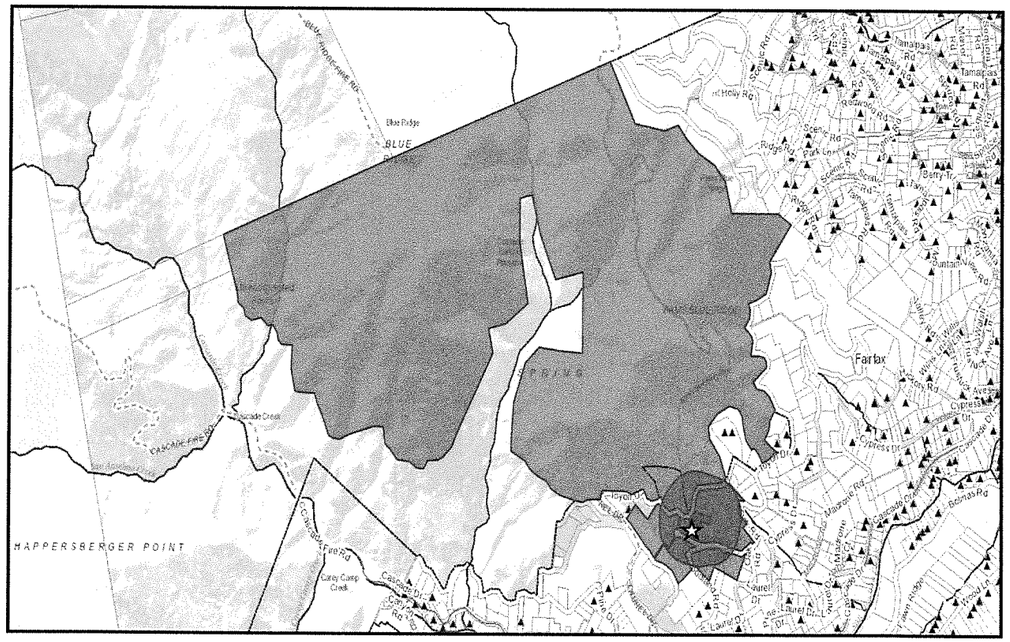
TOWN OF FAIRFAX
STAFF REPORT
Department of Planning and Building Services

TO:	Fairfax Planning Commission
DATE:	May 21, 2020
FROM:	Linda Neal, Principal Planner
LOCATION:	88 Toyon Road
PROJECT:	New single-family residence and existing driveway improvements
ACTION:	Hill Area Residential Development, Excavation, Tree Removal and Design Review permits; Application # 20-3
APPLICANT:	Kenneth Holder, Architect
OWNER:	David and Stephanie Russell
CEQA STATUS:	Categorically exempt, §15303(a)



88 TOYON ROAD

AGENDA ITEM 2

DESCRIPTION

Applications were submitted for Hill Area Residential Development, Excavation and Design Review permits on September 19, 2017. The application remained incomplete through the middle of 2019, and an alternative design was submitted on August 27, 2019. The alternative design application remained incomplete until April 29, 2020.

The proposed project consists of the following: a) remodel/expansion of an existing 1,530 square foot, 2-story, 24-foot 2-inch tall, 3 bedroom, 2 bathroom, single-family residence into a 2,069 square-foot, approximately 25-foot 2-inch tall, 4 bedroom, 2 1/2-bathroom, residential structure with a) 1,134 square feet on the (upper) main floor and 887 square feet on the lower floor; b) a 544 square-foot deck off the upper floor master bedroom, kitchen and dining room; c) widening and re-grading the existing circular driveway to provide the required 3 parking spaces and to comply with Marin County driveway standards for slope and grade transitions; d) filling in the existing swimming pool, d) abandoning the septic tank on the site; e) installing a sewer line and drainage system; and, f) widening Toyon Drive along the property frontage to meet the 20 feet wide 40 foot long fire truck staging area required by the Ross Valley Fire Department . Widening and re-grading the driveway and widening Toyon Road will not require the construction of any retaining walls that would require permits or Planning Commission approvals.

The proposed residential structure would contain the master bedroom and master bathroom, a ½ bathroom, kitchen, dining room and living room on the upper floor and 3 bedrooms, 1 bathroom, and another living room (family room) on the first floor.

The Commission should note that this is going forward without a recommendation on the Tree Removal Permit from the Fairfax Tree Committee, which has not been meeting since shelter-in-place requirements for the coronavirus pandemic was declared. The application for this project's tree removal recommendation was scheduled for the March 23, 2020 Tree Committee meeting to obtain the Tree Committee's recommendation, but the meeting had to be cancelled.

The State has not waived permit streamlining act regulations for jurisdictions – a complete applications must proceed through the process in a timely manner. Town Code § 8.36.030(B) requires that the Tree Committee make a recommendation to the Commission within 30 days. In its absence, the applicant has an arborist's report from a qualified certified arborist.

The Town Council was advised of the coronavirus on-hold status of the various Town committees including the Tree Committee, and concurred with this status. Planning applications must proceed forward to the Planning Commission, the body that has the authority to take action on the tree removal permit. It is not known at this time when the Tree Committee will again be able to meet.

The residence complies with the regulations set forth in the Residential Single-family RS-6 Zone District as follows:

	Front Setback	Rear Setback	Combined Front/rear Setback	Side Setbacks	Combined Side Setbacks	FAR	Lot Coverage	Height
Required/ Permitted	**6 ft.**	**12 ft.**	**35 ft.**	**5 ft. & 5 ft.**	**20 ft.**	**.40**	**.35**	**35 ft., 3 stories**
Existing	**35 ft.**	**107 ft.**	**142 ft.**	**9 ft. & 40 ft.**	**49 ft.**	**.10**	**.07**	**24 ft. 2 in. stories**
Proposed	**no change**	**99 ft.**	**134 ft.**	**no change**	**no change**	**.14**	**.08**	**25 ft., 2 in.**

BACKGROUND

The roughly 14,723 square-foot site is located on an downslope parcel fronting Toyon Road, with an average slope of 32%. The site is developed with a 1,530 square foot residential structure that was constructed in 1955 and is accessed by a circular driveway, portions of which are surfaced intermittently with dirt, gravel and pavement. Directly below the house is the septic system which is not currently used and will be abandoned.

The site is identified as being within stability zone 4 on the "Observation of the Interpretation Map of the Relative Slope Stability of the Upper Ross Valley Area" prepared by Smith, Rice and Strand of the California Division of Maines and Geology in 1976, and located as mostly landslides on the new "Areas Susceptible to Landslides" map S-3 recently inserted into the Hill Area Residential Development Ordinance language by the Town (Ordinance No. 846, adopted 2/5/20 by the Town Council).

There was no sliding reported on the site during the severe weather events of 1982 and 1997-98.

In September 2018 the Building Official pulled the electrical service at the property when he discovered that significant demolition work had occurred without the benefit of necessary permits. The amount of work was significant enough that this Department made the determination that restoring the structure would constitute a 50% remodel, triggering Planning Commission review of a Hill Area Residential Development Permit.

REQUIRED DISCRETIONARY PERMITS

The project requires the approval of Hill Area Residential, Excavation, Tree Removal and a Design Review permits. The required discretionary permits and analysis of

project compliance with the related sections of the Town Code and Zoning Ordinance are found below.

The project provides the required 3 parking spaces per Town Code § 17.052.030(A)(1) and (2) and is exempt from the covered parking requirement due to the site's 32% downhill slope, per Town Code § 17.052.020(D).

Hill Area Residential Development

The purpose of the Hill Area Residential Development Permit is to encourage the maximum retention of natural topographic features, minimize grading of hillside areas, provide a safe means of ingress and egress to and within hillside areas, minimize water run-off and soils erosion during and after construction, prevent loss of life, reduce injuries and property damage and minimize economic dislocations from geologic hazards, and to ensure that infill development on hillside lots is of a size and scale appropriate to the property and is consistent with other properties in the vicinity under the same zone classification [Town Code sections 17.072.010(A) and (B)].

Town Code §17.072.090(C)(1) requires graded slopes to be sculptured and contoured to blend with the natural terrain and Town Code §17.072.090(C)(3) requires that the height of retaining walls be minimized within the Hill Area Residential Development Overlay Zones. The only new wall being proposed is a concrete wall to replace the wooden one currently located below the existing swimming pool.

Other than replacement of the foundation beneath the existing house structure, and filling in the pool to the south of the residence and the septic tank to the east, the only other site disturbance will occur to install the new drainage system and install the new sewer line (the sewage was previously pumped up to Toyon Road with a sewer ejector pump).

The proposal will result in modest widening of the existing circular driveway to provide adequate access for vehicles into the already developed site with additional widening adjacent to the proposed new residence to provide the 3 parking spaces required in Town Code § 17.052.030(A)(1)(d) and (A)(2).

Town Code § 17.072.090(D) indicates that projects within the Hill Area Residential Development Overlay Zone shall be designed to minimize disruptions of existing ecosystems.

All construction will occur on the property in areas that have already been disturbed by the existing development except for the area where the new sewer line will be constructed.

The pool will be filled in in the manner described by the Geotechnical Engineer on pages 1-2 of the 2/10/20 report. The abandoned pool site is not proposed as a location for any new structures and therefore, the pool shell may be abandoned in place by

breaking square 24-inch holes in the bottom through to the subgrade, at intervals of 10 feet along the center of the pool and then filling the pool in and breaking down the pool copings as detailed in the report (including additional drain rock, rubble from demolished pool decks/coping, filter cloth and an 18 inch cap of clay soil and compacted with a mechanical compactor).

The existing redwood septic tank will be abandoned as described on page 2 of the 2/10/20 report by the Geotechnical Engineering by cleaning the tank out, filling the cavity with concrete and then removing the redwood and capping the area off with 18 inches of compacted soil.

Staff has included a condition that a deed restriction, with an attached site map exhibit showing the abandoned pool and septic tank locations, be recorded at the Marin County Recorder's Office prior to issuance of the building permit, limiting future development in these areas without proper engineering and elimination of the deed restriction. This will ensure that no future owners do not attempt to build on the abandoned pool/septic tank locations without appropriate engineering reports are submitted and peer reviewed and approved by the Town Engineer, after which the deed restriction will be lifted.

The property is within ¼ mile of a known Northern Spotted Owl nesting site. Therefore, construction may not occur or must be minimized and/or monitored to be kept below certain noise levels to limit negative impacts to the birds during the nesting season which runs from February 1st through July 1st. Acts that result in the disturbance or death of Northern Spotted owls are a federal offense.

Drainage and Slope Stability

The Town Engineer reviewed the entire body of information provided by the applicants on the project, including: the project engineering and architectural plans as well as the geotechnical reports by Dave Olnes Civil and Geotechnical Engineer dated 12/20/17, 5/9/18 and 2/10/20 (Attachments B1, B2 and B3), the hydrology and hydraulic calculations report dated 4/12/18 and response to the Town Engineers original project comments dated 5/9/18 by CSW/Stuber-Stroeh Engineering Group (Attachments C1 and C2) and the new sewer easement agreement between the owners and the neighboring owner 75 Woodland Road (Attachment D), as well as the tree removal application which includes the arborist report by Urban Forestry Associates, Inc., an International Society of Arborist certified company, dated 9/5/17 (Attachment E). After completing their review and visiting the site on 5/22/18, the Town Engineer has determined that the project can be constructed as proposed without creating any significant geologic or hydrologic hazards for adjacent public or private properties as long as certain conditions are met (incorporated as conditions of approval).

Water run-off from the hillside and driveway above the house will be collected in two drop inlets at the front of the house and will be conveyed via 4-inch pvc piping around the north and south sides of the house to a 20 foot long level spreader that will spread

and disperse the water slowly into the soils downslope of the house. The water from the roof will be collected by roof drain downspouts at the rear of the structure and will drain into the same spreader system.

House Siting and Design

As indicated above, the project will not extend beyond areas of the site that are already disturbed by development except for the area where the new sewer line will be extended. The overall project is very modest in scope relative to the existing house.

Tree Removal Permit

All of the trees being removed are being removed for fire safety and to facilitate improvement and widening of the private driveway.

Tree removal consists of: 6 pines to be removed for fire safety, 2 oaks – 1 because it is too close to the house and the other because it is structurally unsound, 12 bays because they are fire hazards, 1 Toyon which is stressed and is a fire hazards, 2 Scotch Pines that are a fire hazard, and 1 Cedar which is within the footprint of the expanded driveway/parking area.

The arborist map indicates that the entire property should be a defensible space zone. Therefore, included in the resolution recommending approval of the project is a condition that any future tree removal, beyond the trees proposed for removal in the 3/92020 Tree Removal Application will require the review and approval of the Tree Committee and may also require review and approval with mitigation measures of the geotechnical engineer if the tree removal may effect hillside stability below the structure at a future date.

Although it is unfortunate that the current pandemic renders the Tree Committee unable to meet and provide recommendations on tree removals, your Commission will recall that recent changes in the Tree Ordinance assign the Planning Commission the responsibility decisions on Tree Permits accompanying projects within their purview. It is also noted, although not acting in this capacity for the project, the arborist hired by the applicant for this project, Urban Forestry Associates, is who the Town uses as Town Arborist in other capacities.

Design Review

Town Code §17.020.030(A) requires that the design of new residences be reviewed and approved by the Fairfax Planning Commission for compliance with the design review criteria contained in Town Code §17.020.040.

These criteria include but are not limited to the following:

"The proposed development shall create a well composed design harmoniously related

to other facilities in the immediate area and to the total setting as seen from hills and other key vantage points in the community".

"The size and design of the structure shall be considered for the purpose of determining that the structure is in proportion to its building site and that it has balance and unity among its external features so as to present a harmonious appearance".

"The extent to which natural features, including trees, shrubs, creeks and rocks and the natural grade of the site are to be retained".

The proposed remodel and expansion of the existing structures is within the footprint of the existing house and abandonment of the pool and septic tank and will require minimal disturbance to the site. All the trees being removed would be have to be removed to maintain the safety of the existing residence whether the project is approved or not, except for the one cedar being removed to bring the parking into compliance with the current code.

The structure conforms to the general character of other structures in the vicinity and will look very similar to the original dwelling requiring minimal disturbance to the 14,723 square foot site. The construction will require the removal of 6 Pines, 2 Oaks, 2 bays, 1 Toyon, 2 Scotch Pines, and 1 Cedar to comply with the fire safety, fire access and defensible space requirements of the Ross Valley Fire, and to bring the property into compliance with the current parking requirements. The vegetative management plan was approved by the Fire Department on 3/4/20 and the number of trees being removed matches those identified in the Tree Protection Plan by Urban Forestry Associates dated 9/5/17 (Attachment F).

- The alteration of the trees is necessary to protect the public health and safety and prevent damage to property (Town Code §8.36.060(B)(1); and

- Is necessary to allow the owner to reasonably develop and use the property (Town Code §8.36.060(B)(4).

The exterior of the structure will remain the same as the original structures but will be further articulated by the increased and stepped height of the roof, from a uniform 24 ft. 2 inches to the northern portion of the house having a height of 23 ft. 5 in. and the southern portion having a height of 25 ft. 2 in., to accommodate the installation of larger windows and numerous sliding doors, and the expansion of the rear upper deck.

The applicants propose painting the stucco siding (which will remain), white (Benjamin Moore Chantilly Lace), the windows and doors with be metal clad Marvin windows with bronze trim, the roof will be a gray single-ply membrane (flexible sheets of compounded plastic-derived material that are used to cover and protect flat and low-sloped buildings), the west wall of the front entry will be stained cedar with a clear finish and the front door will be stained cedar with clear finish.

The staff does not feel that white stucco siding is the best color to help the structure fit into the surrounding natural wooded hillside environment. A more natural earth tone color is recommended for the siding, to help the house blend into the hillside.

The site is very large by Fairfax standards – 14,723 square feet - and as conditioned the project will not have a significant visual impact on any of the neighboring residences due its modest scope and the large setbacks it will maintain from the property lines. Additionally, the current/proposed house has a relatively small footprint - 1,033 square feet - in relation to the site size, with a maximum height of 25 feet, 2 inches. The remainder of the site will be retained in its natural state, except for the areas of the current pool the septic tank to will be abated, and the front driveway area.

88 TOYON ROAD – SIMILAR PROPERTIES DEVELOPMENT							
APN #	ADDRESS	LOT SIZE	HOUSE SIZE	# BEDROOMS	# BATHS	GARAGE	FAR
003-081-28	89 Woodland Rd.	13,650	1,341	2	1.5	0	.10
003-081-30	51 Oak	20,400	2,596	3	2.5	420	.13
003-081-34	10 Woodland Ct.	10,600	2,448	3	2	0	.23
003-081-38	120 Toyon	19,875	1,508	2	2	380	.08
003-151-03	97 Oak	24,700	2,379	3	2	580	.06
003-051-05	144 Toyon	14,850	2,553	3	4	450	.17
003-152-17	286 Cypress	13,965	2,070	2	2	160	.15
003-152-18	88 Oak	10,864	2,816	2	2.5	525	.26
003-152-28	156 Toyon	11,226	1,806	4	2.5	0	.16
003-152-29	164 Toyon	17,718	2,510	3	2.5	407	.14
003-152-30	104 Oak	18,343	2,304	2	2	357	.13
003-152-35	320 Cypress	13,200	1,527	3	2.5	375	.12
DEVELOPMENT OF PROPERTIES IN THE IMMEDIATE NEIGHBORHOOD ON TOYON ROAD							
003-081-15	94 Toyon	7,564	2,594	3	3	0	.34
003-081-27	112 Toyon	9,500	1,830	2	2	0	.19
003-081-35	74 toyon	5,300	1,604	3	3	592	.30
003-081-36	78 Toyon	6,100	2,040	2	2.5	0	.33
197-090-01	99 Toyon	90,653	2,077	3	2.5	0	.02
003-152-06	96 Oak Road	6,750	2,082	3	3	0	.42
003-152-07	94 Oak Road	6,150	608	1	1	0	.10
PROJECT SITE							
88 Toyon Rd.		14,723	2,069	4	2.5	0	.14

The house has been designed to be in scale with the project site and similar in size to other structures in the neighborhood and on similar sized and sloped sites throughout the hillsides of Fairfax.

Excavation

Town Code §12.20.080 requires that an Excavation Permit be obtained from the Planning Commission for excavation and fill amounts of over 100 cubic yards. The total amount of excavation and fill proposed are 140 cubic yards (10 CY excavation, 70 CY, fill, 60 CY imported for filling pool and abandoning septic tank). There will be no amount off-hauled.

In order to approve an Excavation Permit the Commission must be able to find that the health, safety and welfare of the public will not be adversely affected, that adjacent properties are adequately protected by project investigation and design from geologic and hydrologic problems, that the amount of excavation or fill proposed is not more that is required to allow the owner substantial use of his or her property, that the visual and scenic enjoyment of the area by others will not be adversely affected by the project more than is necessary, that natural landscaping will not be removed by the project more than is necessary and that the time of year during which the construction will take place is such that the work will not result in excessive siltation from storm run-off nor prolonged exposure of unstable slopes.

The excavation proposed to install the drainage improvements and supply lines for the residence, parking and driveway improvements are the minimum necessary to allow construction, per the Town Engineers' recommendations, to ensure slope stability throughout the project site and to comply with building and fire codes.

The Town Engineers have indicated that the site can be developed without causing adverse geologic or hydrologic problems for adjacent properties as long as the following conditions are complied with, and the plans are reviewed and approved by them, prior to issuance of the project building permit (Attachment B):

1. The civil plans submitted for the building permit application must show all improvements including relocation of the existing street signage, the gravel shoulder and any ancillary work required.

2. The applicant shall submit with the building permit application plans recommendation from the project geotechnical engineering for temporary shoring and underpinning of the existing improvements during construction. The geotechnical engineer shall also provide Cal-Osha soil-type classifications for use in the design of any temporary cut slopes and shoring.

OTHER DEPARTMENT/AGENCY COMMENTS/CONDITIONS

Ross Valley Fire Department (RVFD)

RVFD submitted written requirements which have been incorporated into conditions of approval in the attached resolution and are summarized as follows:

All vegetation and construction materials are to be maintained away from the residence during construction, a fire apparatus access road a minimum of 20 feet wide shall be located so that no portion of the first floor exterior walls is greater than 150 feet from where fire can set up operations (already in the project design), A hydrant capable of supplying 500 gallon per minute of water at 20 pounds per square inch of pressure shall be located so that no portion of the structure is greater than 350 feet from the closest hydrant. The closest hydrant has a flow of 347 gallons per minute at 20 pounds per square inch and will need to be upgraded, a fire sprinkler system shall be installed throughout the entire building, a vegetation management VMP designed in accordance with Ross Valley Fire Standard 220 is required, smoke detectors shall be installed throughout the entire building and be provided with AC power and be interconnected for simultaneous alarm, carbon monoxide alarms shall be provided outside each sleeping area in the immediate vicinity of the bedrooms and address numbers at least 4 " tall visible from the street and internally illuminated or illuminated by and adjacent light controlled by a photocell and switched off only by a breaker so it will remain illuminated all night shall be installed.

Marin Municipal Water District (MMWD)

MMWD submitted written requirements which have been incorporated into conditions of approval in the attached resolution and are summarized as follows:

All indoor and outdoor requirements or District Code Title 13, Water Conservation must be complied with, any landscaping plans must be reviewed and approved by the MMWD, backflow prevention requirements must be met and Ordinance 420, requiring installation of grey water recycling system when practicable, must be incorporated into the project building permit plans or an exemption letter from MMWD must be provided to the Town, all of MMWD's rules and regulations if effect at the time service is requested must be complied with.

Ross Valley Sanitary District (RVSD)

RVSD submitted written requirements which have been incorporated into conditions of approval in the attached resolution and are summarized as follows:

The project will require a connection permit from the District, the size of the sewer lateral will depend on the fixture count calculated during the permitting process, if the lateral meets the size requirement of the fixture count, the applicant has the option of installing a new lateral or, the old sewer lateral must be tested in the presence of a District Inspector and found to meet all current District Requirements.

Police, Building and Public Works Departments

There were no comments received from the Police, Building or Public Works Departments.

Staff has added the following additional conditions to the resolution recommending approval of the project:

1. The driveway improvement, except for the paving, shall be completed and be signed off by the Town Engineer, the Building Official and the Ross Valley Fire Department before construction on the house begins.

2. Road closures shall be noticed in the field a minimum of 5 days prior to the event and individual written notifications shall be delivered to each affected resident on Toyon Road.

RECOMMENDATION

1. Conduct the public hearing.
2. Move to approve Application 20-3 and adopt Resolution No. 2020-02 (Attachment A), setting forth the findings and conditions for project approval

The narrowing of the driveway adjacent to the existing redwood grove shall occur entirely on the redwood grove side of the driveway improvements.

The property is within ¼ mile of a known Northern Spotted Owl nesting site. Therefore, construction may not occur or must be minimized and/or monitored to be kept below certain noise levels to limit negative impacts to the birds during the nesting season which runs from February 1st through July 1st. Acts that result in the disturbance or death of Northern Spotted Owls are a federal offense.

ATTACHMENTS

Attachment A – Resolution No. 2020-02
Attachment B - Town Engineer's final report on project
Attachment C- 2/10/20, 5/9/18 and 12/20/17 Olnes geotech reports
Attachment D – 4/12/18 Hydrology and Hydraulic Calcs and 5/19/18 response to comments by CSW/Stuber-Stroeh Engineering
Attachment E – Sewer easement agreement
Attachment F - Tree Removal Application including Arborist Tree preservation/Protection plan by Urban Forestry Associates, Inc.
Attachment G - Approved vegetative management letter from Ross Valley Fire

RESOLUTION NO. 2020-02

A Resolution of the Fairfax Planning Commission Approving Application No. 20-03 for a Hill Area Residential Development, Excavation, Tree Removal and Design Review Permits for a Residence at 88 Toyon Road

WHEREAS, the Town of Fairfax has received an application from David and Stephanie Russell to build a 2-story, 2,069 square foot, 4-bedroom, 2½-bathroom single-family residence on August 27, 2019; and

WHEREAS, the Planning Commission held a duly noticed Public Hearing on May 21, 2020 at which time the Planning Commission determined that the project complies with the Hill Area Residential Development Overlay Ordinance, Excavation Ordinance, Tree Ordinance and Design Review Regulations; and

WHEREAS, based on the plans and other documentary evidence in the record the Planning Commission has determined that the applicant has met the burden of proof required to support the findings necessary to approve the Hill Area Residential Development, Excavation, Tree Removal and Design Review Permits; and

WHEREAS, the Commission has made the following findings:

The project is consistent with the 2010-2030 Fairfax General Plan as follows:

Policy LU-7.1.5: New and renewed residential development shall preserve and enhance the existing character of the Town's neighborhoods in diversity, architectural character, size and mass.

Policy LU-7.2.2: To the extent feasible natural features including the existing grade, mature trees and vegetation shall be preserved for new and renewed development.

Policy LU-4.1.4: New and renewed development shall be designed to minimize run-off in a manner that does not cause undue hardship on neighboring properties.

Policy S-3.1.3: Maximize access and egress for emergency response vehicles.

Hill Area Residential Development

The proposed development is consistent with the General Plan and the Residential Single-family RS 6 Zone regulations.

1. The site planning preserves identified natural features as much as possible while also complying with other agencies' regulations.

2. Vehicular access and parking are adequate.

ATTACHMENT A

3. The proposed development harmonizes with surrounding residential development and meets the design review criteria contained in Town Code § 17.020.040.

4. The approval of the Hill Area Residential Development permit for one single-family residence 14,723 square foot parcel shall not constitute a grant of special privilege and shall not contravene the doctrines of equity and equal treatment.

5. The development and use of property as approved under the Hill Area Residential Development Permit will not cause excessive or unreasonable detriment to adjoining properties or premises, or cause adverse physical or economic effects thereto, or create undue or excessive burdens in the use and enjoyment thereof, or any or all of which effects are substantially beyond that which might occur without approval or issuance of the use permit.

6. Approval of the proposed Hill Area Residential Development permit is not contrary to those objectives, goals or standards pertinent to the particular case and contained or set forth in any Master Plan, or other plan or policy, officially adopted by the City.

7. Approval of the Hill Area Residential Development permit will result in equal or better development of the premises than would otherwise be the case.

Excavation Permit

8. The Town Engineers have reviewed the following plans and reports and have determined the project can be constructed, with certain conditions of approval, without creating any hazards:

   Architectural plans by Holder-Parlette dated 3/4/20
   2/10/20, 5/9/18 and 12/30/17 geotechnical report by Dave Olnes, Civil and Geotechnical Engineer
   4/12/18 Hillside Dissipater Hydrology and Hydraulic Calculations by CSW/Stuber-Stroeh Engineering Group
   5/9/18 Report by CSW/Stuber-Stroeh Engineering Group

9. Based on the Town Engineer's review and recommendation that the project can be safely constructed, the Planning Commission finds that:

10. The health safety and welfare of the public will not be adversely affected;

11. Adjacent properties are adequately protected by project investigation and design from geologic hazards as a result of the work;

12. Adjacent properties are adequately protected by project design from drainage and erosion problems as a result of the work;

13. The amount of the excavation or fill proposed is not more than that required to allow the property owner substantial use of his or her property;

14. The visual and scenic enjoyment of the area by others will not be adversely affected by the project more than is necessary;

15. Natural landscaping will not be removed by the project more than is necessary; and

16. Town code § 17.072.090(c)(4) prohibits grading of hillside properties from October 1st through April 1st of each year. Therefore, the time of year during which construction will take place is such that work will not result in excessive siltation from storm runoff nor prolonged exposure of unstable excavated slopes.

17. Construction may not occur or must be minimized and/or monitored to be kept below certain noise levels to limit negative impacts to the Northern Spotted Owls during the nesting season which runs from February 1st through July 1st

Tree Permit

- The alteration of the trees is necessary to protect the public health and safety and prevent damage to property (Town Code §8.36.060(B)(1); and
- Is necessary to allow the owner to reasonably develop and use the property (Town Code §8.36.060(B)(4).

WHEREAS, the Commission has approved the project subject to the applicant's compliance with the following conditions:

1. The project is approved per the following plans and documents: Architectural plans by Holder-Parlette Architecture, pages A0.0 through A1.4, A2.0 through A2.2 and A3.0 through A3.4 dated 3/4/20, a tree protection plan (TPP) dated 3/4/20 and engineering plan sheets C-1 through C-6 by LTD Engineering, Inc.

2. Prior to issuance of any of the building permits for the project the applicant or his assigns shall:

    a. Submit a construction plan to the Public Works Department which may include but is not limited to the following:

        i. Construction delivery routes approved by the Department of Public Works.
        ii. Construction schedule (deliveries, worker hours, etc.)
        iii. Notification to area residents
        iv. Emergency access routes

b. The applicant shall prepare, and file with the Public Works Director, a video tape of the roadway conditions on the public construction delivery routes (routes must be approved by Public Works Director).

c. Submit a cash deposit, bond or letter of credit to the Town in an amount that will cover the cost of grading, weatherization and repair of possible damage to public roadways. The applicant shall submit contractor's estimates for any grading, site weatherization and improvement plans for approval by the Town Engineer. Upon approval of the contract costs, the applicant shall submit a cash deposit, bond or letter of credit equaling 100% of the estimated construction costs.

d. The foundation and retaining elements shall be designed by a structural engineer certified as such in the state of California. Plans and calculations of the foundation and retaining elements shall be stamped and signed by the structural engineer and submitted to the satisfaction of the Town Structural Engineer.

e. The grading, foundation, retaining, and drainage elements shall also be stamped and signed by the site geotechnical engineer as conforming to the recommendations made by the project Geotechnical Engineer.

f. Prior to submittal of the building permit plans, the applicant shall secure written approval from the Ross Valley Fire Authority, Marin Municipal Water District and the Ross Valley Sanitary District noting the development conformance with their recommendations.

g. Submit 3 copies of the record of survey with the building permit plans.

h. Three copies of the Tree Protection/Preservation Plan by Urban Forestry Associates, Inc. dated September 5, 2017 shall be submitted with the building permit application and all recommendations included in this report in the arborist checklist on pages 12, 13 and 14 shall be conditions of the project approval. All the inspections contained in the inspection schedule on page 12 of the report shall be made by the project arborist who shall provide the Town with written verification after each inspection that the work is progressing in compliance with the recommendations and conditions of the arborist.

i. Prior to the removal of any trees not approved by the Planning Commission through this action, the applicant shall secure a tree cutting permit, if required, from the Fairfax Tree Committee prior to removal of any on-site trees subject to a permit under Town Code Chapter 8.36. To further minimize impacts on trees and significant vegetation, the applicant shall submit plans for any utility installation (including sewer, water and drainage) which incorporates the services of the project arborist to prune and treat trees having roots 2 inches or more in diameter that are disturbed during the construction, excavation or trenching operations. In

particular, cross country utility extensions shall minimize impacts on existing trees. Tree root protection measures may include meandering the line, check dams, rip rap, hand trenching, soil evaluation and diversion dams. Any pruning shall take place during the winter when trees are dormant for deciduous species and during July to August for evergreen species.

j. If deemed necessary by the Town Engineers, the applicants shall prepare a drainage system maintenance agreement including a recordable exhibit of the proposed drainage system in its entirety including a maintenance schedule to be approved by the Town Engineer. The maintenance agreement will have to be signed by the owner, notarized and recorded at the Marin County Recorder's office prior to issuance of the building permit.

3. During the construction process the following shall be required:

a. The geotechnical engineer and the project arborist shall be on-site during the grading process and both shall submit written certification to Town Staff that the grading and tree protection measures have been completed as recommended prior to installation of foundation and/or retaining forms and drainage improvements, piers and supply lines.

b. Prior to the concrete form inspection by the building official, the geotechnical and structural engineers shall field check the forms of the foundations and retaining elements and provide written certification to Town staff that the work to this point has been completed in conformance with their recommendations and the approved building plans.

c. The Building Official shall field check the concrete forms prior to the pour.

d. All construction-related vehicles including equipment delivery, cement trucks and construction materials shall be situated off the travel lane of the adjacent public right(s)-of-way at all times. This condition may be waived by the Building Official on a case-by-case basis with prior notification from the project sponsor.

e. Any proposed temporary closures of a public right-of-way shall require prior approval by the Fairfax Police Department and any necessary traffic control, signage or public notification shall be the responsibility of the applicant or his/her assigns. Any violation of this provision will result in a stop work order being placed on the property and issuance of a citation.

4. Prior to issuance of an occupancy permit the following shall be completed:

a. The geotechnical engineer shall field check the completed project and submit written certification to Town Staff that the foundation, retaining, grading and drainage elements have been installed in conformance with the approved building plans and the recommendations of the soils report.

b. The Planning Department and Town Engineer shall field check the completed project to verify that all planning commission conditions and required engineering improvements have been complied with including installation of landscaping and irrigation prior to issuance of the certificate of occupancy.

5. Excavation shall not occur between October 1st and April 1st of any year. The Town Engineer has the authority to waive this condition depending upon the weather.

6. The roadways shall be kept free of dust, gravel and other construction materials by sweeping them, daily, if necessary.

7. Any changes, modifications, additions or alterations made to the approved set of plans will require a modification of Application # 12-3. Modifications that do not significantly change the project, the project design or the approved discretionary permits ***may*** be approved by the Planning Director. Any construction based on job plans that have been altered without the benefit of an approved modification of Application 20-3 will result in the job being immediately stopped and red tagged.

8. Any damages to the public portions of Toyon, Oak, Woodland, Laurel, Cascade, or other public roadway used to access the site resulting from construction-related activities shall be the responsibility of the property owner.

9. The applicant and its heirs, successors, and assigns shall, at its sole cost and expense, defend with counsel selected by the Town, indemnify, protect, release, and hold harmless the Town of Fairfax and any agency or instrumentality thereof, including its agents, officers, commissions, and employees (the "Indemnitees") from any and all claims, actions, or proceedings arising out of or in any way relating to the processing and/or approval of the project as described herein, the purpose of which is to attack, set aside, void, or annul the approval of the project, and/or any environmental determination that accompanies it, by the Planning Commission, Town Council, Planning Director, Design Review Board or any other department or agency of the Town. This indemnification shall include, but not be limited to, suits, damages, judgments, costs, expenses, liens, levies, attorney fees or expert witness fees that may be asserted or incurred by any person or entity, including the applicant, third parties and the Indemnitees, arising out of or in connection with the approval of this project, whether or not there is concurrent, passive, or active negligence on the part of the Indemnitees. Nothing herein shall prohibit the Town from participating in the defense of any claim, action, or proceeding. The parties shall use best efforts, acting in good faith, to select mutually agreeable defense counsel. If the parties cannot reach agreement, the Town may select its own legal counsel and the applicant agrees to pay directly, or timely reimburse on a monthly basis, the Town for all such court costs, attorney fees, and time referenced herein, provided, however, that

the applicant's duty in this regard shall be subject to the Town's promptly notifying the applicant of any said claim, action, or proceeding.

10. The applicant shall comply with all applicable local, county, state and federal laws and regulations. Local ordinances which must be complied with include, but are not limited to: the Noise Ordinance, Chapter 8.20, Polystyrene Foam, Degradable and Recyclable Food Packaging, Chapter 8.16, Garbage and Rubbish Disposal, Chapter 8.08, Urban Runoff Pollution Prevention, Chapter 8.32 and the Americans with Disabilities Act.

11. Conditions placed upon the project by outside agencies or by the Town Engineer may be eliminated or amended with that agency's or the Town Engineer's written notification to the Planning Department prior to issuance of the building permit.

12. Conditions placed upon the project by the project arborist may be amended or eliminated by the approval of the Planning Director after receiving a request for the elimination/amendment in writing from the project arborist.

13. The building permit plans shall be reviewed and approved by the Town Engineer, at the expense of the applicant, prior to issuance of the building permit. The project shall be inspected by the Town Engineer prior to issuance of the occupancy permit for the residential structures for compliance with the engineering plans.

Ross Valley Fire Department

14. Project has been deemed a "substantial remodel" and as such requires installation of a fire sprinkler system that complies with the National Fire Protection Association regulation 13-D and local standards. The system will require a permit from the Fire Department and the submittal of plans and specifications for a system submitted by an individual or firm licensed to design and/or design-build sprinkler systems.

15. The property is located within the Wildland Urban Interface Area for Fairfax and the new construction must comply with Chapter 7A of the California Building Code or equivalent.

16. All smoke detectors in the residence shall be provided with AC power and be interconnected for simultaneous alarm. Detectors shall be located in each sleeping room, outside of each sleeping room in a central location in the corridor

    and over the center of all stairways with a minimum of 1 detector on each story of the occupied portion of the residence.

17. Carbon monoxide alarms shall be provided in existing dwellings when a permit is required for alterations, repairs, or addition and the cost of the permit exceeds $1,000.00. Carbon monoxide alarms shall be located outside of each sleeping

area in the immediate vicinity of the bedrooms and on every level of the dwelling, including basements.

18. Address numbers at least 4 inches tall must be in place adjacent to the front door. If not clearly visible from the street, additional numbers must be placed in location that is visible from the street. The numbers must be internally illuminated or illuminated by and adjacent light controlled by a photocell that can be switched off only by a breaker so it will remain illuminated all night.

19. Alternative materials or methods may be proposed for any of the above conditions in accordance with Section 104.9 of the Fire Code.

20. All approved alternatives requests, and their supporting documentation, shall be included in the plan sets submitted for final approval by the Fire Department.

21. All vegetation and construction materials are to be maintained away from the residence during construction.

22. A fire apparatus access road a minimum of 20 feet wide shall be located so that no portion of the first floor exterior walls is greater than 150 feet from where fire can set up operations (already in the project design).

23. A hydrant capable of supplying 500 gallon per minute of water at 20 pounds per square inch of pressure shall be located so that no portion of the structure is greater than 350 feet from the closest hydrant.

24. If a new hydrant is proposed to meet the above condition the proposed hydrant shall be identified as either private or public and the type shall be specified in the building permit submittal plans.

Marin Municipal Water District (MMWD)

25. A copy of the building permit must be provided to the district along with the required applications and fees.

26. All indoor and outdoor requirements or District Code Title 13, Water Conservation must be complied with.

27. Any landscaping plans must be reviewed and approved by the District.

28. Backflow prevention requirements must be met.

29. Ordinance 420, requiring installation of grey water recycling system when practicable, must be incorporated into the project building permit plans or an exemption letter from the District must be provided to the Town.

30. All of the District's rules and regulations if effect at the time service is requested must be complied with.

Ross Valley Sanitary District (RVSD)

31. The project will require a connection permit from the District.

32. The size of the sewer lateral will depend on the fixture count calculated during the permitting process.

33. If the lateral meets the size requirement of the fixture count, the applicant has the option of installing a new lateral or, the old sewer lateral must be tested in the presence of a District Inspector and found to meet all current District Requirements.

Miscellaneous

34. Construction shall be prohibited during the Northern Spotted Owl nesting season from February 1st through July 1st.

35. Any future tree removal, beyond the trees proposed for removal in the 3/92020 Tree Removal Application will require the review and approval of the Tree Committee and may also require review and approval with mitigation measures of the geotechnical engineer if the tree removal may effect hillside stability below the structure at a future date.

36. A deed restriction, with an attached site map exhibit limiting construction in the pool area and showing the abandoned pool location, be recorded at the Marin County Recorder's Office prior to issuance of the building permit if the project is approved.

37. Any future tree removal, beyond the trees proposed for removal in the 3/92020 Tree Removal Application will require the review and approval of the Tree Committee and may also require review and approval with mitigation measures of the geotechnical engineer if the tree removal may effect hillside stability below the structure at a future date.

NOW, THEREFORE BE IT RESOLVED, the Planning Commission of the Town of Fairfax hereby finds and determines as follows:

The approval of the Hill Area Residential Development Permit, Excavation Permit, Tree Removal Permit and Design Review Permit are in conformance with the 2010 – 2030 Fairfax General Plan, the Fairfax Town Code and the Fairfax Zoning Ordinance, Town Code Title 17; and

Construction of the project can occur without causing significant impacts on neighboring residences and the environment.

The foregoing resolution was adopted at a regular meeting of the Planning Commission held in said Town, on the 21st day of May 2020 by the following vote:

AYES:
NOES:
ABSTAIN:

_____
Chair Green

Attest:

_____
Ben Berto, Director of Planning and Building Services

MILLER PACIFIC ENGINEERING GROUP

April 13, 2020
File: 201.161cltr.doc

Town of Fairfax
Planning and Building Services Department
142 Bolinas Avenue
Fairfax, California 94930

Attn: Ms. Linda Neal, Principal Planner

Re: Third Planning-Level Geologic, Geotechnical, and Civil Engineering Review
New Single-Family Residence
88 Toyon Drive (APN 003-081-39)
Fairfax, California

Introduction

In response to your request and in accordance with our agreement dated March 20, 2018, we have performed a third planning-level review of project plans and supporting documentation for the proposed construction of a new single-family residence and ancillary improvements at 88 Toyon Drive in Fairfax, California. The purpose of our services is to review the submitted documents, comment on the completeness and adequacy of the submittal in consideration of Town requirements, and to provide a recommendation to Town Planning and Building staff regarding project approval. Our first review comments were summarized in our letter dated June 7, 2018, and our second review comments were presented in a subsequent letter dated November 26, 2019.

The scope of our services includes:

- A site reconnaissance to observe existing conditions and review proposed development features;
- Review of provided project documents for conformance to the Town of Fairfax Hill Area Residential Development Ordinance, specifically Town Code Sections 17.072.080(B), (C), (E), and (F), and Section 17.072.110 (C).
- Development of opinions regarding project compliance with applicable Town Code requirements; and
- Development of recommendations to Town staff as to whether the project may be safely constructed in consideration of any geologic, hydrologic, or geotechnical hazards.

It should be noted that the scope of our review is limited solely to geologic, geotechnical, and civil portions of the project, and does not include review of structural, architectural, mechanical, or other items beyond the scope of our qualifications. We recommend that non-geotechnical aspects of the plans be reviewed by suitably qualified professionals.

Project Description

The project generally consists of remodeling an existing, approximate 1,500 square-foot, 2-story residence and adding a total of about 540 square feet of new interior space. An existing swimming

504 Redwood Blvd., Suite 220 ▪ Novato, California 94947 ▪ T (415) 382-3444 F (415) 382-3450

ATTACHMENT B

pool will be demolished and backfilled to a create a level lawn, which will be supported by a new landscape retaining wall. The existing deck on the east side of the house will be demolished and replaced with a new deck, and the existing circular asphalt-paved driveway will be widened to accommodate a new parking stall. Fire apparatus accommodations will include a new gravel-surfaced shoulder along Toyon Drive.

We note several significant, previously-proposed improvements have been omitted from the project, including a new carport structure and (very steep) re-aligned concrete driveway, as well as a new swimming pool on the downslope side of the reconstructed deck.

Project Review

We performed a site reconnaissance on May 22, 2018 to observe existing conditions at the site. We previously reviewed the following documents provided by the Town as summarized in our June 7, 2018 letter:

- Old Republic National Title Insurance Company (2017), "Homeowner's Policy of Title Insurance, Policy Number A04039-EHP-153589, 88 Toyon Drive, Fairfax, CA 94930, David Russell and Stephanie J. Armstrong (Insured)", dated May 12, 2017.
- CSW/ Stuber-Stroeh Engineering Group (2018), "Topographic Map, 88 Toyon Drive, APN 003-081-39", Sheet V1, Project No. 5.1507.00, dated May 24, 2017.
- Urban Forestry Associates (2017), "Tree Preservation/Protection Plan for 88 Toyon Drive, Fairfax, CA 94930", dated September 5, 2017.
- Urban Forestry Associates (2017), "Arborist Map, Russell Residence Remodel, 88 Toyon Drive, Fairfax, CA 94930", dated August 21, 2017.
- Ross Valley Fire Department (2017), "Fire Department Plan Review, Addition/Remodel, 88 Toyon Rd., Fairfax, California, Review No. 1", Fire Dept. # 17-0397, dated November 2, 2017.
- Dave Olnes, PE (2017), "Geotechnical Reconnaissance Report, Proposed Residential Improvements, 88 Toyon Drive, Fairfax", dated December 20, 2017.
- CSW/Stuber-Stroeh Engineering Group (2018), "Record of Survey, Lands of Russell" (2 Sheets), dated February 7, 2018.
- Town of Fairfax (2018), "Re: 88 Toyon Road, Planning Application" (First Letter from Principal Planner, Linda Neal), dated March 22, 2018.
- Town of Fairfax (2018), "Re: 88 Toyon Road, Planning Application" (Supplemental Letter from Principal Planner, Linda Neal, regarding Ross Valley Fire Department access road comments), dated March 27, 2018.
- CSW/Stuber-Stroeh Engineering Group (2018), "Hillside Dissipator Hydrology and Hydraulic Calculations for 88 Toyon, Fairfax, California", dated April 12, 2018.

- County of Marin, "Certificate of Correction – Record of Survey", 2018-0013073, dated April 13, 2018.

- CSW/Stuber-Stroeh Engineering Group (2018), "Supplemental Grading Quantity Calculations for Design Review Plans, for David Russell, 88 Toyon, Fairfax, California", dated April 23, 2018

- Holder Design Associates (2018), "Planning Department Response Letter", dated May 2, 2018.

- Holder Design Associates (2018), "Russell Residence Remodel, 88 Toyon Drive, Fairfax, CA" (Architectural Plans), Sheets A1.0 through A4.0, DRB Revision #2 set dated May 3, 2018.

- CSW/Stuber-Stroeh Engineering Group (2018), "RE: 88 Toyon Drive, Fairfax, California" (Civil Engineer's Response to 3/22/18 Town Letter), File 5.1507.00, dated May 9, 2018.

- CSW/Stuber-Stroeh Engineering Group (2018), "88 Toyon Drive, Fairfax, California, APN 003-081-039" (Preliminary Civil and Landscape Plans), Sheets C1 through C4 and L1, Design Review Revision #2 set dated May 9, 2018.

We subsequently reviewed additional documentation in response to our first review comments, including the following:

- Holder Design Associates (2019), "Russell Residence Remodel, 88 Toyon Drive, Fairfax, CA" (Architectural Plans), Sheets A0.0 through A4.0, DRB Revision #3 set dated July 29, 2019.

- LTD Engineering, Inc. (2019), "Holder Design Associates, 88 Toyon Drive, Fairfax, California" (Preliminary Civil Plans), Project No. 596.001, Sheets C-1 through C-z6, first revision set dated August 2, 2019.

More recently, we reviewed the following documents in response to our second review comments:

- County of Marin, "Easement Agreement", 2020-0001107, recorded January 9, 2020.

- Dave Olnes, PE (2017), "Geotechnical Memorandum: Geotechnical Review of Revised Civil Plans, Proposed Residential Improvements, 88 Toyon Drive, Fairfax, California", dated February 10, 2020

- Holder Design Associates (2019), "Russell Residence Remodel, 88 Toyon Drive, Fairfax, CA" (Architectural Plans), Sheets A0.0 through A4.0, DRB Revision #4 set dated March 4, 2020.

Conclusions

Based on our site reconnaissance and document review, the following submittal items required by the Town of Fairfax Hill Area Residential Development Ordinance remain outstanding:

Hill Area Residential Development Ordinance

- Section 17.072.080(C)

1) Project Architectural plans (Sheet A1.1) indicate asphalt paving and a new gravel shoulder will be installed in the Toyon Drive right-of-way to accommodate required fire access. We note that the gravel surface is not shown on the Civil plans, and appears as though it may require relocation of existing street signage and other improvements in the right-of-way. Plan should be revised to include the proposed gravel shoulder and indicate any ancillary work required. An encroachment permit should be required for all work in the right-of-way.

- Section 17.072.080(D)

2) Project plans indicate 25 trees will be removed to accommodate the planned construction; therefore, a Fairfax Tree Committee report and permit must be obtained. We also note that the arborist map indicates "the entire property should be a defensible space zone". In light of the anticipation that "defensible space" likely requires removal of significant existing vegetation.

   The arborist should define the required tree/vegetation removal process, and any needed stability/erosion-control measures should be provided on the plans.

- Section 17.072.080(E)

3) The project includes excavation beneath the existing residence for expansion of the lower-level living area, which will require temporary vertical cut slopes up to about 10-feet high for new retaining walls. The geotechnical engineer should provide recommendations for temporary shoring and underpinning of existing improvements during construction. The engineer should also provide Cal-OSHA soil-type classifications for use in design of temporary cut slopes and shoring.

Recommendations

We recommend that project processing continue at the planning level. We judge that remaining comments, including review of supplemental geotechnical/arbory commentary and encroachment permit conditions, may be reasonably handled at the building submittal level with minimal anticipated impact.

We trust that this letter contains the information you require at this time. If you have any questions, please call. We will directly discuss our comments with the applicant's consultants if they wish to do so.

MILLER PACIFIC
ENGINEERING GROUP

April 13, 2020

Yours very truly,
MILLER PACIFIC ENGINEERING GROUP

Mike Jewett
Town of Fairfax Contract Geologist
Engineering Geologist No. 2610
(Expires 1/31/21)

REVIEWED BY:

Scott Stephens
Town of Fairfax Contract Engineer
Geotechnical Engineer No. 2398
(Expires 6/30/21)

88 TOYON POOL DEMO / SEPTIC TANK ABANDONMENT

DAVE OLNES P.E. INC.
CIVIL & SOIL ENGINEER
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605
PHONE & FAX: (510) 568-2162 daveolnes@sbcglobal.net

GEOTECHNICAL MEMORANDUM:

To: David Russell

RE: Geotechnical Review of Revised Civil Plans
Proposed Residential Improvements
88 Toyan Drive, Fairfax

MAR 9 4 2020

Date: February 10, 2020

Dear Mr. Russell:

As Geotechnical Engineers of Record we have reviewed the revised Civil plans for the proposed improvements to your residential property, located at 88 Toyan Drive in Fairfax. Specifically we have reviewed Civil Plans prepared by Glenn Dearth, bearing a revision date of August 2, 2019. This review is relative to our Geotechnical Reconnaissance report for the project, dated December 20, 2017. We have also responded to some questions raised by the Town in the planning review process.

The scope of planned improvements for the property has changed since our report and review memo were issued. The current scope will involve a remodel of the existing structure, with little or no additions beyond the present footprint. The driveway will be widened to add more parking, and the pool will be abandoned to create additional landscape area.

The Civil plans call for the installation of a gravel subdrain with a perforated around the western (upslope) and side perimeters of the house, and for connecting the roof downspouts and area drains into solid 4-inch PVC piping. The drain lines are to be dispersed over a 20-foot long rubble field below the house on the eastern slope, away from the vulnerable swale below the south side of the lot. Based on our review, the Civil plans appear to conform to the recommendations of our report.

The City has asked for clarification regarding abandonment of the pool. Our Reconnaissance Report included recommendations for this. As the site of the existing pool is not expected to support significant structures, the pool shell may be abandoned in place. The bottom of the pool shell should be perforated by breaking minimum 24-inch square holes through to the subgrade, at intervals of 10 feet along the center line of the pool. The bottom of the shell should then be covered with a minimum 6-inch thick layer of clean 3/8-inch to 3/4-inch drain rock. The pool copings are typically broken down about 24 inches

ATTACHMENT C

below grade. The bulk of the pool cavity should then be filled with drain rock mixed with rubble from the coping and decking. The rubble should be broken down to no more than 12 inches in diameter, and should be carefully mixed into the gravel without creating any voids. Filter cloth should be placed over the top of the drain rock and covered with a minimum 18-inch cap of clay soil. The soil cap should be placed in 6-inch level lifts, thoroughly compacted with a mechanical compactor. The fill should consist of clayey material, free of organics and rocks or rubble over 6 inches in diameter. The undersigned Geotechnical Engineer should periodically observe the placement of the drain rock and/or fill. However, formal compaction testing should not be necessary, provided that the depth of the clay soil cap does not exceed 3 feet.

An old septic tank has apparently been discovered beside one of the existing deck piers, and the Town has asked for clarification regarding how this cavity should be filled. The tank is made of redwood and measures roughly 5' by 6' by 5' deep. The tank should be cleaned out and some of the redwood should be cut out from the side adjacent to the deck pier (as a minimum). Then the cavity can be filled with lean concrete, capped off with 18 inches of compacted soil. If the cavity is to be covered to pavement that is sensitive to settlement, then all of the existing redwood should be removed.

If there are any questions regarding this matter, please contact our office.

Sincerely,

Dave Olnes, CEGE

2Toyan(88)-rev2

DAVE OLNES P.E. INC.
CIVIL & SOIL ENGINEER
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605
PHONE & FAX: (510) 568-2162 daveolnes@sbcglobal.net

GEOTECHNICAL MEMORANDUM:

To: David Russell

RE: Geotechnical Review of Civil Plans
Proposed Residential Improvements
88 Toyan Drive, Fairfax

Date: May 9, 2018

Dear Mr. Russell:

As Geotechnical Engineers of Record we have reviewed the Civil plans for the proposed improvements to your residential property, located at 88 Toyan Drive in Fairfax. Specifically we have reviewed Civil Plans prepared by CSW/ST2, dated April 16, 2018. This review is relative to our Geotechnical Reconnaissance report for the project, dated December 20, 2017.

The Town Engineer has asked us specifically comment on the placement of the storm drain dissipaters. The proposed storm drains are to run to two bio-retention basins, to be located below the garage and the pool, with the overflow to be dispersed over rubble fields located on the eastern slope. Several months ago, in a previous informal review, we had asked the Civil Engineer to re-locate the dissipaters to the eastern slope, due to our concerns regarding the stability of the southern swale, which appears to be directed to a residence below. Although there is perhaps never an "ideal" location to disperse storm water on a hillside lot, it is our opinion that the dispersal locations shown on the current plan are most appropriate for the site conditions, and pose the lowest risk of negative impact on the slope and properties below.

Our office will weigh in, as needed, on the abandonment of the old septic system, once its location has been verified in the field. Otherwise, the abandonment plan indicated on the Civil plans appears to be appropriate.

Based on our review, the Civil plans appear to conform to the recommendations of our report. If there are any questions regarding this matter, please contact my office.

Sincerely,

Dave Olnes, CEGE

DAVE DLNES P.E. INC.
CIVIL & SOIL ENGINEER
7915 CREST AVENUE, OAKLAND, CALIFORNIA 94605
PHONE & FAX: (510) 568-2162 davednes@sbcglobal.net

December 20, 2017

David Russell
488 Las Colindas Road
San Rafael, CA 94903

RE: Geotechnical Reconnaissance Report
Proposed residential improvements
88 Toyon Drive, Fairfax

Dear Mr. Russell:

In accordance with your request we have performed a Geotechnical reconnaissance of your residential property, located at 88 Toyon Drive in Fairfax. The purpose of this reconnaissance was to provide foundation design parameters for improvements to your residence.

The scope of this reconnaissance was limited to visual examination of the property, review of geological maps, a floor level survey on the main house, and excavation of five hand-auger probes in the vicinity of the proposed work. As no deep borings have been performed, it is essential that we be allowed to inspect the pier drilling in progress, to confirm the assumptions made herein.

BACKGROUND, OBSERVATIONS AND PROPOSED CONSTRUCTION: The subject property consists of an existing 2 story house situated on a steeply down-sloping lot at the top of Toyon Drive. The property drapes around a topographical spur, which descends off a promontory known as Blue Ridge, to the west. The axis of the spur ridge cuts diagonally across the property from the northwestern corner to the southeastern corner, in line with the current swimming pool location. The existing house structure is sited just north of this ridge line. A natural drainage swale passes through the southwestern corner of the property, descending to the south.

The existing compact, two-story structure was constructed in the 1950's. There are basement rooms beneath the back of the house, which have slab on grade floors. A series of wood retaining walls create additional stepped floors and storage platforms up-slope of

the slab.
It is our understanding that you plan to undertake a major remodel of the house. The upper floor will be reconfigured, and the lower level will be excavated to provide full height living space throughout. There will be a modest two story addition at the left rear (northeast) corner, and the rear perimeters of both floors will be pushed out roughly 4 feet. The existing deck off the back of the house will be replaced and reconfigured. A new carport will be constructed over the steep slope at the southwestern corner of the lot. You also plan to fill in the existing pool at the south side of the lot, and construct a new pool and deck below the house. The new pool will be suspended over the northeastern slope.

EVALUATION OF EXISTING IMPROVEMENTS: The front of the house is supported by a 5 foot tall concrete foundation wall, which appears to be in good condition, where visible. The remaining foundations consist of shallow trapezoidal footings, which exhibit several cracks ranging from 1/4" to 3/4" in width. Moderate rotation is occurs along the rear and right (east and south) perimeters, as evident by bulging in the stucco at the sill line and gaps between the edge of the slab and footing. There is a large crack running laterally across the floor slab.

Despite the foundation distortions, the floors of the structure show little sign of significant movement. A level survey performed during our site visit found that the floors are within 1.7 inches of relative level, which is good for a hillside home of this age.

There are currently no provisions for drainage at the property. The front yard slopes toward the house, and the downspouts are not tied to discharge piping. There is evidence of seasonal seepage intrusion into the crawlspace along the front of the house.

The existing in-ground swimming pool is located along the axis of the ridge line, and therefore is likely cut into bedrock. Although the pool has been drained, the old water marks against the coping tiles suggest that the pool has not settled. No obvious cracking was observed in the pool shell. However, the concrete pool decking has shifted, particularly along the outboard edge, which is retained by a low wood site wall.

GEOLOGY AND HAND AUGER BORINGS: Review of a geology map for the area by Smith, Rice and Strand indicates that the site is underlain by Franciscan Melange bedrock. Franciscan Melange (FM) is common throughout much of Marin County, and consists of jumbled rock masses, highly altered by ancient tectonic activity. The bedrock units in the vicinity of the site are composed largely of sheared Sandstone and Shale. Weathered Sandstone is exposed in a cut bank across the street. The exposed rock appears fairly hard in the cut bank to the southwest of the site, and highly decomposed to the north of the site.

As stated, the lot is sited along a ridge line. A well-formed topographic swale situated immediately south of the property trails off to the southeast, feeding directly toward a residence located off Woodland Court below. A less defined draw to the north of the subject residence descends to the east. The Smith-Rice map indicates that both of these slopes are susceptible to shallow landsliding, whereas the promontory where the house is sited is outside the limits of the mapped slide area. The stability study associated with the Smith-Rice map has assigned the immediate vicinity of the ridge line a stability number of 3, indicating a moderate potential for instability. However, the slopes to either flank have been assigned a stability number of 4, indicating a high potential for instability. No evidence of active sliding was observed in our reconnaissance of the property.

A 6-inch diameter PVC pipe emerges at the roadside ditch opposite the subject property. Initially we thought that this was a culvert running under the road to discharge at the drainage swale on the south side of the property (which is the way we inaccurately described it in our preliminary summary of November 15th). However after closer examination, it became clear that the pipe is actually a discharge line from the residence to the south, which outlets into the ditch. There appear to be no drain pipes currently discharging into the defined swale at the south side of the subject property.

During our preliminary and subsequent site visits, we performed five shallow exploratory probes using a hand auger. The first probe (P1) was performed at the edge of the existing driveway, at the front of the proposed carport. P2 was performed on the northeastern slope, at the center of the proposed house addition. P3 and P4 were performed below the new pool and carport locations, respectively. P5 was performed within the crawlspace between the two existing wood terrace walls.

P1, near the forward edge of the proposed carport, encountered approximately 2 feet of loose silty fill topsoil, underlain by one foot of residual soil consisting of mottled grey brown clayey Silt was unearthed. Yellow tan weathered sandstone bedrock was encountered at 3 feet, grading to hard grey sandstone at 4 feet where the probe met refusal. Probe P4, located within the defined swale at the rear of the proposed carport, unearthed 4.5 feet of fill or colluvial soils, consisting of mottled grey-brown silty Clay with sandstone fragments similar to P2. Hard grey sandstone bedrock was encountered at 4.5 feet.

The probe immediately below the house, P2, encountered 5 feet of loose grey brown Silt with rock fragments, which was judged to be fill and topsoil. This material was underlain by natural residual soil consisting of light grey brown Silt, which graded to weathered Shale bedrock at 6 feet. The probe was terminated at 7 feet. P3, located further down the slope

beside the proposed new pool site, encountered two feet of brown clayey fine sandy Silt topsoil followed by tan residual soil which graded to grey brown weathered Shale at 3 feet. Finally, probe P5, performed within the crawlspace under the house, encountered 2 feet of brown Silt with rock fragments which appeared to be topsoil, underlain by grey tan weathered Sandstone/Shale bedrock.

SEISMICITY: It should be considered common knowledge that this site and the Bay Area in general are subject to strong ground shaking due to the regular occurrence of large earthquakes. The site is located approximately 6 miles east of the San Andreas Fault (type A), which has a Maximum Credible Earthquake (MCE) of 8.1 moment magnitude. Other surrounding active faults with equal or lesser expected magnitudes and probabilities include the Hayward Fault (type A), located approximately 15 miles to the east, and the Concord/Calavaras Fault (type B), located approximately 25 miles to the east.

As no alluvial soils were observed in the area, there is no potential for liquefaction at the site. Since the site is located outside of the Alquist-Priolo Special Studies Zone, the risk of ground rupture is also considered to be very low. Given the shallow depth to competent bedrock, there is little risk of seismically induced landsliding.

Design of the new improvements in accordance with the 2016 CBC should utilize the following factors:

Mapped Short Period Spectral Acceleration, S_S:	1.500
Mapped 1-Second Spectral Acceleration, S_1:	0.669
Site Class:	B
Short Period Site Coefficient, F_a:	1.0
1-Second Site Coefficient, F_v:	1.0
Modified Short Period Acceleration, Sms:	1.500
Modified Short Period Acceleration, Sms:	0.669
Design Short Period Acceleration, Sds:	1.000
Design Short Period Acceleration, Sds:	0.446
Design Category:	D

COMMENTARY AND RECOMMENDATIONS: As previously mentioned, the existing foundations are somewhat cracked and rotated, particularly along the rear and right perimeters. Expansion of the proposed lower level will undermine most of the forward

foundations including the existing front foundation. Therefore, complete replacement of the existing foundations is anticipated. New foundations situated beneath the front half of the house will be cut into the slope, where bedrock will likely be exposed. Thus new foundations beneath the front of the house may bear on conventional spread footings. However, the rear perimeter of the existing structure and the proposed rear additions will require pier and grade beam foundations.

As currently located, the carport and pool will be constructed over relatively steep slopes containing a variable amount of top soil and fill. Thus these structures should also be entirely supported by pier and grade beam foundations.

Gravel drains should be installed around the up-slope perimeters of the house, to protect the lower level rooms from seasonal moisture intrusion. Drain lines should run to rubble dissipaters located on the lower slope, but should not discharge directly into the defined swale at the south side of the property which feeds down toward the residence below.

If no significant structures are planned in the vicinity of existing pool, it may be abandoned in place by breaking holes in the bottom, and breaking down the coping walls 2 to 3 feet below grade, then filling the shell with a combination of drain rock and concrete spoils broken down to 6 to 12 inches in diameter. The gravel fill may be capped with 2 to 3 inches of compacted soils for planting purposes. If structures might be constructed in this area in the future, the pool shell should be completely removed, and the cavity should be filled with compacted fill. Still, any new structures sited over the filled cavity will require drilled piers to protect the structures from settlement.

Landscaping improvements sited near the edges of the descending slopes should be designed with flexibility in mind (ie low dry stacked stone walls, decomposed granite and pavers set in stand). Alternatively a pier-supported wall could be constructed along the edge of the slope, designed to resist surficial soil creep.

Based on our observations, it is our opinion that the site is suitable for the proposed construction provided that the following recommendations are adhered to.

RECOMMENDATIONS:

1. **GRADING:** Grading work will be limited to retained cuts below the house to expand the lower floors and filling in the existing pool shell. The pool abandonment should be performed per Section 2, below. Please contact our office if the plans are changed to include cuts or fills exceeding 3 feet in depth in other locations. Soil should be hauled off site and should not be deposited on the site slopes.

   Permanent cut slopes shall have a maximum inclination of 2:1. Temporary vertical cuts should be shored per OSHA standards, particularly if the excavation is to stand through the rainy season (which is not recommended).

   Soil fills shall be placed in maximum 8-inch lifts, and shall be compacted to 90% in landscape areas, or to 95% in areas which will bear structures or pavement. Site soils are suitable for use as fill, provided that material is free of organic matter and rubble exceeding 6 inches in diameter. Compaction testing shall be required for soil fills in excess of 50 cubic yards. For lesser volumes, the undersigned Geotechnical Engineer may approve the fill based on visual observation of the compaction effort in progress, depending on what the fill will be supporting. Compaction testing shall not be required for drain rock backfill, which achieves approximately 95% compaction without mechanical assistance.

   Utility trench backfill shall be compacted to a relative density of 95% under pavement and foundation areas, and 90% elsewhere. Trenches shall be capped with at least 18 inches of relatively impermeable material (site soils are acceptable).

   The silty site soils should be considered highly erodible. If grading work is to be performed during the rainy season, appropriate site protection measures such as silt fencing or hay bales will be required. After completion of grading work all denuded areas shall be covered with jute mesh and seeded or planted with erosion resistant ground cover prior to the onset of rains.

2. **POOL ABANDONMENT:** As stated, if the site of the existing pool is not expected to support significant structures, the pool shell may be abandoned in place. The bottom of the pool shell should be perforated by breaking minimum 24-inch square holes through to the subgrade, at intervals of 10 feet along the center line of the pool. The bottom of the shell should then be covered with a minimum 6-inch thick layer of clean 3/8-inch to 3/4-inch drain rock. The pool copings are typically broken down about 24 inches below grade (unless you opt to leave them in place, as discussed above).

The bulk of the pool cavity should then be filled with drain rock mixed with rubble from the coping and decking. The rubble should be broken down to no more than 12 inches in diameter, and should be carefully placed without creating any voids. Filter cloth should be placed over the top of the drain rock and covered with a minimum 18-inch cap of clay soil. The soil cap should be placed in 6-inch level lifts, thoroughly compacted with a mechanical compactor. The fill should consist of clayey material, free of organics and rocks or rubble over 6 inches in diameter.

The undersigned Geotechnical Engineer should periodically observe the placement of the drain rock and/or fill. However, formal compaction testing should not be necessary, provided that the depth of the clay soil cap does not exceed 2 feet.

3. **FOUNDATIONS:** All improvements sited on or within 10 feet of the descending slopes should be supported by a drilled pier and grade beam foundation system, per Section 3.1. The proposed front foundation wall of the house, which is expected to be cut into bedrock, may be supported by an L footing per Section 3.2.

3.1 **Pier and Grade Beam Foundations:** Drilled piers shall be a minimum of 18-inches in diameter and should extend a minimum of 8 feet into bedrock, as verified by the undersigned Geotechnical Engineer (total depths of 10 to 15 feet should be anticipated). Drillers need to be prepared to core through potentially resistant Sandstone bedrock. We may approve lesser amounts of bedrock penetration where very hard rock is encountered.

A skin friction value of 750 psf may be used within the bedrock. No frictional support shall be assumed within the soil strata.

Resistance to lateral forces may be achieved by assuming a passive pressure of 450pcf beginning at the bedrock contact. These values may be assumed to act against twice the pier diameter. The friction and passive values presented above may be increased by one third when contemplating short term wind and seismic loads.

Piers should be reinforced with a *minimum* of six #5 bars contained within a #3 spiral at a 6-inch pitch. Grade beams should contain at least two #5 bars top and bottom, and should be connected to the piers with at least four #5 L-dowels.

3.2 **Spread Footings:** The proposed front foundation wall may be supported by an L footing provided that the excavation extends into bedrock as confirmed by the undersigned Geotechnical Engineers. Footings bearing in rock may be designed for a bearing pressure of 2500psf, a sliding friction of 0.4 and a passive resistance of 450pcf.

4. **RETAINING WALLS:** Retaining walls situated on slopes should be supported by piers and designed using the pier recommendations above. Walls should be designed for active pressures of 45pcf where backfill is level, and 55pcf for slopes 2:1 or greater (horizontal to vertical).

Walls perched on descending slopes should be keyed 1 foot into the slope at the bottom, to protect the wall from undermining due to sloughing and erosion. This extra foot should be included in the effective design height.

5. **DRAINAGE:** Proper control of site drainage is essential in order to minimize expansive soil problems and to control moisture rise through floor slabs. All roof downspouts shall be fitted with 4-inch solid PVC discharge pipes. Surrounding yard and patio areas shall utilize V-1 or brass catch basins tied to the roof downspout lines, or shall be graded to shed runoff away from the house in an unconcentrated manner.

5.1 **Perimeter Gravel Drain:** In addition to the surface drainage measures, a perimeter gravel subdrain should be installed around upslope sides of the residence. The subdrains shall consist of trenches excavated directly adjacent to the perimeter foundations, extending a minimum of 6 inches below the lowest interior grade, sloped at 1% toward a dispersal tee. A 4-inch diameter perforated SDR-35 PVC pipe shall be placed along the bottom of the trench, backfilled with 3/4-inch drain rock wrapped in filter cloth (or CALTRANS Class II permeable drain rock without filter cloth).

Foundation walls should include waterproofing membranes, such as Bituthane, Prepruf or Paraseal, installed per the manufacturer's recommendations, and afixed at the top edge with termination bar.

All piping shall be 4-inch SDR-35 PVC. All drain lines shall be sloped at 1% minimum to outlet to a rubble dissipater on site. Capped clean-outs shall be installed at the beginning of each subdrain line.

Drainage systems require regular maintenance to ensure proper functioning. Catch basins and downspout pipes should be flushed regularly (dependant on the rate of falling leaf litter). Discharge points should also be periodically inspected to ensure that outlet piping is not obstructed. It is recommended that an accurate as-built plan of the drainage systems be prepared, and that maintenance requirements be disclosed to all future buyers of the property.

6. **EXTERIOR FLATWORK:** Exterior flatwork, including walkways and patios may be constructed as 5-inch thick concrete slabs and should be reinforced with a minimum of #4 bars at 18-inch centers. However, some distress can be expected due to minor soil movement or concrete shrinkage. To minimize the visual effects of settlement distress, flexible pavements, such as bricks set in sand, are recommended above backfilled terrace walls and adjacent to descending slopes.

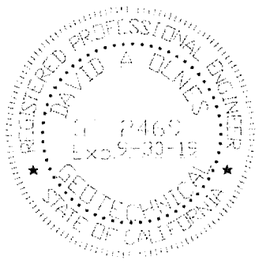
7. **PLAN REVIEW AND CONSTRUCTION OBSERVATION:** The undersigned Geotechnical Engineer should review the final building plans for conformance with the above recommendations and should inspect all footing excavations and subdrain installations in progress prior to placement of reinforcing steel, concrete or backfill. Allowances should be made for potential changes to the final design requirements in the event that actual construction conditions differ from the conditions assumed in this report.

EXCLUSIONS: The preliminary findings and recommendations outlined above are based entirely on visual observations. The examination did not include subsurface borings or analysis of the "global" stability of the underlying strata of the area. Further engineering investigation and analysis could effect the final design recommendations and the ultimate cost of the project. At your request I can provide you with a separate contract for additional investigative services.

LIMIT OF LIABILITY: This report was prepared under written contractual agreement with the addressee (client) indicated above. The client has agreed to limit the liability of Dave Olnes P.E., Inc. to an amount not to exceed ten times the fee for services, for any and all matters arising from this visual examination and report. The information provided herein is for the exclusive use of the specified client. Dave Olnes P.E., Inc. shall assume no liability for other parties who use the report without its express written consent. The recommendations contained in this report are valid for a period of two years, pending further review by the undersigned Geotechnical Engineer.

If there are any questions regarding this preliminary reconnaissance, please contact our office.

Sincerely



Dave Olnes, CEGE

Otto Olnes, EIT

2Toyon(88)-recon

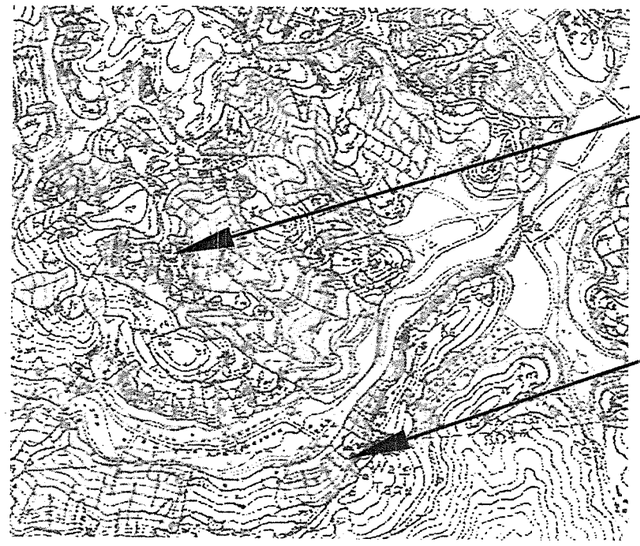
REFERENCES

Knudsen, Keith L., Sowers, Janet M. Witter, Robert S., Wentworth, Carl M, Helley, Edward J., "Preliminary Maps of Quaternary Deposits and Liquefaction Susceptibility, Nine-County San Francisco Bay Region, California", USGS Open File Report 00-444, 2000.

Olnes, David A.,"Preliminary Geotechnical Reconnaissance, 88 Toyan Drive, Fairfax", November 15, 2017.

Rice, Salem J.; Smith, Theodore C.; Strand, Rudolph G., State of California Division of Mines and Geology, Open File Report 76-2, "Geology for Planning: Central and Southwest Marin County, California", 1976.

State of California Division of Mines and Geology,"Maps of Known Active Fault Near-Source Zones in California and Adjacent portions of Nevada", 1998.



SITE, MAPPED AS FRANCISCAN MELANGE (Fm).

TYPICAL MAPPED LAND SLIDE FEATURE (ORANGE)

SOURCE:
STATE OF CALIFORNIA DEPT. OF MINING & GEOLOGY, OPEN FILE REPORT 76-2
GEOLOGY FOR PLANNING: CENTRAL & SOUTHEAST MARIN COUNTY, CALIFORNIA,
SALEM J. RICE, THEODORE C. SMITH & RUDOLPH G. STRAND, 1976.

CIVIL & SOIL ENGINEER
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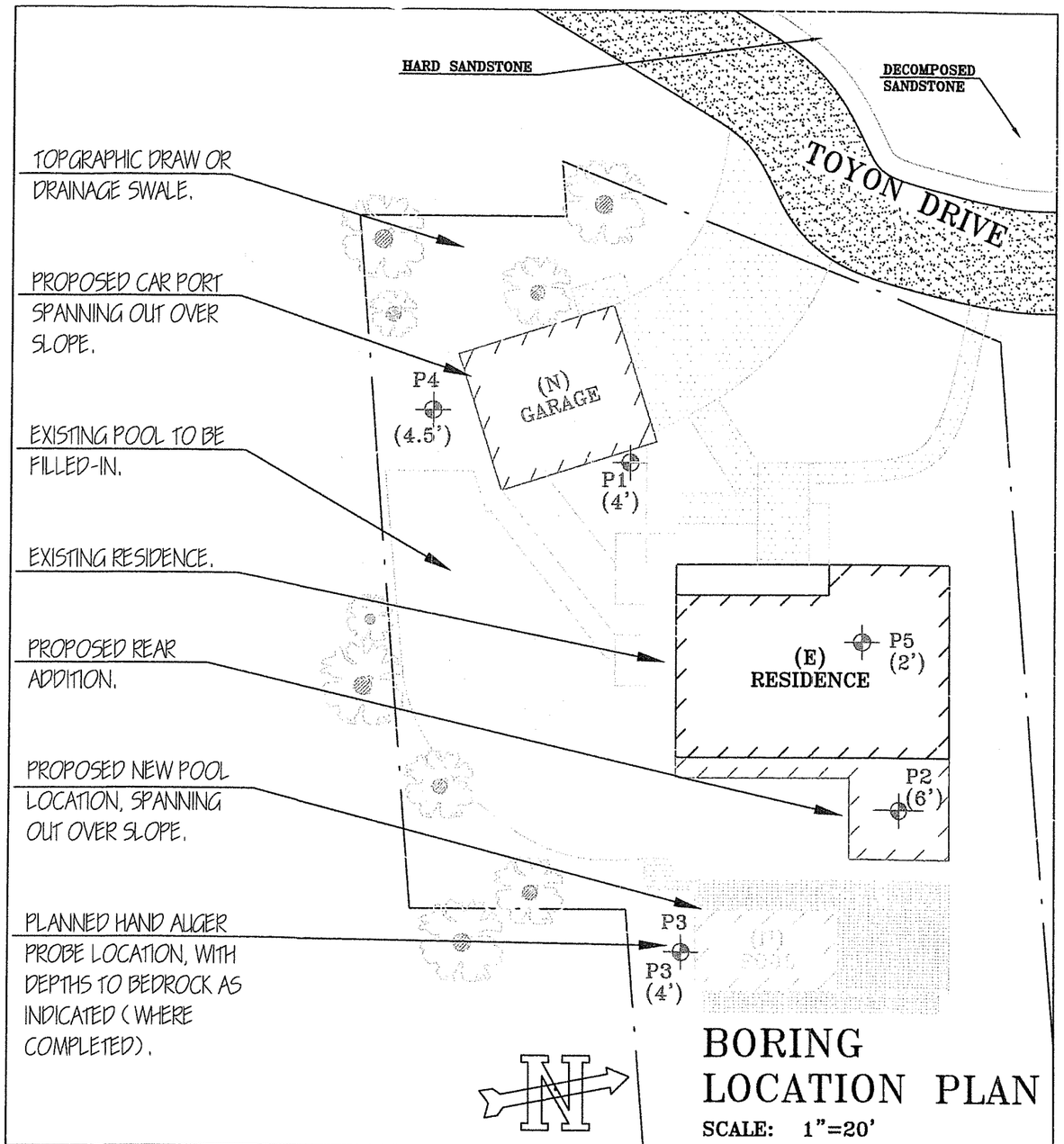
SCALE: 1"=1500'
JOB #: 0-4276
DRAWN: OSO/DAO
DATE: 12-20-17

GEOTECHNICAL RECONNAISANCE
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

FIGURE: 1



BORING LOCATION PLAN

SCALE: 1"=20'

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SCALE: 1"=20'

JOB #: 0-4276

DRAWN: OSO/DAO

DATE: 12-20-17

GEOTECHNICAL RECONNAISANCE
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

FIGURE: 2

HAND AUGER

Probe # : P1

Location: LEFT FRONT, PROPOSED GARAGE

DESCRIPTION	
grey-brown SILT with rubble and and rock fragments (ML)	Fill
grey-brown SILT (ML)	Topsoil
mottled grey-brown-yellow Silty SAND (SM)	Residual Soil
grey Cretaceous SANDSTONE	Bedrock
Probe Terminated @ 4'	Refusal

Depth: 5

Probe # : P2

Location: CENTER, PROPOSED REAR ADDITION

DESCRIPTION	
mottled grey-brown SILT with rock fragments (ML)	Fill and Top Soil
light grey-brown SILT with rock fragments (ML)	Residual Soil
light grey-brown Weathered SHALE	Bedrock
Probe Terminated @ 7'	

Probe # : P3

Location: BELOW NEW POOL

DESCRIPTION	
brown Clayey fine Sandy SILT SILT	Topsoil
tan fine Sandy SILT with intermittent rock structure	Residual Soil
grey-brown Fractured SHALE	Bedrock
Probe Terminated @ 4'	Refusal

Depth: 5

Probe # : P4

Location: BELOW NEW CARPORT

DESCRIPTION	
mottled grey-brown Silty CLAY with Sandstone fragments	Fill/Colluvium
grey SANDSTONE (hard)	Bedrock
Probe Terminated @ 5'	Refusal

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Project: Geotechnical Reconnaissance
88 Toyon Drive
Fairfax, California
Date: November 28, 2017

Figure: 3

HAND AUGER

Probe # : P5

Location: CRAWLSPACE BELOW FRONT WALL

DESCRIPTION		Depth
brown SILT with rock fragments (ML)		
grey-tan weathered SANDSTONE SHALE	Bedrock	
Probe Terminated @ 3'		

5

10

15

20

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Project: Geotechnical Reconnaissance
88 Toyon Drive
Fairfax, California

Date: November 28, 2017

Figure: 4

CSW | ST
CSW/Stuber-Stroeh Engineering Group, Inc. 45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 220, Petaluma, CA 94954 Tel 707.795.4764 www.cswst2.com

SHEET NO. 1/5

JOB NO. 5150702 JOB 88 Toyon BY KNP DATE

CLIENT SUBJECT CHK'D DATE

Hillside Dissipater
Hydrology and Hydraulic Calculations

for

88 Toyon; Fairfax, CA

Prepared by:

Kristine N. Pillsbury signed on 4/12/18

CSWIST2
45 Leveroni Ct
Novato, CA 94949

Date of Proposal: April 12, 2018

ATTACHMENT D

CSW | ST
CSW/Stuber-Stroeh Engineering Group, Inc. 45 Leveroni Court, Novato, CA 94949 Tel 415.883.9850 Fax 415.883.9835
1310 Redwood Way, Suite 220, Petaluma, CA 94954 Tel 707.795.4764 www.cswst2.com

JOB NO. 5150700 JOB BB Tryon BY KNP DATE

CLIENT SUBJECT Hydraulic Calculations CHK'D DATE
Runoff Discharge

Find Flow depth and velocity on hillside for discharge of runoff from largest area tributary to a dissipator.

Area = 4007 SF = 0.09 Ac = Largest Area tributary to a dissipator.

C = 0.90 Assume impervious coverage

Tc = 5 minutes Minimum allowable time of concentration

I_{100} = 5.52 in/hr NOAA Atlas 14, Volume 6, Version 2

$Q_{100} = C_{100} I A$ = 0.90 (5.52 in/hr)(0.09 Ac) Rational Method

Q_{100} = 0.45 cfs

Minimum Dissipator length on plans = 10 LF

See Channel Report for 10 foot wide flow path using Hydraflow Express

For Q_{100} = 0.45 cfs

and 10 foot wide path of grass-lined surface

Manning's n = 0.035

Slope (from contours) = 50 %

Results: Q_{100} = 0.45 cfs
flow depth = 0.36 inches
velocity = 1.5 ft/s

Flow depth and velocity for runoff on the hillside from the largest tributary area, assuming discharge through 10 ft dissipator.

Channel Report

3/5

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, Apr 12 2018

Minimum length of Discipline on Sheet C1 = 10 LF

10foot wide overland path

Rectangular

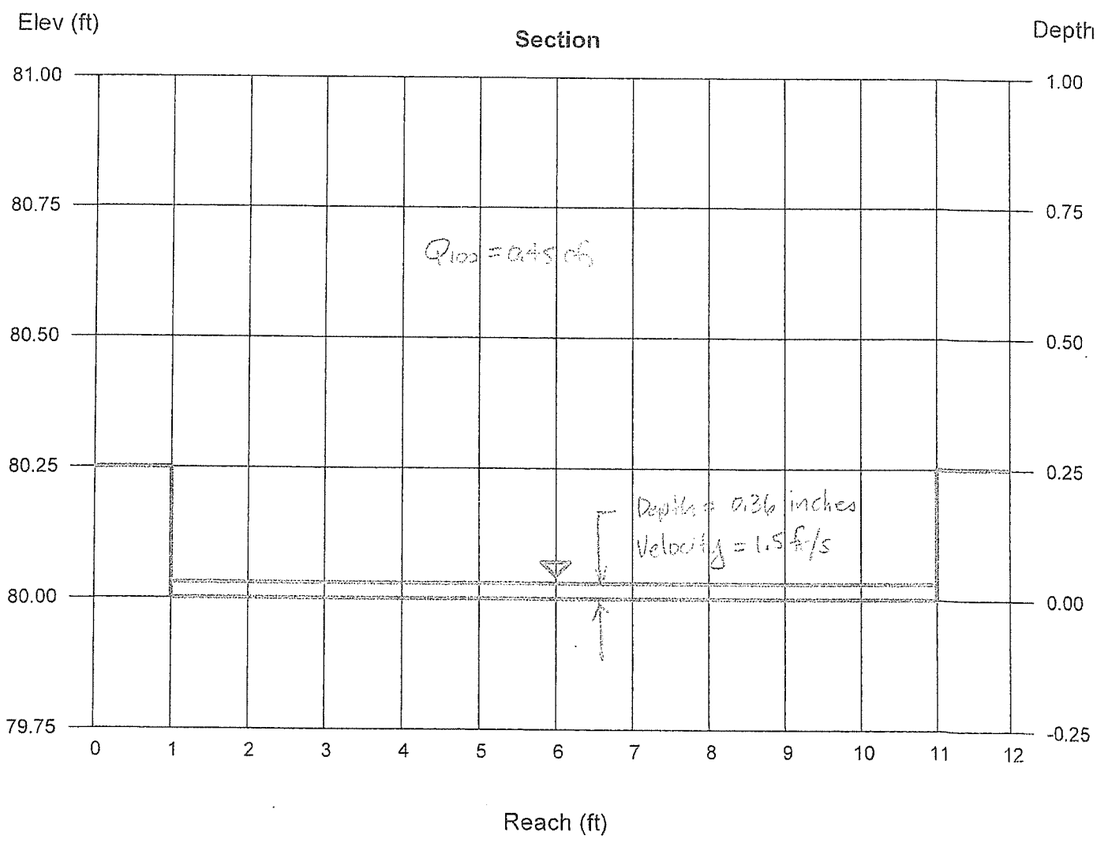
Bottom Width (ft)	= 10.00
Total Depth (ft)	= 0.25 ← Arbitrary depth input to allow calculation
Invert Elev (ft)	= 80.00 ← contour elevation below discipline
Slope (%)	= 50.00 ← hillside slope below discipline
N-Value	= 0.035 ← n-value, grass-short channel

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.45 ← Rational Method Calculation Q_{100} for largest area tributary to a discipline.

Highlighted

Depth (ft)	= 0.03 ← Result Flow depth on hillside = 0.03 ft = 0.36 in
Q (cfs)	= 0.450
Area (sqft)	= 0.30
Velocity (ft/s)	= 1.50 ← Result Flow velocity on hillside = 1.5 ft/s
Wetted Perim (ft)	= 10.06
Crit Depth, Yc (ft)	= 0.04
Top Width (ft)	= 10.00
EGL (ft)	= 0.06



Precipitation Frequency Data Server

4/5

NOAA Atlas 14, Volume 6, Version 2
Location name: Fairfax, California, USA*
Latitude: 37.9796°, Longitude: -122.6036°
Elevation: 491.34 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

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

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

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

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.93 (1.72-2.18)	2.36 (2.10-2.69)	2.98 (2.64-3.38)	3.50 (3.07-4.03)	4.26 (3.59-5.11)	4.88 (4.02-6.00)	5.56 (4.43-7.03)	6.28 (4.85-8.21)	7.32 (5.38-10.1)	8.17 (5.76-11.7)
10-min	1.38 (1.23-1.57)	1.69 (1.51-1.93)	2.13 (1.89-2.43)	2.51 (2.20-2.89)	3.05 (2.57-3.66)	3.50 (2.88-4.30)	3.98 (3.17-5.03)	4.50 (3.47-5.89)	5.24 (3.85-7.21)	5.86 (4.13-8.39)
15-min	1.11 (0.992-1.26)	1.36 (1.22-1.55)	1.72 (1.52-1.96)	2.02 (1.78-2.33)	2.46 (2.08-2.95)	2.82 (2.32-3.47)	3.21 (2.56-4.06)	3.63 (2.80-4.74)	4.23 (3.11-5.81)	4.72 (3.33-6.76)
30-min	0.864 (0.770-0.980)	1.06 (0.944-1.20)	1.33 (1.18-1.52)	1.57 (1.38-1.81)	1.91 (1.61-2.29)	2.19 (1.80-2.69)	2.49 (1.99-3.15)	2.82 (2.17-3.68)	3.28 (2.41-4.51)	3.67 (2.59-5.25)
60-min	0.623 (0.555-0.706)	0.764 (0.680-0.868)	0.962 (0.853-1.10)	1.13 (0.994-1.30)	1.38 (1.16-1.65)	1.58 (1.30-1.94)	1.80 (1.43-2.27)	2.03 (1.57-2.66)	2.37 (1.74-3.25)	2.64 (1.86-3.78)
2-hr	0.465 (0.414-0.527)	0.570 (0.507-0.647)	0.714 (0.634-0.814)	0.838 (0.735-0.964)	1.01 (0.854-1.22)	1.16 (0.950-1.42)	1.31 (1.04-1.66)	1.47 (1.14-1.92)	1.70 (1.25-2.34)	1.89 (1.33-2.71)
3-hr	0.400 (0.356-0.453)	0.490 (0.435-0.556)	0.612 (0.543-0.698)	0.717 (0.629-0.825)	0.865 (0.730-1.04)	0.985 (0.810-1.21)	1.11 (0.887-1.41)	1.25 (0.962-1.63)	1.44 (1.06-1.98)	1.59 (1.12-2.28)
6-hr	0.300 (0.267-0.340)	0.368 (0.328-0.418)	0.461 (0.409-0.525)	0.538 (0.473-0.620)	0.647 (0.545-0.775)	0.733 (0.602-0.901)	0.822 (0.656-1.04)	0.917 (0.708-1.20)	1.05 (0.771-1.44)	1.16 (0.814-1.65)
12-hr	0.209 (0.186-0.237)	0.261 (0.232-0.297)	0.331 (0.293-0.377)	0.388 (0.341-0.447)	0.467 (0.394-0.560)	0.529 (0.435-0.650)	0.592 (0.473-0.750)	0.659 (0.508-0.862)	0.749 (0.550-1.03)	0.820 (0.579-1.16)
24-hr	0.148 (0.134-0.168)	0.189 (0.170-0.214)	0.242 (0.217-0.275)	0.285 (0.254-0.327)	0.345 (0.298-0.407)	0.391 (0.331-0.470)	0.437 (0.363-0.539)	0.486 (0.393-0.614)	0.552 (0.429-0.724)	0.603 (0.454-0.817)
2-day	0.097 (0.087-0.110)	0.123 (0.110-0.139)	0.156 (0.140-0.178)	0.184 (0.164-0.211)	0.222 (0.192-0.262)	0.251 (0.213-0.302)	0.280 (0.232-0.345)	0.311 (0.251-0.393)	0.352 (0.274-0.462)	0.384 (0.289-0.520)
3-day	0.075 (0.067-0.084)	0.094 (0.085-0.107)	0.120 (0.107-0.136)	0.140 (0.125-0.161)	0.169 (0.146-0.199)	0.190 (0.161-0.229)	0.212 (0.176-0.261)	0.235 (0.190-0.297)	0.265 (0.206-0.348)	0.289 (0.218-0.391)
4-day	0.062 (0.056-0.070)	0.078 (0.070-0.089)	0.099 (0.089-0.113)	0.116 (0.104-0.133)	0.139 (0.120-0.164)	0.157 (0.133-0.189)	0.174 (0.144-0.214)	0.192 (0.155-0.243)	0.216 (0.168-0.284)	0.235 (0.177-0.316)
7-day	0.043 (0.039-0.049)	0.055 (0.049-0.062)	0.069 (0.062-0.079)	0.081 (0.072-0.093)	0.096 (0.083-0.113)	0.107 (0.091-0.129)	0.119 (0.098-0.146)	0.130 (0.105-0.164)	0.145 (0.112-0.190)	0.156 (0.117-0.211)
10-day	0.035 (0.032-0.040)	0.045 (0.040-0.051)	0.057 (0.051-0.065)	0.066 (0.059-0.076)	0.079 (0.068-0.093)	0.087 (0.074-0.105)	0.096 (0.080-0.118)	0.105 (0.085-0.132)	0.116 (0.090-0.152)	0.124 (0.093-0.168)
20-day	0.023 (0.021-0.026)	0.030 (0.027-0.034)	0.038 (0.034-0.043)	0.044 (0.039-0.050)	0.052 (0.045-0.061)	0.057 (0.048-0.069)	0.062 (0.052-0.077)	0.068 (0.055-0.085)	0.074 (0.057-0.097)	0.078 (0.059-0.106)
30-day	0.019 (0.017-0.021)	0.024 (0.022-0.028)	0.031 (0.028-0.035)	0.036 (0.032-0.041)	0.042 (0.036-0.049)	0.046 (0.039-0.056)	0.050 (0.042-0.062)	0.054 (0.044-0.068)	0.059 (0.046-0.077)	0.062 (0.047-0.084)
45-day	0.015 (0.014-0.018)	0.020 (0.018-0.023)	0.025 (0.023-0.029)	0.029 (0.026-0.033)	0.034 (0.029-0.040)	0.037 (0.032-0.045)	0.040 (0.033-0.050)	0.043 (0.035-0.055)	0.047 (0.036-0.061)	0.049 (0.037-0.067)
60-day	0.014 (0.012-0.016)	0.018 (0.016-0.020)	0.022 (0.020-0.025)	0.026 (0.023-0.029)	0.030 (0.026-0.035)	0.033 (0.028-0.039)	0.035 (0.029-0.043)	0.038 (0.030-0.048)	0.041 (0.032-0.053)	0.043 (0.032-0.058)

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

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

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

APN 003-081-24

C S W | S T

45 Leveroni Court
Novato, CA 94949
www.cswst2.com

415.893.9850
Fax: 415.893.9835

Novato
Petaluma
Redwood City
Sacramento

CSWStuber-Stroeh Engineering Group, Inc.

Engineers | Land Planners | Surveyors | Landscape Architects

Date: May 9, 2018
File: 5.1507.00

Mr. David Russell
88 Toyon Drive
Fairfax, CA 94930

Letter and Enclosures sent via email to
David Russell
davejrussell@gmail.com

RE: 88 TOYON DRIVE, FAIRFAX, CA

Dear Dave:

In response to the Town of Fairfax's letter from Linda Neal to Kenneth Holder dated March 22, 2018, which includes a memorandum from Ray Wrysinski, the Town Engineer dated March 14, 2018 we provide the following.

"Memo Comment" indicates a comment from the Town Engineer's memorandum to which we are providing a response.

1. (Memo Comment) "This survey must show easements both existing and proposed, as required by the Code, and a notation must be on the survey that all easements are shown."

   (Response)
   a. The location of the existing easement and the requested notation are now included in Sheet V1, the Topographic Map. Additionally, the easement is shown in Sheet C1, the Grading, Drainage and Utility Plan. There are currently no new easements proposed within the property boundary of 88 Toyon Drive.
   b. A note is provided in sheet C1 that the owner will coordinate to obtain an easement for the sanitary sewer lateral to be routed through neighboring property.
   c. Fairfax Municipal Code Section (Code Section) 17.072.080 (B) does not require easements to be shown in the topographic survey. Code Section 17.072.080 (C) requires existing and proposed easements to be shown in the Site Plan.

2. (Memo Comment) "The survey must show existing and new sanitary sewer, water and storm drain lines with their sizes."

   (Response)
   a. Existing locations and sizes of sanitary sewer, water and storm drain, where known, are provided in Sheet C1, the Grading, Drainage and Utility Plan. Proposed sanitary sewer, water and storm drain lines and their sizes are

provided in Sheet C1, the Grading, Drainage and Utility Plan. This is consistent with Code Section 17.072.080 (C).

3. (Memo Comment) "The location of the septic system must be shown."

   (Response)
   a. The approximate location of the existing septic system tank is shown on the Sheet C1. It is not known where the existing leach field is located. Notes 7, 8 and 9 on Sheet C1 are provided to indicate that the removal and/or abandonment of the existing septic system components are to be handled in accordance with the requirements of the Marin County Environmental Health Services department.

4. (Memo Comment) "Elevations on the contours must be shown."

   (Response)
   a. Elevations are now provided on the contours in Sheet V1, the Topographic Map.

5. (Memo Comment) "The submitted recorded Record of Survey has a disagreement on the dimension of the southerly property line when checked from sheet 1 of 2 to sheet 2 of 2. That must be corrected and the copy of the recorded correction must be provided to the Town for plan review and file record information."

   (Response)
   a. A Certificate of Correction has been recorded with the County of Marin for the dimension disagreement in the Record of Survey. A copy of the Certificate of Correction is included with this response letter.

6. (Memo Comment) "After the Record of Survey is corrected, the topographic survey boundary dimensions must be made to conform with the record of survey boundary dimensions in copies provided to the Town."

   (Response)
   a. Sheet V1 has been revised to include the boundary dimensions of the Record of Survey.

7. (Memo Comment) "The revised copies of that survey at the same scale as the project site plans (1"=8' and 1"=10') must be submitted so we can check existing conditions by overlaying the base topographic survey on the design site plans."

   (Response)
   a. For projects of this type, the surveyor typically prepares and issues one plan showing the results of the topographic survey. Sheet C1, which shows the

outline of the proposed site elements on top of a screened background of the Topographic Map, is prepared at the same scale as the Topographic Map.

8. (Memo Comment) "The project Civil Engineer must provide drainage flow calculations for the storm drain systems so that the 100-year storm flow design discharges will be known and can be used by the Geotechnical Engineer and the Town to evaluate the effect of that storm water flow on the hillside and downslope property."

   (Response)
   a. Drainage flow calculations for 100-year design storm discharge are included with this response and have been submitted to the project's Geotechnical Engineer.

9. (Memo Comment) "The Civil Engineer must provide information on the site material movement as noted above and noted to include a reasonable estimate for excavation from foundation drilled piers, excavations for new footings and retaining walls as described in the geotechnical report, imported material, granular material needed for retaining wall backdrain backfill and granular material needed for utility trench backfill" and; "The grading plan must include a reasonable estimate for the cubic yards of debris removal needed for this design."

   (Response)
   a. The grading quantities have been revised in Note No. 5 on Sheet C1 to additionally reflect materials associated with:
      i. material removed associated with trenching for a new waterline;
      ii. additional excavation of material to construct the storage enclosure under the carport;
      iii. material removed from behind proposed retaining walls to accommodate backdrain systems;
      iv. material removed to construct an assumed number of eleven 18"-diameter piers at 15 foot depth to support the addition on the east side of the house;
      v. removal of the existing foundation and foundation retaining walls under the house;
      vi. imported granular material for waterline construction;
      vii. imported granular material for the site retaining wall and house retaining wall backdrain systems;
      viii. imported granular material to smooth the grade under the new slab foundation for the house; and
      ix. imported granular material under the driveway, the carport and the storage enclosure floor.

10. (Memo Comment) "Retaining walls for site work, pool construction and for house support must be indicate on the plan at least for location and height."

(Response)

a. See Sheet C1 for location and height of retaining walls related to site work, pool construction and house support.

11. (Memo Comment) "The entire driveway surface for 88 Toyon Drive Willow [sic] must satisfy the requirements provided in the Uniform Standards All Cities and County of Marin Drawing No. 140 "Steep Driveway Design". The proposed driveway appears to be too steep. Profiles must be provided for at least each side of the driveway."

(Response)

a. The grading of the proposed driveway has been refined and a Driveway Centerline Profile is provided on Sheet C1 to show that the proposed driveway satisfies the requirements of the Uniform Construction Standards Drawing No. 140 "Steep Driveway Design" which is also a centerline profile. Slopes along the edge of the driveway, through the steepest section, are shown on Sheet C1 to be 25% or less.

12. (Memo Comment) "The erosion control plan states the storm water runoff will be directed to the City maintained storm drain system. This note must be revised to conform with what is proposed on the plan."

(Response)

a. The note has been revised on the Erosion Control Plan. See Sheet C3, Pollution Control Note No. 2.

Please let us know if there are questions.

Sincerely,

CSW/STUBER-STROEH ENGINEERING GROUP, INC.

Kristine N. Pillsbury

Kristine N. Pillsbury
R.C.E. #61685

Cc Kenneth Holder, Holder Architects, via email
Andrew Lopez, Holder Architects, via email

Enclosures
KNP;knp

MAR 9 4 2020

2020-0001107

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

02:19PM 09-Jan-2020

REC FEE	38.00
SB2 HOUSING	75.00
DA FRAUD FEE	10.00
a	
Page 1 of 9	

Recording requested by
and when recorded mail to:

David J. Russell
88 Toyon Drive
Fairfax, CA 94930

AP Nos.: 003-081-40
003-081-39

DOCUMENTARY TRANSFER TAX $ 0
____ Computed on the consideration or value of property conveyed; or
____ Computed on the consideration or value less liens or encumbrances remaining at time of sale.

Kenneth Holder
Signature of Declarant or Agent

Value less than $100

Space above this line for recorder's use

EASEMENT AGREEMENT

Preamble and Recitals

This Agreement is entered into on 09-11, 2018, by and between ALEXIS TATARSKY, hereafter referred to as "Grantor", and DAVID J. RUSSELL and STEPHANIE J. ARMSTRONG, hereafter collectively referred to as "Grantee".

A. Grantor is the owner of certain real property commonly described as 75 Woodland Road, Fairfax, Marin County, California (hereafter referred to as the "Servient Tenement"), and more particularly described in Exhibit A, which is attached to this Agreement and hereby incorporated by reference.

B. Grantee is the owner of certain real property commonly described as 88 Toyon Drive, Fairfax, Marin County, California (hereafter referred to as the "Dominant Tenement"), and more particularly described in Exhibit B, which is attached to this Agreement and hereby incorporated by reference.

C. Grantee desires to acquire certain rights in the Servient Tenement for a sewer easement as follows:

ATTACHMENT E

Grant of Easement

1. Grantor grants to Grantee an easement as hereafter described, subject to the terms of this Agreement.

Character of Easement

2. The easement granted in this Agreement is appurtenant to the Dominant Tenement.

Description of Easement

3. The easement granted in this Agreement shall be for an easement for the installation, maintenance, repair and/or replacement of a sewer line, sewer main and/or pipe. The easement shall be approximately five (5) feet in width and approximately one hundred forty-five (145) feet in length, and is more particularly described in Exhibit C, attached hereto and incorporated herein by this reference.

Secondary Easements

4. The easement granted in this Agreement includes the following incidental rights only: installation, maintenance, repair and/or replacement of said sewer line/pipe. In exercising these rights, Grantee must use reasonable care and must not unreasonably increase the burden on the Servient Tenement or make any material changes to the Servient Tenement.

Repair and Maintenance

5. (a) Grantee shall be responsible for all costs associated with the installation, repair, maintenance and replacement of the sewer line or pipe. Further, Grantee shall be responsible for all costs to restore and/or repair any and all damage, including, without limitation, consequential damages such as rental costs and professional fees, to the Servient Tenement, including any personal property located thereon, that may be required as a result of the installation, repair, maintenance or replacement of the sewer line/pipe, whether such damage is caused by Grantee or anyone acting on their behalf.

(b) Grantor grants to Grantee, and any persons acting on their behalf, permission to enter onto the easement and the Servient Tenement between the hours of 8:00 a.m. and 5:00 p.m., Monday through Friday, to perform the obligations contemplated by this Paragraph 5. Grantees may initiate work necessary to maintain or repair any improvements in the easement, but only after (a) consulting with Grantor concerning the necessity for and the nature and timing of such work, and (b) obtaining Grantor's written consent, which shall not be unreasonably withheld. Notwithstanding the foregoing sentence, Grantees may unilaterally undertake emergency repairs after giving to Grantor such notice as is reasonable under the circumstances. The parties hereto covenant and agree to use their best good faith efforts to cooperate with each other in the fulfillment of the obligations contemplated by this Paragraph 5.

(c) If Grantee does not initiate necessary repair or maintenance work to the improvements in the easement, including the sewer lines and/or pipes, within fifteen (15) days from

the date written notice is sent via U.S. mail to Grantee at the addresses indicated on page 1 of this Agreement (except, however, that for emergency repairs, only such notice as is reasonable under the circumstances shall be required), then Grantor may, but is not obligated to, unilaterally undertake such work. The notice shall describe the repairs contemplated, the anticipated cost thereof and the name(s) of the appropriate professional(s) consulted about the work. If Grantor undertakes such repair or maintenance work, in addition to any other sums that must be reimbursed to Grantor, Grantee shall also pay to Grantor as liquidated damages the sum of $2,500. The parties agree that the liquidated damages provision set forth in the preceding sentence is reasonable under the circumstances as of the time this Agreement was made.

(d) Any party entitled to reimbursement under this Agreement shall be entitled to payment within ten (10) days of presentation of a written demand therefore accompanied by copies of appropriate receipts, invoices, or other backup documentation. Any amounts not timely paid shall bear simple interest at the rate of ten percent (10%) per annum, or the highest rate permitted by law, whichever is less.

Term

6. The easement granted in this Agreement shall be in perpetuity, unless all parties agree to terminate the easement in a writing executed by all parties.

Nonexclusive Easement

7. The easement granted in this Agreement is nonexclusive. Grantor retains the right to make any use of the Servient Tenement, including the right to grant concurrent easements in the Servient Tenement to third parties that do not interfere unreasonably with Grantee's free use and enjoyment of the easement. Notwithstanding the foregoing sentence, if Grantor at any time wishes to install improvements on the Servient Tenement which requires the relocation of any or all sewer lines and/or pipes, Grantor may have the lines and/or pipes relocated, at Grantor's cost and expense, to a location on the Servient Tenement to be determined solely by Grantor, subject to the approval of all governmental agencies that have jurisdiction over such work.

Assignment

8. This Agreement, and the easement granted herein, shall be assignable to Grantee's successors, assigns and transferees and shall be fully binding upon Grantor and Grantor's successors, assigns and transferees. It is specifically understood and agreed that should Grantee sell his property, the purchaser thereof will continue to receive the benefits of this Grant of Easement.

Attorneys' Fees

9. If any legal action or proceeding arising out of or relating to this Agreement is brought by either party to this Agreement, the prevailing party shall be entitled to receive from the other party, in addition to any other relief that may be granted, the reasonable attorneys' fees, costs, and expenses incurred in the action or proceeding by the prevailing party.

EXHIBIT C

Commencing 2 feet easterly from the northwestern boundary of APN 003-081-40, 5 feet in width, and running in a generally southerly direction parallel to the western boundary line of APN 003-081-40, 145 feet, terminating at Woodland Court.

EXHIBIT A

LOTS 73, 74 AND 82, IN BLOCK 14, AS SHOWN UPON THAT CERTAIN MAP ENTITLED, "AMENDED MAP NO. 2 OF THE CASCADES", FILED FOR RECORD OCTOBER 11, 1921 IN VOLUME 5 OF MAPS, AT PAGE 14, MARIN COUNTY RECORDS.

THE ABOVE LEGAL DESCRIPTION IS PURSUANT TO THAT CORRECTED NOTICE OF MERGER RECORDED ON SEPTEMBER 25, 2014 AS INSTRUMENT NO. 2014-039898, MARIN COUNTY RECORDS.

EXHIBIT B

The land referred to is situated in the County of Marin, City of Fairfax, State of California, and is described as follows:

PARCEL ONE:

Lot 75 in Block 14 as shown on the Map entitled, "Amended Map No. 2 of the Cascades", recorded October 11, 1921 in Map Book 5 at Page 14, Marin County Records.

PART TWO:

The Northerly 30 feet, measured between parallel lines, of Lots 71 and 72 as shown on the Map entitled, "Amended Map No. 2 of the Cascades, Marin Co., Calif.", filed October 11, 1921 in Map Book 5 at Page 14, Marin County Records.

APN: 003-081-39

Mediation

10. In order to obtain the benefits of paragraph 9 hereof, the party who initiates any legal action or proceedings shall first endeavor to resolve the dispute by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be in writing and served on the other party(ies) to this Agreement via U.S. mail at the address(es) indicated on page 1 of this Agreement. There shall be no obligation to mediate if the other party(ies) does not consent to mediation within fifteen (15) days from the postmark of said notice.

Entire Agreement

11. This Agreement constitutes the entire agreement between Grantor and Grantee relating to the above easement. Any prior agreements, promises, negotiations, or representations not expressly set forth in this Agreement are of no force and effect. Any amendment to this Agreement shall be of no force and effect unless it is in writing and signed by Grantor and Grantee.

Binding Effect

12. This Agreement shall be binding on and shall inure to the benefit of the heirs, executors, administrators, successors, transferees and assigns of Grantor and Grantee.

Executed on 09-11, 2018.

GRANTOR:

ALEXIS TATARSKY

GRANTEE:

DAVID J. RUSSELL

STEPHANIE J. ARMSTRONG

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 the document

State of California)
)
County of Marin)

On Sept 11, 2018, before me, Donna Santiago Woods, Notary Public, personally appeared **DAVID J. RUSSELL and STEPHANIE J. ARMSTRONG**, 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.

Signature: _____

DONNA SANTIAGO WOODS
Commission # 2087298
Notary Public - California
Marin County
My Comm. Expires Nov 20, 2018

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 the document

State of California)
)
County of Marin)

On Sept. 14, 2018, before me, Hiroko Suzuki, Notary Public, personally appeared **ALEXIS TATARSKY**, 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.

Signature: Hiroko Suzuki

HIROKO SUZUKI
COMM. #2230689
Notary Public - California
Marin County
My Comm. Expires May 21, 2022

FOR RECOMMENDATION ONLY
(Addition 5090 garage / Remodel)

TOWN OF FAIRFAX

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

MAR 09 2020

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): David & Stephanie Armstrong (Russell)	DATE OF APPLICATION: 3-9-20
JOB ADDRESS/ASSESSOR'S PARCEL NO. IF SITE IS VACANT: 88 Toyon DR. Fairfax, CA	PHONE NUMBER: 707-266-2787
EMAIL ADDRESS: DavedRussell@gmail.com	FAX NUMBER:
PROPERTY OWNER'S ADDRESS IF DIFFERENT FROM ABOVE: 488 Las Colindas Rd. San Rafael	ALTERNATE PHONE NUMBER:

TREE INFORMATION

* See Pg. A1.2 + TPP
See Tree Preservation/Protection Plan.

SPECIES AND DESIGNATION OF HERITAGE/SPECIMEN/UNDESIRABLE TREE: - MULTIPLE - SEE Attached LIST + Pages No Fir	CIRCUMFERENCE BREAST HEIGHT: 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
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, .

ATTACHMENT F

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: Elite Tree Service	PHONE NUMBER: 415-515-4067
ADDRESS:	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.

X [signature]
Signature of Property Owner

3-4-20
Date

[AREA BELOW FOR STAFF USE ONLY]

Permit Number: 20-T-14	
Date Received: 3-9-20	Received by: S. Waters
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.

SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 6 PINES – UNDESIRABLE SPECIES –	**CIRCUMFERENCE BREAST HEIGHT:** T-1 (20.9" DIAMETER AT BREAST HEIGHT –DBH), T-2 (18.7" DBH), T-3 (28.7" DBH), T-6 (3.9" DBH), T-7 (5.2" DBH), T-9 (30" & 36" DBH)
	REASON FOR REMOVAL/ALTERATION FIRE SAFETY
SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 2 OAK - HERITAGE	**CIRCUMFERENCE BREAST HEIGHT:** T-5A (8.0" & 13.2" DBH) – DECAY/FAILURE T-13 (15.8" DBH) – BEETLES/CLOSE TO ROOF
	REASON FOR REMOVAL/ALTERATION FIRE/LACK OF STABLITY
SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 12 BAYS – HERITATE PER CODE/UNDESIRABLE PER FIRE	**CIRCUMFERENCE BREAST HEIGHT:** T-11A (6.3" DBH), T-11B (5" DBH), T-12A (4" & 7.3" DBH), T-12B (6" DBH), T-14A (3" DBH), T-14B (3" DBH), T-15 (6" DBH), T-16 (4" DBH), T-17 (5.6" DBH), T-24B (4" DBH), T-34 (2", 3" & 4" DBH), T-36 (16" DBH)
	REASON FOR REMOVAL/ALTERATION FIRE
SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 1 TOYON - HERITAGE	**CIRCUMFERENCE BREAST HEIGHT:** 19b (5" DBH)
	REASON FOR REMOVAL/ALTERATION FIRE LADDER FUEL/STRESSED
SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 2 SCOTCH PINES	**CIRCUMFERENCE BREAST HEIGHT:** T-31 (4" DBH), T-33 (15.2" DBH)
	REASON FOR REMOVAL/ALTERATION FIRE, T-33 CLOSE TO HOUSE
SPECIES AND DESIGNATION OF HERITAGE/SPECIMENT/UNDESIRABLE TREE 1 CEDAR	**CIRCUMFERENCE BREAST HEIGHT:** T-32 (17.5" DBH)
	REASON FOR REMOVAL/ALTERATION WITHIN FOOTPRINT OF PARKING/DRIVEWAY

URBAN FORESTRY ASSOCIATES, INC.
8 Willow Street San Rafael, CA 94901
(415) 454-4212 info@urbanforestryassociates.com

TREE PRESERVATION / PROTECTION PLAN

for
88 Toyon Drive Fairfax, CA 94930
APN 003-081-39

Prepared for:
Mr. David Russel
Property Owner
davejrussell@gmail.com

Prepared by:
Urban Forestry Associates
8 Willow St.
San Rafael, CA
415.454.4212
info@urbanforestryassociates.com

Contents

SUMMARY ____ *3*

PURPOSE ____ *4*

OBSERVATIONS ____ *4*

Treatment of Multi-Stemmed Trees ____ 4

Tree Descriptions ____ 4

Specific Areas of Concern ____ Error! Bookmark not defined.

SCOPE OF WORK / LIMITATIONS ____ *12*

TREE WORK STANDARDS AND QUALIFICATION ____ *12*

INSPECTION SCHEDULE ____ *12*

ARBORIST'S CHECKLIST ____ *13*

SOURCES ____ *15*

APPENDIX A ____ *16*

APPENDIX B ____ *19*

SUMMARY – Number of trees and (Tree #)

Total trees to be removed: **25**

Trees to be removed for fire risk:**17** (6, 7, 11a, 11b, 12a, 12b, 14a, 14b, 15, 16, 17, 19b, 24b, 31, 33, 34 & 36).

Trees to be removed for poor health and/or structure threat: **7** (1, 2, 3, 5a, 9, 13 (structure and fire risk).

Trees to be removed for proposed construction: **1** (32)

Heritage trees to be removed: **3** (5a, 13, 19b)

PURPOSE

Urban Forestry Associates (UFA) was hired to inspect the trees at 88 Toyonat the request of David Russel. The purpose was to assess the condition of the trees and provide a prognosis on tree health, vigor, structural stability and potential impacts to the trees resulting from the proposed development of the property. This report documents the health and structural condition of the tree and provides our conclusions and recommendation in accordance with the Town of Fairfax tree ordinance. The trees described below are those to be removed and those of specific concern. Given the location of this property in the WUI particular attention was to fire safety.

OBSERVATIONS

Treatment of Multi-Stemmed Trees

In the event of multi-stemmed trees that fork at or near grade, the DBH was taken of up to three of the largest stems and entered in order from largest to smallest. The largest single stem diameter was then summed with half the diameter of any additional stems up to a total of three.

For example:

Three stems sized: 5", 4" & 4"

Would be calculated as: 5 + (4×0.5) + (4×0.5) = 5 + 2 + 2 = **9" DBH**.

We have found this to be a fair method of approximating multi-stemmed trees and far superior than simply adding each diameter or each circumference, as is done in ordinances of several local cities. This practice makes heritage size trees out of shrubs with twenty, 2" stems.

Tree Descriptions – ***Hertitage and Undesireable Trees are as defined in the Town Tree ordinance***
On this WUI site high in the hills immature California Bay Laurel is "Undesirable"

Tree 1 – Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	20.9" DBH
Location	On berm between the Driveways of 88 and 78 Toyon (See Arborist Map)
Condition	Poor, sparse canopy, excessive deadwood, no beetles, but stressed and more failure prone.
Fire Risk	High. Monterey pine is a fire-prone species and stressed trees are exceptionally fire-prone.
Conclusions	This tree is in decline and a high fire risk.
Recom'ds	Remove,

Tree 2 – Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	18.7" DBH
Location	At the north end of the berm, adjacent to the road (See Arborist Map).
Condition	Beetles, poor form , over-extended branches, lean and asymmetry to the north over the road
Fire Risk	High. Monterey pine is a fire-prone species and stressed trees are exceptionally fire-prone.
Conclusion	Stress, beetles, and exposed roots indicate that this tree is a high failure and fire risk.
Recom'ds	Remove

Tree 3 – Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	28.7" DBH
Location	Over-extended limbs over Toyon Road and 78 driveway (See Arborist Map)
Condition	Exposed roots stressed. Over-extended limbs target the neighbor's driveway and the road.
Fire Risk	This tree is stressed and therefore more flammable.
Recom'ds	Remove

Tree 4 – Heritage Tree

Species	*Quercus agrifolia* (Coast Live Oak)
Size	14.8" & 19.5" DBH
Location	It 2' up the berm slope from a utility pole.
Condition	Good health and structure
Fire Risk	Not a significant contribution to a potential fire.
Conclusion	This tree should be preserved and protected during demolition and construction
Recom'ds	Protect roots during any demolition and construction. If any trucks or heavy equipment is used within 1.25 times the maximum canopy radius of the tree, the soil should be armored (See Appendix)

Tree 5a – Heritage Tree

Species	*Quercus agrifolia* (Coast Live Oak)
Size	8.9" & 13.2" DBH
Location	Approximately 8 feet below Tree 4 and 5.5 feet north of Tree 5b (See Arborist Map).
Condition	Sever decay in the base resulted in failure. Currently leaning into next oak, Tree 5b.
Fire Risk	This tree is water stressed due to decay and partial failure, increased flammability
Conclusion	This tree has failed and is damaging Tree 5b.
Recom'ds	Remove to abate the risk of further failure and to preserve Tree 5b, and fire safety.

Tree 5b – Heritage Tree

Species	*Quercus agrifolia* (Coast Live Oak)
Size	19.3" and 11" DBH
Location	Approximately 8 feet below Tree 5a (See Arborist Map).
Condition	Good health and structure but will be damaged if Tree 5a is not removed.
Fire Risk	Not significant
Conclusion	This tree will be damaged by Tree 5a if 5a is not removed in the near future.
Recom'ds	Preserve.

Tree 6 – Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	3.9" DBH
Location	In south end of a planter bounded by the front fence and the semicircular driveway.
Condition	Poor Form and poor vigor.
Fire Risk	Significant brush layer, fire-prone fuel
Recom'ds	Remove for fire safety

Tree 7 – Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	5.2" DBH
Location	In north end of a planter bounded by the front fence and the semicircular driveway.
Condition	Poor Form and poor vigor.
Fire Risk	Significant brush layer, fire-prone fuel
Recom'ds	Remove for fire safety

Tree 8 – Heritage Tree

Species	*Quercus agrifolia* (Coast Live Oak)
Size	About 13" and 24" DBH
Location	At the north end of the circular driveway close to the north fence line and near the stairway.
Condition	The canopy is sparse consisting largely of epicormics sprout growth. There is a lot of dieback.
Fire Risk	Not significant at this time but will increase if there is further decline.
Conclusions	The health of this tree is questionable and further investigation is warranted.
Recom'ds	Conduct a root crown excavation and inspection. If retained, monitor annually for root disease.

Tree 9 - Undesirable Tree

Species	*Pinus radiata* (Monterey Pine)
Size	30" & 36" DBH
Location	4' from north neighbor's foundation
Condition	Sparse canopy, dieback of 2017 growth, lean and balance to the south toward the #88 home.
Fire Risk	This tree is a fire-prone species and highly stressed. Stress increases the flammability.
Conclusions	This tree is a high risk for structural failure of branches and fire transmission to the home.
Recom'ds	Remove to abate the high risk

Tree 10

Species	*Sequoia sempervirens* (Redwood)
Size	8.3" DBH
Location	About 3 ft. east of the southeast corner of the #88 home and 10 ft. north of the #88 deck.
Condition	Very Good
Fire Risk	Not significant.
Conclusion	This is a good screen and amenity tree for the Wildland Urban Interface (WUI fire zone)
Recom'ds	Protect with trunk and soil armoring

Note: The wood screen and bamboo along the east side of the deck increase the likelihood of home ignition in a fire event. Decks are heat traps and the screening increases the ignition potential.

Tree 11a – Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	6.3" DBH
Location	Down slope (east of) from the northeast end of the deck
Condition	Poor, stunted and water stressed. It has a severe lean to the north, lowering fine "ladder fuels".
Fire Risk	Significant, California Bay Laurel has a high volatile oil content and is quite fire-prone, particularly on droughty ridges and high slopes. The lean lowers the fine fuels toward the ground fuels.
Conclusion	This tree does not provide significant habitat or other environmental or amenity services.
Recom'ds	Remove for fire safety.

Tree 11b – Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	5" DBH
Location	Down slope, about 16 feet east of, the northeast end of the deck
Condition	Stunted and water stressed.
Fire Risk	Significant, California Bay Laurel has a high volatile oil content and is quite fire-prone, particularly on droughty ridges and high slopes. It adds fire-prone brush layer fuels to the area below the deck.
Conclusion	This tree does not provide significant habitat, other environmental or amenity services.
Recom'ds	Remove for fire safety.

Fire Note: There is a small diameter bay clump below Trees 11a and 11b. The clump contains 1 oak sapling. I recommend that the bays in this clump be removed for fire safety.

Tree 12a – Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	4" and 7.3" DBH bay clump
Location	3 feet below (east of) Tree 13 and about 12 feet down slope of the deck.
Condition	Poor, stunted and stressed. Leaves have symptoms *of Phytophthora ramorum* (SOD) infection. Bay is the an alternate host of this disease.
Recom'ds	Remove for fire safety.

Tree 12b– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	6" DBH
Location	3 feet below (east of) Tree 13 and about 12 feet down slope of the deck.
Condition	Poor, stunted and stressed
Fire Risk	Fire-prone species
Recom'ds	Remove for fire safety

Tree 13 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	15.8" DBH
Location	On the slope about 8 feet below the below the deck.
Condition	Western oak Bark beetles have infested the base of the tree. The adjacent bay has leaf symptoms of SOD (*Phytophthora ramorum*). It has a severe lean up slope over the deck, almost in contact with the deck beams and against the roof overhang.
Fire Risk	This tree is a high fire risk. Its canopy is at elevations: below the deck, just above the deck below the roof overhang and against the overhang.
Conclusions	This tree has both stability issues, fire issues and the borer attack may indicate SOD issues.
Recom'ds	Remove

Tree 14a– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	3" DBH
Location	4 feet across slope south of Tree 13
Condition	Poor, stunted, sparse.
Fire Risk	"ladder fuel" to Tree 13
Conclusions	This tree has no positive value and contributes to fire risk.
Recom'ds	Remove

Tree 14b– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	3" DBH
Location	8 feet southeast of Tree 14a
Condition	Poor, stunted, sparse.
Fire Risk	"ladder fuel" and alternate host of SOD
Conclusions	This tree has no positive value and contributes to fire risk.
Recom'ds	Remove

Tree 15– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	6" DBH
Location	Just inside the property line about 12 ft. south of Tree 4b and about 5 ft. east of the PL. Corner.
Condition	Suppressed by Tree 18
Fire Risk	"Ladder fuel" to Tree 18 canopy
Conclusion	Fire hazard and alternate host of SOD
Recom'ds	Remove

Tree 16– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	4" DBH
Location	About 12 feet east southeast of Tree 14b and east northeast of Tree 15
Condition	Stunted, sparsely foliated
Fire Risk	Brush layer fire prone species
Recom'ds	Remove to provide defensible space and fire risk reduction

Tree 17– Undesirable Tree

Species	*Umbellularia californica* (Bay)
Size	5.6" DBH
Location	Outside the property line adjacent to the Tree 18 horizontal limb. 6' north of Tree 18
Condition	Over-topping Tree 18 branches.
Fire Risk	"Ladder fuel" to Tree 18
Recom'ds	Remove

Note: There is a mature size Toyon about 6 feet west of Tree17, possibly outside the property line.
Recommendation: Remove to disrupt fuel continuity.

Tree 18 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	20" DBH
Location	About 8 feet outside the property line, about one foot west of the east fence line.
Condition	Bleeding on south side (top) of trunk at DBH and below DBH. Severe lean to north.
Fire Risk	Trees with severe leans place the fine twigs and leaves (available fuels) close to ground fuels.
Conclusions	This tree very likely has contracted SOD and is a high fire risk due to both form and condition.
Recom'ds	Inform neighbor of SOD symptoms and high fire risk.

Tree 19a - Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	4.8" & 7.7" DBH
Location	10 feet west of Tree 18
Condition	Fair, somewhat suppressed by Tree 18.
Fire Risk	Moderate
Recom'ds	Protect, limb up and crown clean

Tree19b– Heritage

Species	Toyon (*Heteromeles arbutifoliua)*
Size	5" caliper (6" a.g.)
Location	Approximately 10 feet west of Tree 19a
Condition	Fair, somewhat suppressed
Fire Risk	Ladder fuels (shrub layer)
Conclusion	Contributes to fuel continuity
Recom'ds	Remove

Tree 20– Undesirable Tree

Species	*Quercus agrifolia* (Coast Live Oak)
Size	15.6" & 13.1" & 11.9" DBH
Location	About 14 feet west of the southeast property corner and south of the property line.
Condition	Good
Fire Risk	Remove ground fuels below canopy
Recom'ds	Protect during demolition and construction.

Tree 21 - Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	8" DBH
Location	About 4 feet below (south of) the east end of the wood retaining wall.
Condition	Good
Fire Risk	Moderate, crown raising and "crown cleaning" required to reduce fire risk
Conclusion	This tree requires protection during demolition and construction.
Recom'ds	Provide trunk and root armoring

Tree 22a - Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	11.6" DBH
Location	Abut 9 feet below retaining wall
Condition	Staining at north base
Fire Risk	Need to clean up south slope by removing ground and 'ladder" fuels and limb up trees.
Conclusion	This slope requires fire risk reduction
Recom'ds	Limb up and monitor staining for SOD symptoms

Tree 22b

Species	*Quercus agrifolia* (Coast Live Oak)
Size	5.6" DBH
Location	Very close to the base of the wood retaining wall about 4 feet upslope (north) of Tree 22.
Condition	Good
Fire Risk	Moderate, crown raising and "crown cleaning" required to reduce fire risk
Conclusion	This tree requires protection during demolition and construction.
Recom'ds	Provide trunk and root armoring

Tree 23– Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	10.8" DBH
Location	At base of retaining wall and fill soil for pool deck, about 12 feet west of Tree 22
Condition	Good, but wall and fill soil on north root system.
Fire Risk	Moderate, crown raising and "crown cleaning" required to reduce fire risk
Recom'ds	Raise and clean tree canopy

Tree 24a - Heritage

Species	*Arbutus menziesii* (Pacific Madrone)
Size	8" DBH
Location	About 5' south of the property line, about 12 feet west of Tree 22 (See Arborist map).
Condition	Poor, the top died back and a south extending branch has assumed the role of leader.
Fire Risk	Low, fire resistant species
Conclusions	This tree will ultimately fail. It is the neighbor's tree.
Recom'ds	None

Tree 24b– Undesirable Tree

Species	*Umbellularia californica* (California Bay Laurel)
Size	4" DBH
Location	Against retaining wall support structure above Madrone Tree #24
Condition	good, fairly good vigor.
Fire Risk	Significant, Ladder fuel.
Recom'ds	Remove and kill stump

Tree 25 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	8.7" & 22" DBH
Location	On Property line, co-tenancy tree at west end of retaining wall
Condition	Good
Fire Risk	Excessive internal deadwood
Recom'ds	Crown raise (limb up) and clean crown for fire resistance.

Tree 26 – Heritage

Species	*Heteromeles arbutifolia* (Toyon)
Size	6" DBH

Location	3 feet south of property line, about 5 feet southwest of Tree 25
Condition	Fair.
Fire Risk	Moderate ladder fuel
Recom'ds	NA

Tree 27 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	10" DBH
Location	On property line, co-tenancy tree
Condition	Fair,
Fire Risk	Excessive dead wood
Recom'ds	Crown raise canopy, (Limb up) and crown clean, removing internal deadwood

Tree 28 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	10.7" DBH
Location	5 feet northwest of Tree 27,
Condition	Very good
Fire Risk	Low but could raise crown and crown clean to make fuels less accessible to a potential fire.
Recom'ds	Provide trunk and soil protection during demolition and construction. Fire safety pruning.

Tree 29 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	8" DBH
Location	Below (south of) property line on neighbor's property
Condition	Dying bark checking and exfoliation. Possibly SOD infection.
Fire Risk	High, senescent trees are highly fire-prone and increase ground fuel when they fail.
Recom'ds	Inform neighbor of tree health and fire risk condition.

Tree 30 – Heritage

Species	*Quercus agrifolia* (Coast Live Oak)
Size	11.7" & 12" DBH
Location	Near southwest property corner, about 14 feet northeast of Tree 29, close to S. property line.
Condition	Very good condition
Fire Risk	Low
Recom'ds	Preserve

Tree 31– Undesirable Tree

Species	c.f. *Pinus sylvestris* (Scotch Pine)
Size	4" DBH
Location	Up northwest fence line about 15 feet above Tree 25
Condition	Stunted
Fire Risk	A pine with low foliage is a significant fire risk
Recom'ds	Remove

Tree 32

Species	*Cedrus atlantica* (Atlas Cedar)
Size	17.5" DBH
Location	Along the circular driveway about 12 feet south of pine Tree 33
Condition	Good, health and structural condition
Fire Risk	Not significant.
Conclusion	It is within the footprint of the proposed garage.
Recom'ds	None, It is nonnative and proposed for removal.

Tree 33– Undesirable Tree

Species	c.f. *Pinus sylvestris* (Scotch Pine)
Size	15.2" DBH
Location	On the planted slope above the pool west end of the pool deck.
Condition	Fair condition but very close to the house
Fire Risk	Highly significant, This fire-prone tree is too close to the house.
Recom'ds	Remove for defensible space

Tree 34

Species	*Afrocarpus / Podocarpus*(Fern Pine)
Size	2", 4", 3" caliper
Location	In the center of the west planting ares above the west pool deck.
Condition	Poor due to improper pruning and maintenance
Fife Risk	Unknown
Conclusion	This plant is so badly damaged It is not worth keeping.
Recom'ds	Remove.

Tree 35

Species	*Acer palmatum* (Japanese Maple)
Size	10" Caliper
Location	In the southwest corner of the pool area.
Condition	Good
Fire Risk	Highly fire resistant.
Recom'ds	Provide tree protection during demolition and construction.

Tree 36– Undesirable Tree

Species	c.f. *Pinus sylvestris* (Scotch Pine)
Size	16" DBH
Location	Adjacent to stairs down to pool area south of the house.
Condition	Fair
Fire Risk	High risk of transmitting fire to the house.
Conclusion	This tree is inappropriate for the location. It is an "ember catcher" and its branches overhang the house.
Recom'ds	Remove for fire safety.

Ray Moritz, Urban Forester SAF Cert #241
ISA Certified Tree Risk Assessor

SCOPE OF WORK / LIMITATIONS

Information regarding property boundaries, land ownership, and tree ownership was evident from a land survey, property fencing and/or provided by the client. UFA has no personal or monetary interest in the outcome of this matter. All determinations reflected in this report are objective and to the best of our ability. All observations regarding the sites and trees were made by UFA personnel, independently, based on our education and experience. Determinations of the health and hazard potential of the subject trees are through visual inspection only and of our best professional judgment.

The health and hazard assessments in this report are limited by the visual nature of the assessment. Defects may be obscured by soil, brush, vines, aerial foliage, branches, multiple trunks or other trees. None of the subject trees were examined using invasive techniques such as increment coring or Resistograph® tests. The probability of tree failure is dependent on a number of factors including: topography, geology, soil characteristics, wind patterns, species characteristics (both visually evident and concealed), structural defects, and the characteristics of a specific storm. Structurally sound, healthy trees fail during severe storms. Consequently, a conclusion that a tree does not require corrective surgery or removal is not a guarantee of no risk, hazard, or sound health.

TREE WORK STANDARDS AND QUALIFICATION

All tree work, removal, pruning, planting, shall be performed using industry standards as established by the International Society of Arboriculture. Contractor must have a State of California Contractors License for Tree Service (C61-D49) or Landscaping (C-27) with general liability, worker's compensation, and commercial auto/equipment insurance.
Contractor standards of workmanship shall adhere to current Best Management Practices of the International Society of Arboriculture (ISA) and the American National Standards Institute (ANSI) for tree pruning, fertilization and safety (ANSI A300 and Z133.1).

INSPECTION SCHEDULE

Meeting at Site: Prior to demolition of any structures, pavement or landscape features: The arborist will meet at the site with the architect, demolition contractor, excavator, general contractor and possibly engineer. The arborist shall mark the locations of fencing and/or armoring. No demolition or soil movement shall take place until the No Intrusion Zone or recommended Tree Protection is in place.

Meeting at site: Prior to Equipment and Materials Move In, Site Work, Demolition and Tree Removal: The Project Arborist will meet with the General Contractor, Architect / Engineer, and Owner or their representative to review tree preservation measures, designate tree removals, delineate the location of tree protection / non-intrusion zone fencing, specify equipment access routes and materials storage areas, review the existing condition of trees and provide any necessary recommendations.

Inspection of site: After installation of NIZ fencing: Inspect site for the adequate installation of tree preservation measures. Review any requests by contractor for access, soil disturbance or excavation areas within root zones of protected trees. Assess any changes in the health of trees since last inspection.

Inspection of site: During excavation or any activities that could affect trees: Inspect site during any activity within the Non-Intrusion Zones of preserved trees and any recommendations implemented. Assess any changes in the health of trees since last inspection.

Final Inspection of Site: Inspection of site following completion of construction: Inspect for tree health and make any necessary recommendations.

ARBORIST'S CHECKLIST

- An urban forester, certified or consulting arborist shall establish the Tree Protection Zone (TPZ) prior to starting the demolition work. Four foot high wire deer fencing will be erected by the contractor and inspected by the arborist to limit access to the TPZ. This will protect the trunk and root zone throughout construction.

- The Arborist shall have a pre-demolition meeting with contractor or responsible party and all other foremen or crew managers on site prior to any work to review all work procedures, access and haul routes, and tree protection. The contractor must notify the Arborist if roots are exposed or if trunk or branches are wounded.

- Any trunk and root crown that is not protected by a TPZ where heavy equipment operation is likely to wound the trunk, install a barrel stave-like trunk wrap out of 2 X 4 studs connected together with metal straps, attached to the 2 X 4's with driver screws or 1" nails. The arborist shall oversee the installation of the trunk protection.

- Storage of equipment shall be on asphalt or ground protected by mulch / plywood in an area specified by the arborist in conjunction with the contractor or responsible party prior to the initiation of any demolition or construction activity.

- Heavy equipment use should be limited around trees and the roots. No equipment may be transported or used on bare ground within the root zone. A 6" layer of mulch and plywood must be placed under the path for access and egress. The protective "bridge' shall be maintained by the contractor and regularly inspected by the arborist.

- Any damage to trees due to demolition or construction activities shall be reported to the arborist within 6 hours, so that remedial action can be taken. Any damage done to the trees in violation of the contract agreement shall be appraised as a casualty loss by the arborist and provided to the tree owner.

- All trenching within the critical root zone shall be done pneumatically or by hand.

- An arborist shall over-see all grading, trenching, tunneling or other excavation within the root zones of trees.

- No chemicals or other waste materials shall be dumped in the root zone of this tree. There shall be no material storage in the.

- Pier and at-grade beam foundation construction should be used around the tree to avoid root damage. The soils shall be probed by the Arborist prior to drilling for piers to avoid major roots. Any minor roots (<3.5") encountered should be cut cleanly with a saw after excavation.

- Patios and walks shall be constructed out of permeable materials on a well-aerated base, such as "Cornell Mix". Radiating, horizontal perforated pipes shall be placed at the pavement base/native soil interface, with vertical air outlets, if the above mix cannot be used.

- Chimneys and other heat vents shall be screened and terminated or provided a trimmed clearance at lnorth 10 feet from branches and foliage (See local fire codes).

- Any tree pruning will be done in accordance with ISA standards. <u>All pruning will be supervised by the arborist.</u>

- The soil and drainage shall be rehabilitated and all debris removed after construction.

- The arborist must perform a final inspection to insure that no unmitigated damage has occurred and to specify any pest, disease or other health care. The arborist shall specify and oversee any necessary restorative actions.

- A supplementary irrigation system designed by the Arborist shall be installed where necessary.

- The arborist shall advise the homeowner on landscaping. Landscaping shall conform to arboricultural guidelines.

- Any suspected omissions or conflict between various elements of the plan shall be brought to the attention of the arborist and resolved before proceeding with the work.

SOURCES

- Field Inspections performed by Urban Forestry Associates
- Town of Fairfax Tree Ordinance

APPENDIX A

§ 8.36.080 CONSTRUCTION; TREE PROTECTION PLAN.

(A) In order to protect trees during construction of a project, and to maximize chances for their subsequent survival, a Tree Protection Plan (hereafter TPP) shall be required for all applications for a tentative map, use permit, variance, design review, encroachment permit, or building permit where proposed construction would be located near any tree for which a tree alteration or removal permit would be required by the provisions of this chapter, whether on the subject property or an adjoining property.

(B) The TPP shall be prepared by a Qualified Arborist. The TPP shall include

(1) The size, species, state of health, structural condition, crown diameter, and accurate trunk location and architectural structure of all trees within, and directly adjacent to, the proposed development are, including any area where trenching is proposed, whether on the subject property or on adjoining property; and

(2) A description of all proposed measures to ensure the survival of remaining trees throughout the entire development process.

§ 8.36.010 PURPOSE.

The town derives much of its character and beauty from its large trees and natural setting. Significant portions of the town are forested with **redwood, oak, bay, madrone, Douglas fir, pine and other native tree species**. The preservation of these trees enhances the town's natural scenic beauty and enhances the quality of the community. In addition, these trees help prevent the erosion of topsoil, protect against flood and landslides, reduce carbon dioxide, counteract the pollutants in the air, create wildlife habitat, maintain the climatic balance, and decrease wind velocities. Therefore, it is necessary for the health and welfare of the citizens of the town to enact regulations controlling removal and preservation of trees within the town.

(Ord. 743, passed 7-1-2009)

§ 8.36.020 DEFINITIONS.

For the purposes of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning:

BREAST HEIGHT. Four and one-half feet above lowest grade. All circumference measurements shall be taken at Breast Height.

CIRCUMFERENCE BREAST HEIGHT. The circumference of a tree at four and one-half feet above lowest grade at the base of a tree.

COMMITTEE. The Tree Advisory Committee.

DIAMETER BREAST HEIGHT. The diameter of a tree trunk at four and one-half feet above the lowest grade at the base of the tree.

DIRECTOR. The Director of Planning and Building Services, or, in his or her absence, another member of the Planning and Building Services Department as designated by the Town Manager.

EMERGENCY. An immediate threat to life or an immediate and significant threat to property.

HERITAGE TREES. Significant, locally native tree species that are critical to urban and wildland forest habitats.

Heritage trees include the following:

Bigleaf Maple (Acer macrophyllum)	25 "circumference/ approx. 8"diameter
Bishop Pine (Pinus muricata)	38" circumference/ approx. 12" diameter
California Bay Laurel (Umbellularia californica)	50" circumference/ approx.16: diameter
California Buckeye (Aesculus californica)	25" circumference/ approx. 8" diameter
California Nutmeg (Torreya California)	12" circumference/ approx. 4" diameter
California sycamore (Platanus recemosa)	25" circumference/ approx. 8" diameter
Coast Redwood (Sequoia sempervirens)	38" circumference/ approx. 12" diameter
Douglas Fir (Pseudotsuga menziesii)	38" circumference/ approx. 12" diameter
Giant Chinquapin (Castanopsis chrysophylla)	12" circumference/ approx. 4" diameter
Madrone (Arbutus menziesii)	25" circumference/ approx. 8" diameter
Oak (Quercus-all native species)	25" circumference/ approx. 8" diameter
Oregon Ash (Fraxinus latifolia)	25" circumference/ approx. 8" diameter
Red Alder (Alnus oregona)	25" circumference/ approx. 8" diameter
Sargent cypress (Cupressus sargentii)	25" circumference/ approx. 8" diameter
Tanbark Oak (Lithocarpus densiflora)	25" circumference/ approx. 8" diameter
Toyon (Heteromeles arbutifolia)	12" circumference/ approx. 4" diameter
White Alder (Alnus rhombifolia)	25" circumference/ approx. 8" diameter

QUALIFIED ARBORIST. A Certified Arborist, a Certified Urban Forester, a Registered Consulting Arborist, or a Registered Professional Forester (RPF). Arborists must be certified by the International Society of Arborists (ISA). A Qualified Arborist must have a Fairfax Business License and be insured.

SPECIMEN TREE. Trees that, while not heritage trees, nonetheless make a significant aesthetic or environmental contribution to their immediate surroundings. ***SPECIMEN TREES*** can be undesirable tree species.

TOWN. The Town of Fairfax.

TREE. Any woody perennial plant characterized by having one or more trunks, any one of which has a diameter of four inches (circumference of 12 inches) or more, measured at four and one-half feet above existing lowest grade at the base of the tree.

TREE ALTERATION. Actions taken by cutting or pruning any tree (branches, trunks, roots), or by filling, surfacing, grading, compacting or changing the drainage pattern of the soil around any tree in a manner that threatens to diminish the vigor of the tree; provided that, as used in this chapter, the term ***ALTERATION*** does not include:

(1) Normal seasonal trimming, shaping, thinning or pruning of a tree necessary to its health and growth, and within national pruning standards as defined in the ANSI 300A Standards and by the International Society of Arboriculture pruning standards;

(2) Trimming, pruning or clearance of tree branches from lines of any public utility necessary to the maintenance of the lines; and

(3) Trimming, clearing or pruning by the Director of Public Works of any tree necessary for:

(a) The clearance of streets for pedestrian or vehicular traffic; or

(b) Compliance with fire, building and wildland urban interface codes as adopted by the town.

(4) Trimming, clearing or pruning required by the fire department to meet fire or wildland urban interface code requirements as adopted by the town.

TREE REMOVAL. Complete removal of a tree or any action resulting in the death of a tree or permanent damage to its health, or removal of more than one-fourth of the tree's foliage in any 12-month period.

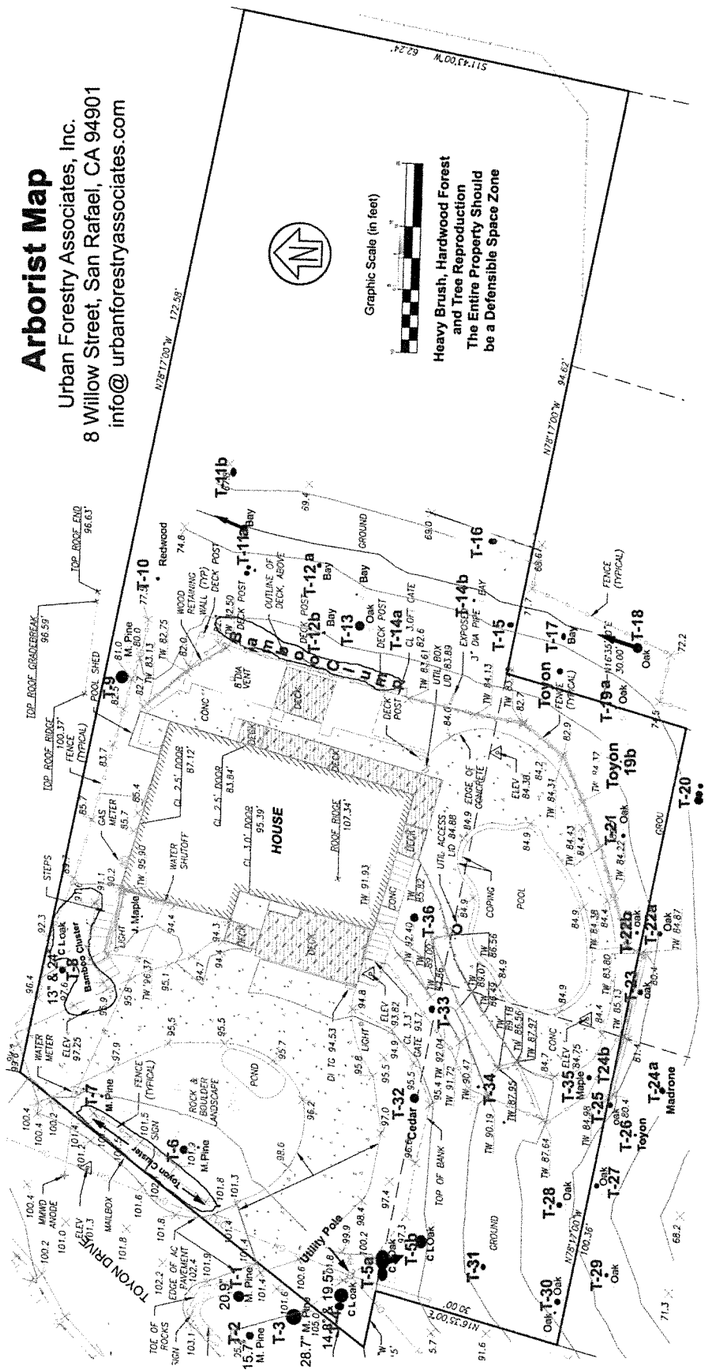
UNDESIRABLE TREE SPECIES. Tree species that cannot be classified as heritage trees regardless of size due to their rapid growth (three feet per year) or their invasive, structurally hazardous, or flammable nature.

UNDESIRABLE TREES SPECIES. Include, but are not limited to, the following:

Acacia Trees (Acacia spp.)
Black Cottonwood (Populus trichocarpa)
Blue Gum Eucalyptus (Eucalyptus globulus)
Fremont's Cottonwood (Populus fremontii)
Liquidambar (Liquidambar styraciflua)
Lombardy Poplar (Populus nigra 'italica')
Monterey Pine (Pinus radiata)
Monterey Cypress (Cupressus macrocarpa)
Pines (Pinus spp.)
Princess Tree (Paulownia tomentosa)
Privet (Ligustrum japonica)

(Ord. 743, passed 7-1-2009)

APPENDIX B – Arborist Map



Ross Valley Fire Dept

Agency Permit ID **20-0061**
ER Permit Number **336227**
Permit Type **VEGETATION MANAGEMENT PLAN**
Created By **Aus, Geoff**
Authorized Date

Permit Date **3/4/2020 12:00:00 AM**
Effective Date **3/4/2020 11:41:00 AM**
Expiration Date **3/4/2021 11:41:00 AM**
Authorized By

Site Information

88 TOYON - RESIDENCE
88 TOYON DR
FAIRFAX, CA 94930

Point of Contact

Gregg Foster 661-201-4592

Billing Information

Gregg Foster
1010 SFD
Kentfield, CA

MAR 04 2020

Permit Notes:

ATTACHMENT G

Ross Valley Fire Department
777 San Anselmo Avenue, San Anselmo, CA 94960

Mark Mills
FIRE CHIEF

March 4, 2020

Address: 88 Toyon, Fairfax
Applicant: Gregg Foster
Application #: 20-0061

The Vegetation Management Plan submitted for review by the Ross Valley Fire Department is approved with the following conditions:

Please do not remove any tree that requires a permit from the town without first securing such permit.

Please note that all vegetation within the 30 foot zone shall be irrigated. Seasonal grasses within the 30 foot zone are not permitted unless regularly irrigated. If not kept as green grass the area shall be covered in a weed barrier which should be covered in a layer of mulch.

Every effort shall be taken to ensure erosion control efforts are in compliance with standards established by Town regulations.

The approved plan is to last the life of the property. Any changes to the plan now or in the future will require Fire Department review. It is recommended that if the applicant has plans to landscape in the future that those plans be intermingled into this plan.

Vegetation shall be maintained to ensure address numbers are visible from both angles of approach.

Minimum standards shall be in place prior to final fire clearance.

If you have any questions about any of the items listed above please call me. I am available to meet with you on site to help you develop a plan. Please contact me to schedule (415) 453-1289 Ext 21 if you desire my assistance.

Sincerely,

Geoffrey Aus
Fire Inspector

TREE REMOVAL SUMMARY

NUMBER OF TREES REMOVED	REASON TREE # TAG IN PLAN
17	FIRE RISK (6, 7, 11A, 11B, 12A, 12B, 14A, 14B, 15, 16, 17, 19B, 24B, 31, 33, 34, 36)
6	POOR HEALTH / STRUCTURAL THREAT (1, 2, 3, 5A, 9, 13)
2	PROPOSED CONSTRUCTION (32, 19B) NOTE: T-19B TO BE REMOVED FOR FIRE RISK
3	HERITAGE TREES (5A, 13, 19B) NOTE: T-5A & T-13 TO BE REMOVED FOR POOR HEALTH NOTE: T-19B TO BE REMOVED FOR POOR HEALTH / FIRE RISK
24	TOTAL TREES TO BE REMOVED

PROJECT NORTH

SITE PLAN-EXISTING / DEMO 1
1/8" = 1'-0"

holder | design

88 TOYON DRIVE, FAIRFAX, CA
APN: 003-081-39

RUSSELL RESIDENCE REMODEL

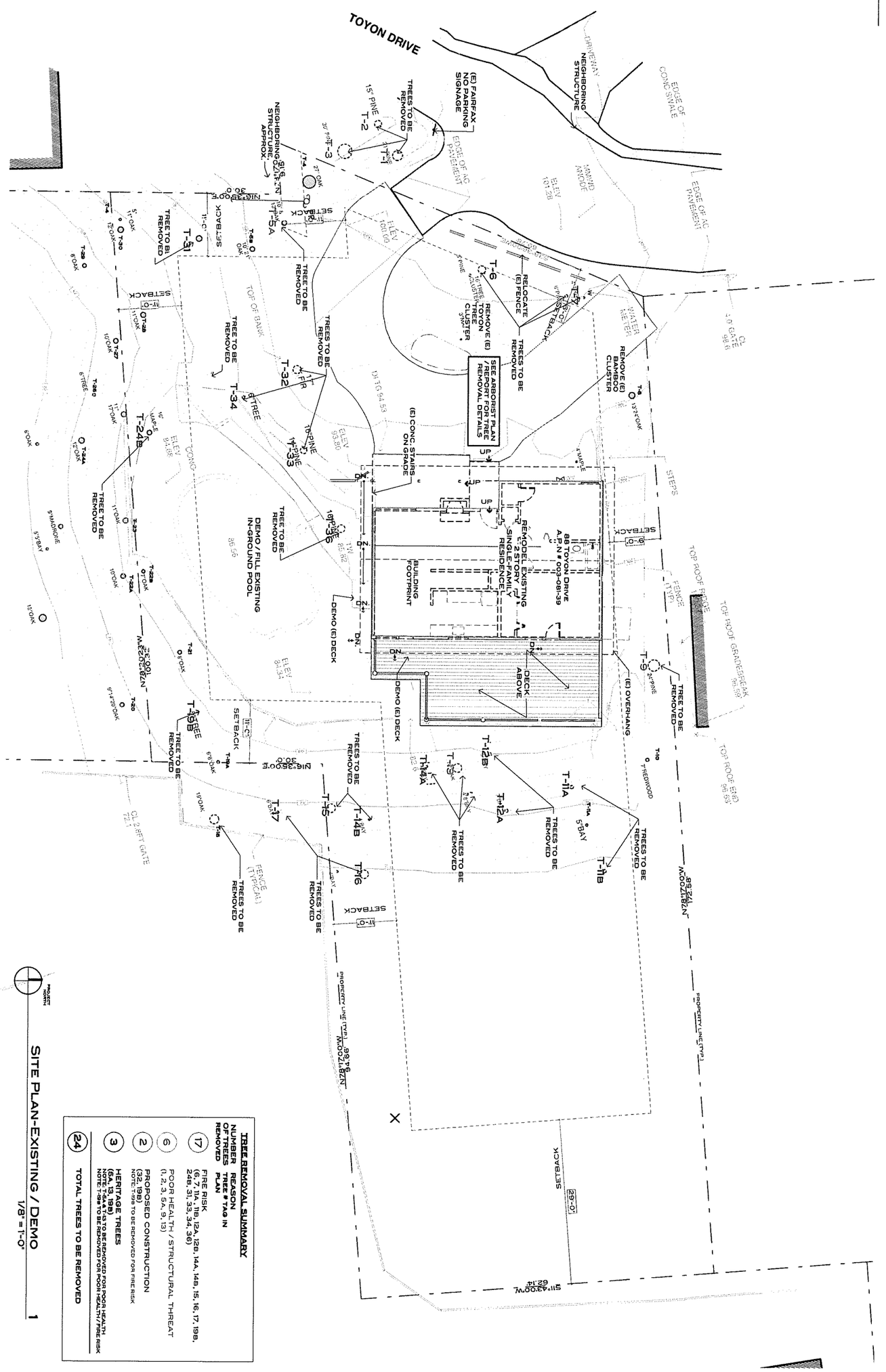
SITE PLAN - EXISTING / DEMO

DATE:	ISSUE:
08.21.17	DESIGN REVIEW
02.08.18	DRB REV.1
05.03.18	DRB REV.2
07.29.19	DRB REV.3
11.08.19	DRB REV.4

08.19 DRB-PERMIT SET DRAFT

A1.0

ATTACHMENT H



SITE PLAN-EXISTING / DEMO 1

1/8" = 1'-0"

TREE REMOVAL SUMMARY

NUMBER OF TREES REMOVED	REASON TREE # TAG IN PLAN
(17)	FIRE RISK (6, 7, 11A, 11B, 12A, 12B, 14A, 14B, 15, 16, 17, 19B, 24B, 31, 33, 34, 36)
(6)	POOR HEALTH / STRUCTURAL THREAT (1, 2, 3, 5A, 9, 13)
(2)	PROPOSED CONSTRUCTION (4, 19A) NOTE: TREE 19B TO BE REMOVED FOR FIRE RISK
(3)	HERITAGE TREES (REMOVAL REQUIRED) NOTE: T-5A & T-13 TO BE REMOVED FOR POOR HEALTH NOTE: T-19B TO BE REMOVED FOR POOR HEALTH / FIRE RISK
(24)	TOTAL TREES TO BE REMOVED

11.8.19 DRB-PERMIT SET DRAFT

A1.0

ISSUE:	DATE:
DESIGN	08.21.17
DRB1	02.08.18
REV1	05.03.18
DRB REV2	07.23.18
DRB REV3	11.08.18
DRB REV4	

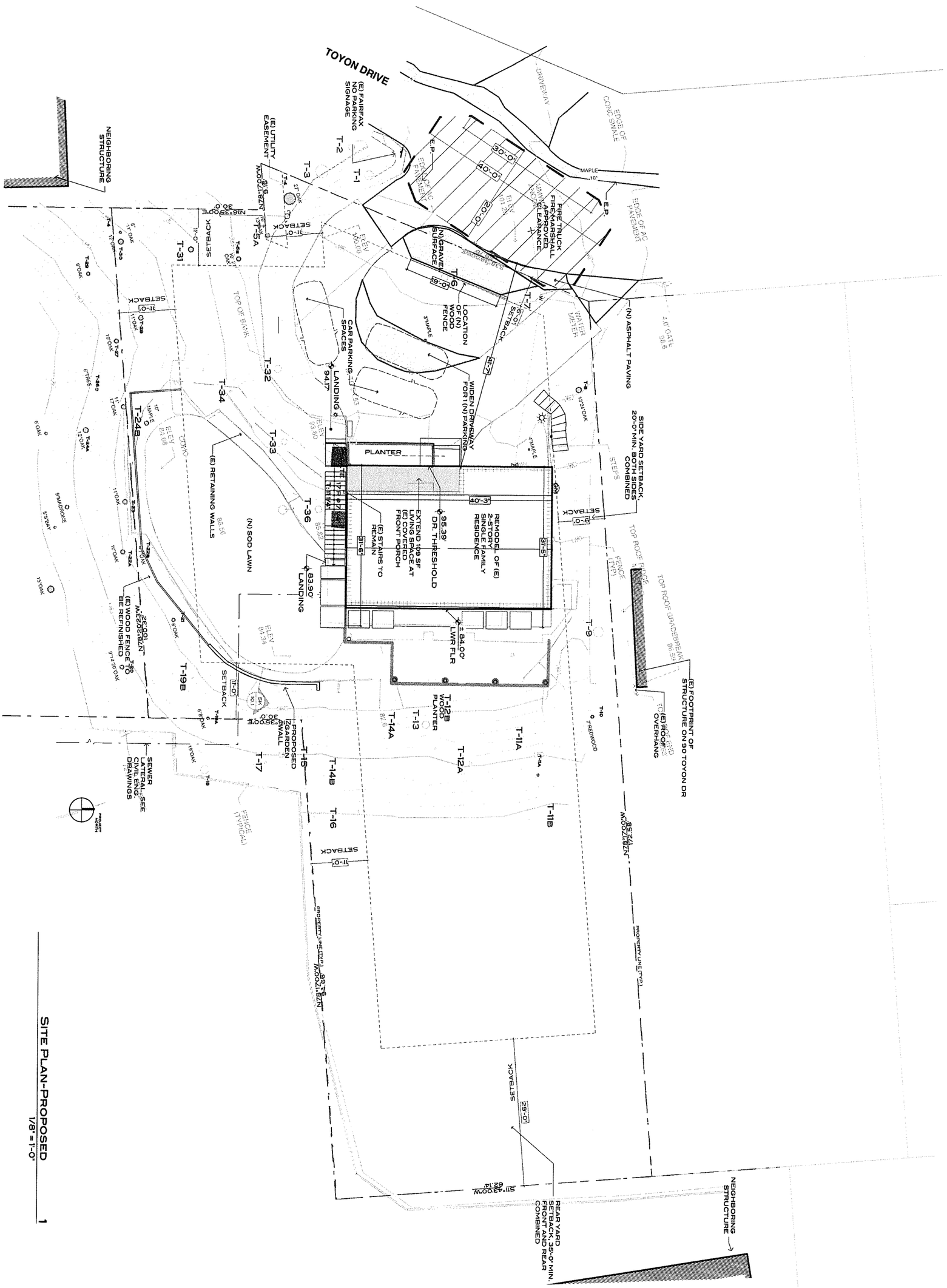
RUSSELL RESIDENCE REMODEL

SITE PLAN - EXISTING / DEMO

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

holder | design



SITE PLAN-PROPOSED

1/8" = 1'-0"

11.8.19 DRB-PERMIT SET DRAFT

A1.1

ISSUE:	DATE:
DESIGN REVIEW	08.21.17
DRB	02.08.18
REV1	05.03.18
REV2	07.20.18
DRB	10.08.19
REV3	
DRB	
REV4	

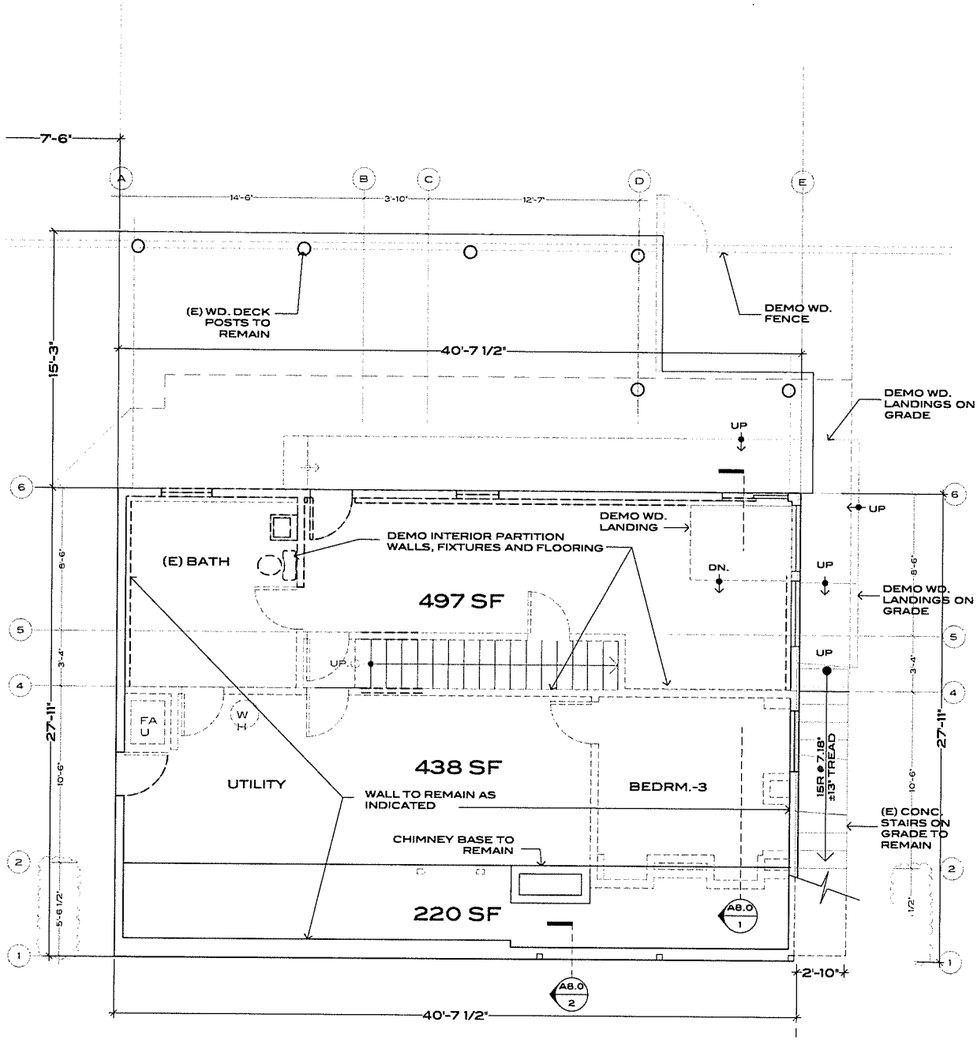
RUSSELL RESIDENCE REMODEL

SITE PLAN - PROPOSED

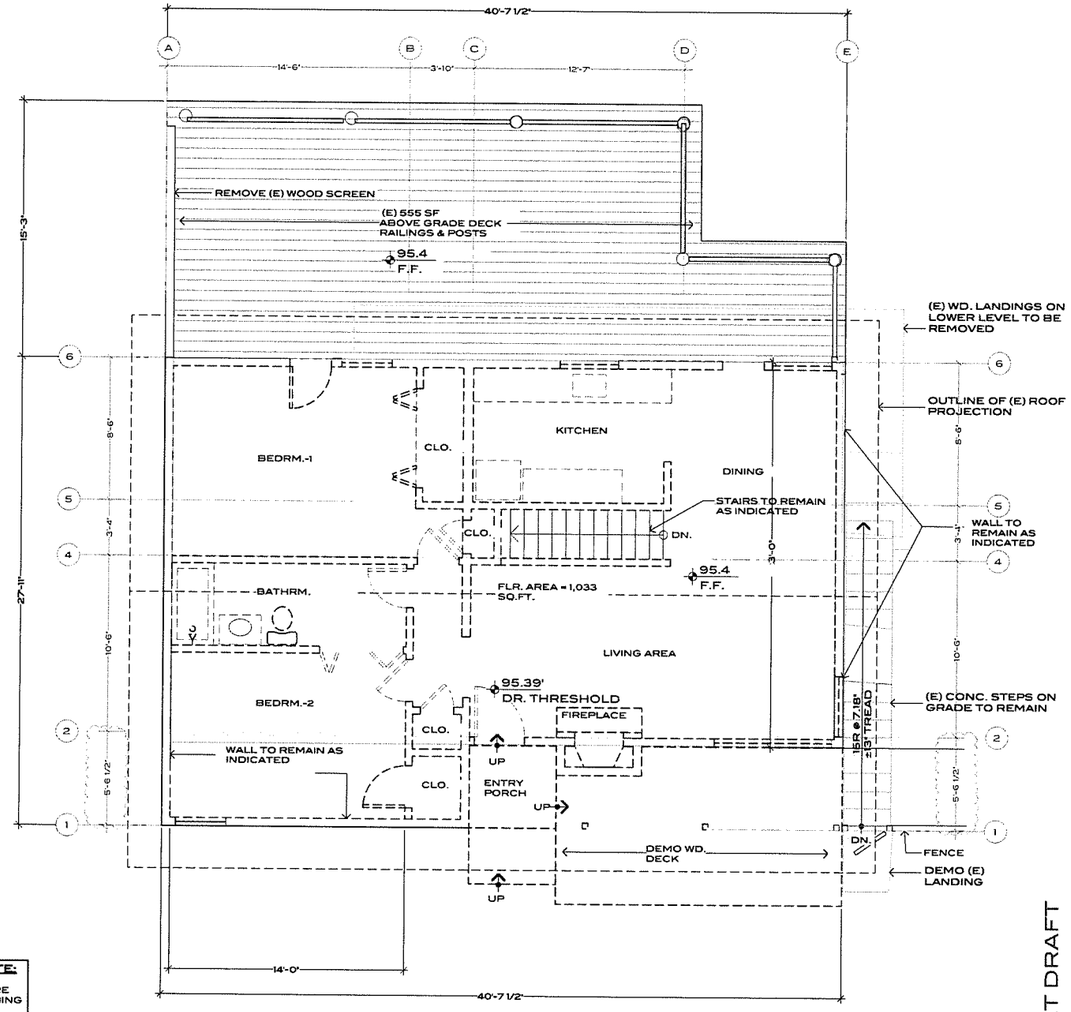
88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

holder | design



LOWER FLOOR DEMO PLAN 2
1/4" = 1'-0"



UPPER FLOOR DEMO PLAN 1
1/4" = 1'-0"

GRID LINES NOTE:

ALL GRIDLINES ARE ALIGNED WITH FRAMING FACE OF STUD

FLOOR PLAN LEGEND

- (E) EXTERIOR 2'X4' STUD WALL
- (N) INTERIOR 2X4 STUD WALL
- NEW FLOOR AREA
- DEMO EXISTING
- NO WORK TO THIS AREA

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

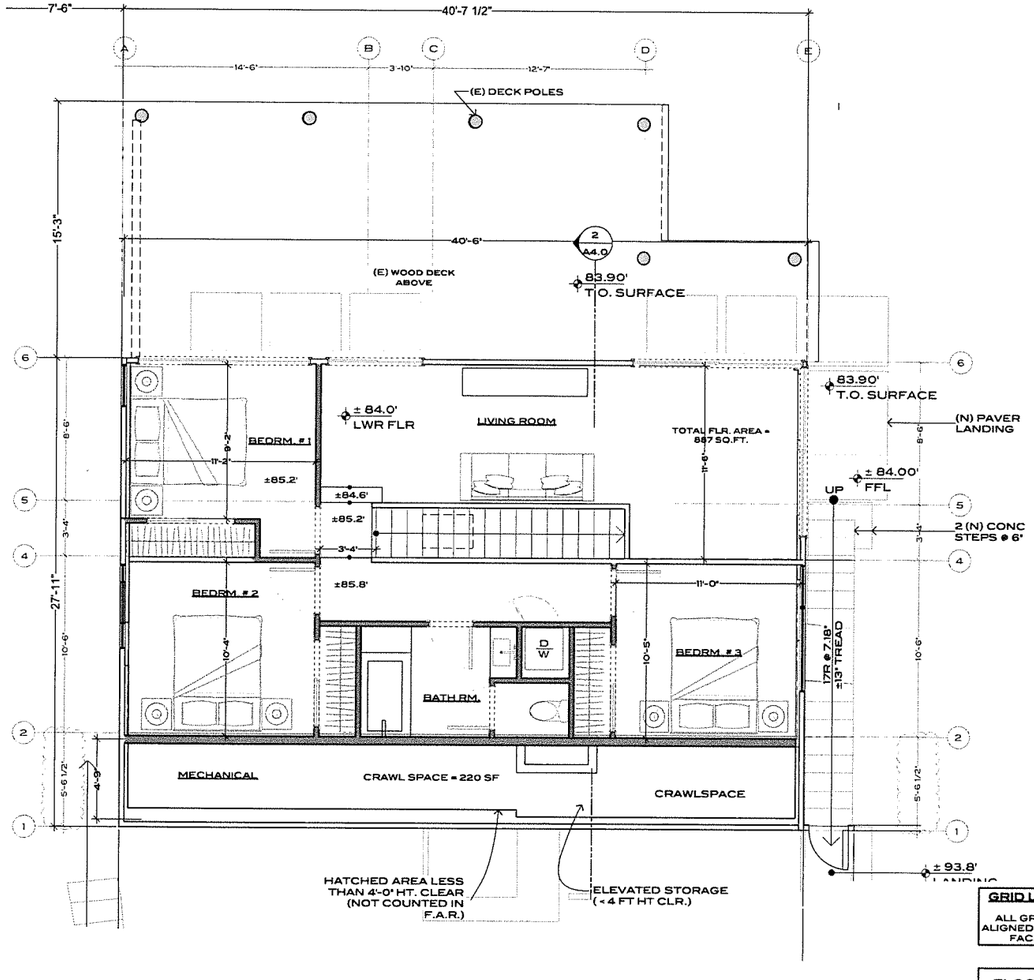
RUSSELL RESIDENCE REMODEL

EXISTING FLOOR PLANS

DATE:	ISSUE:
08.21.17	DESIGN REVIEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

11.8.19 DRB-PERMIT SET DRAFT

A2.0



PROJECT NORTH

PROPOSED LOWER LEVEL PLAN 2

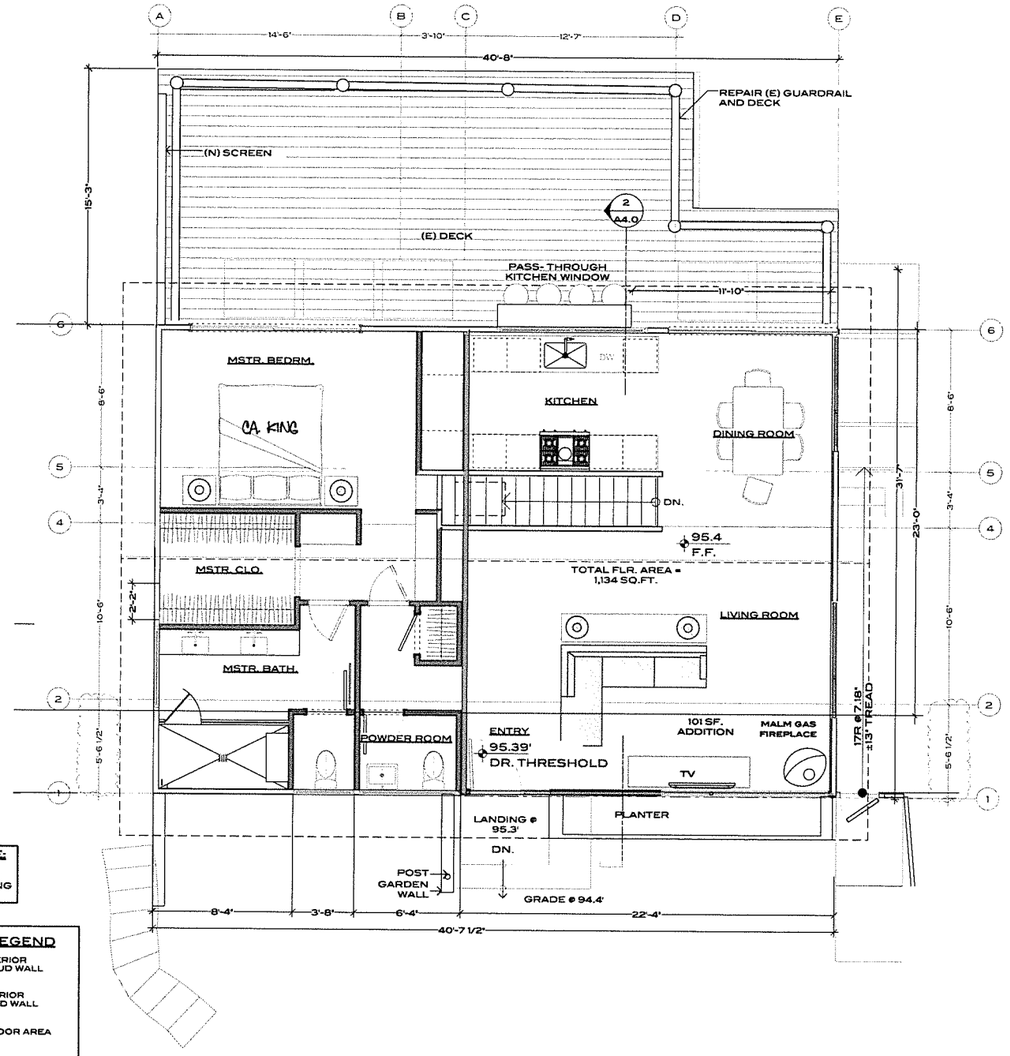
1/4" = 1'-0"

GRID LINES NOTE:

ALL GRIDLINES ARE ALIGNED WITH FRAMING FACE OF STUD

FLOOR PLAN LEGEND

- (E) EXTERIOR 2"X4" STUD WALL
- (N) INTERIOR 2X4 STUD WALL
- NEW FLOOR AREA
- DEMO EXISTING
- NO WORK TO THIS AREA



PROJECT NORTH

PROPOSED UPPER LEVEL PLAN 1

1/4" = 1'-0"

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

11.8.19 DRB-PERMIT SET DRAFT

RUSSELL RESIDENCE REMODEL

PROPOSED FLOOR PLANS

DATE:	ISSUE:
08.21.17	DESIGN REVEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A2.1

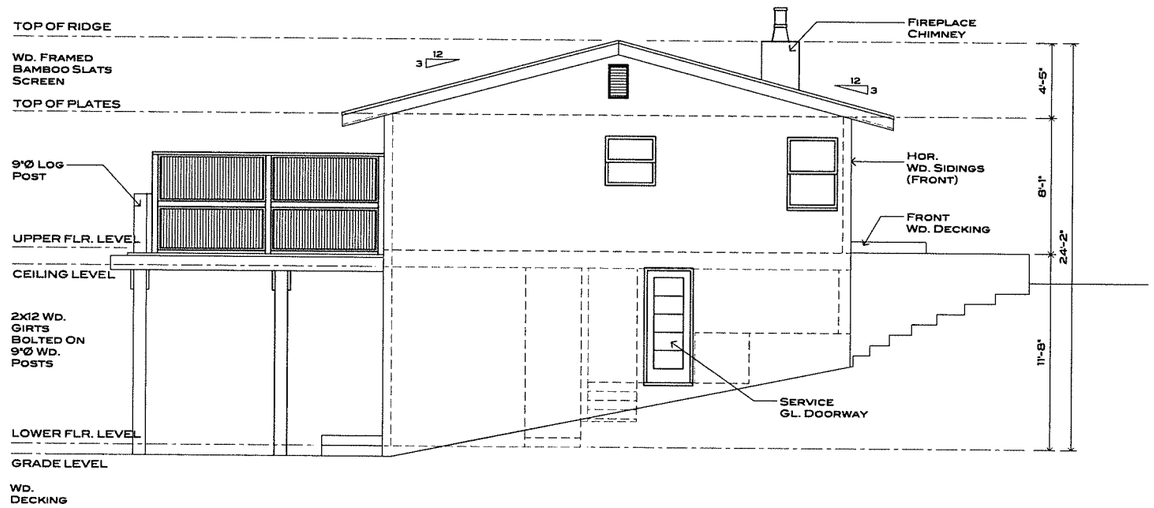
W.U.I. REQUIREMENTS FOR EXTERIOR WALL COVERING AND OPEN ROOF EAVES:

A. THE EXTERIOR WALL COVERING, OR WALL ASSEMBLY SHALL BE OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR HEAVY TIMBER OR LOG WALL CONSTRUCTION.

B. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATING AT 2" NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR TERMINATING AT THE ENCLOSURE OF ENCLOSED EAVES.

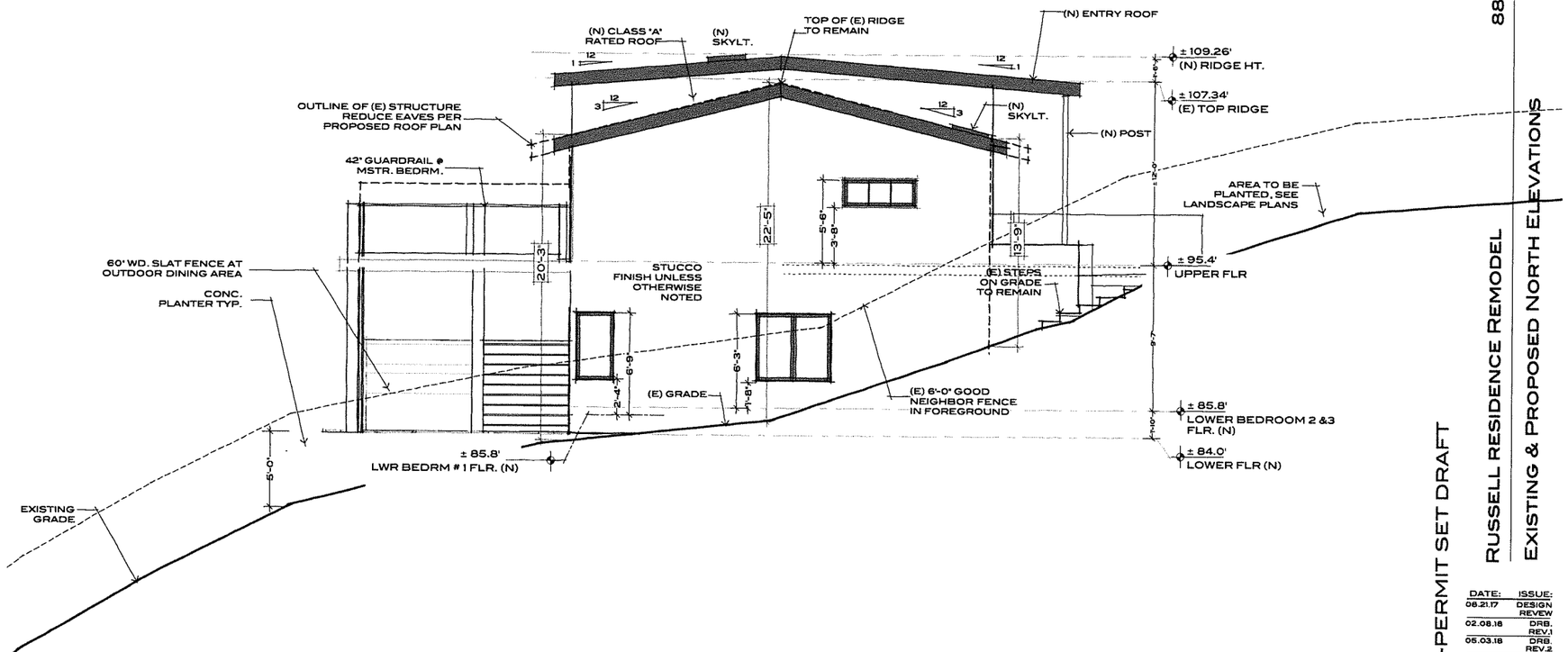
C. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.

D. THE EXPOSED UNDERSIDE OF EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.



EXISTING NORTH ELEVATION 2

1/4" = 1'-0"



PROPOSED NORTH ELEVATION 1

1/4" = 1'-0"

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

11.8.19 DRB-PERMIT SET DRAFT

RUSSELL RESIDENCE REMODEL

EXISTING & PROPOSED NORTH ELEVATIONS

DATE:	ISSUE:
06.21.17	DESIGN REVIEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A3.0

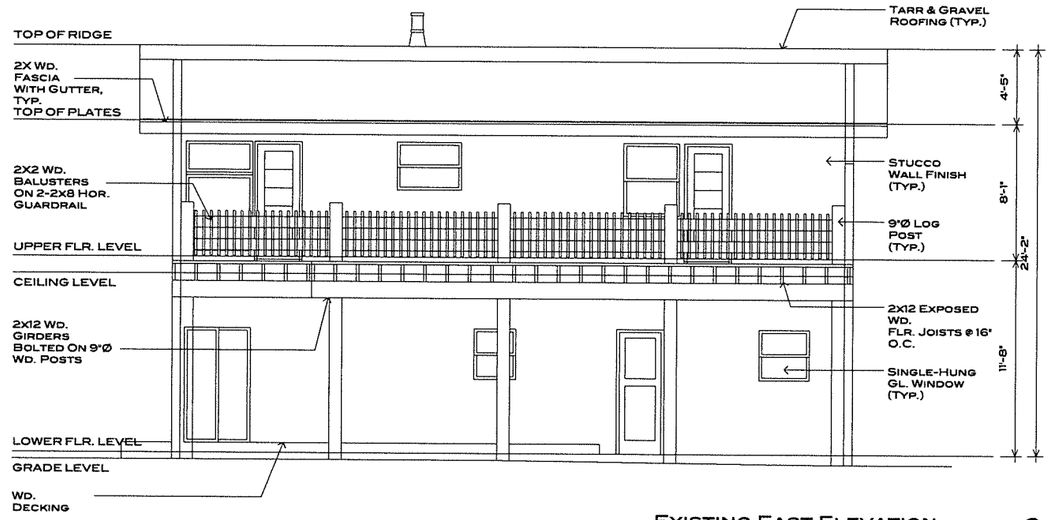
W.U.I. REQUIREMENTS FOR EXTERIOR WALL COVERING AND OPEN ROOF EAVES:

A. THE EXTERIOR WALL COVERING, OR WALL ASSEMBLY SHALL BE OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR HEAVY TIMBER OR LOG WALL CONSTRUCTION.

B. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATING AT 2" NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR TERMINATING AT THE ENCLOSURE OF ENCLOSED EAVES.

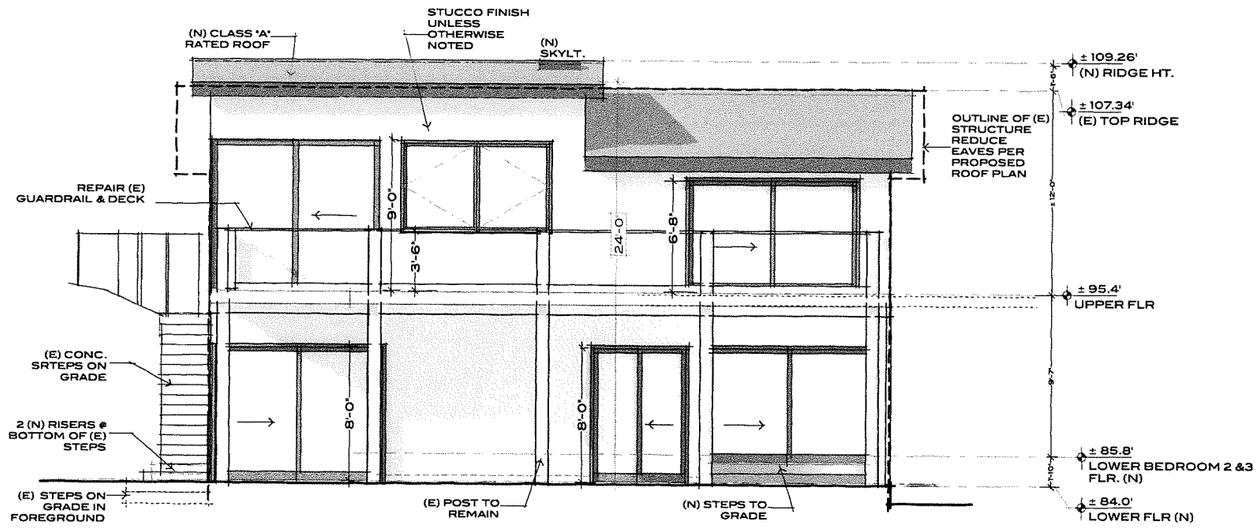
C. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.

D. THE EXPOSED UNDERSIDE OF EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.



EXISTING EAST ELEVATION 2

1/4" = 1'-0"



PROPOSED EAST ELEVATION 1

1/4" = 1'-0"

11.8.19 DRB-PERMIT SET DRAFT

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

RUSSELL RESIDENCE REMODEL

EXISTING & PROPOSED EAST ELEVATION

DATE:	ISSUE:
08.21.17	DESIGN REVIEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A3.1

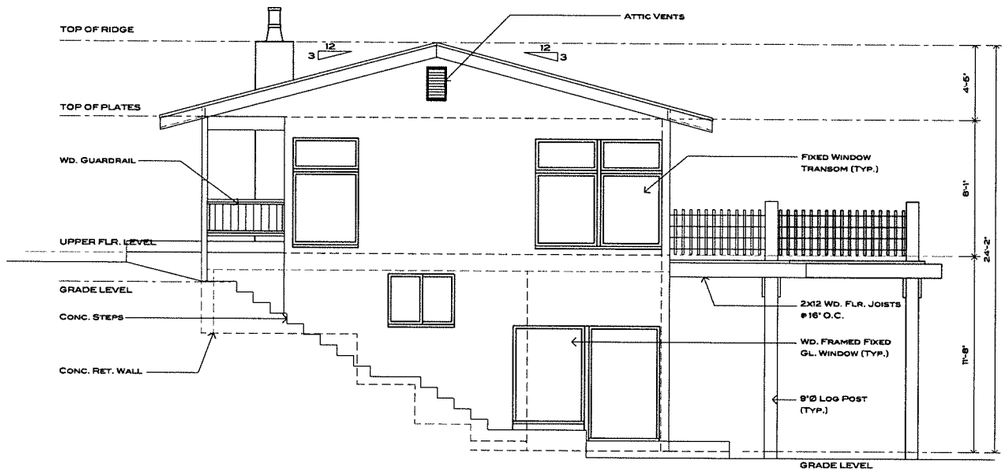
W.U.I. REQUIREMENTS FOR EXTERIOR WALL COVERING AND OPEN ROOF EAVES:

A. THE EXTERIOR WALL COVERING, OR WALL ASSEMBLY SHALL BE OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR HEAVY TIMBER OR LOG WALL CONSTRUCTION.

B. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATING AT 2" NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR TERMINATING AT THE ENCLOSURE OF ENCLOSED EAVES.

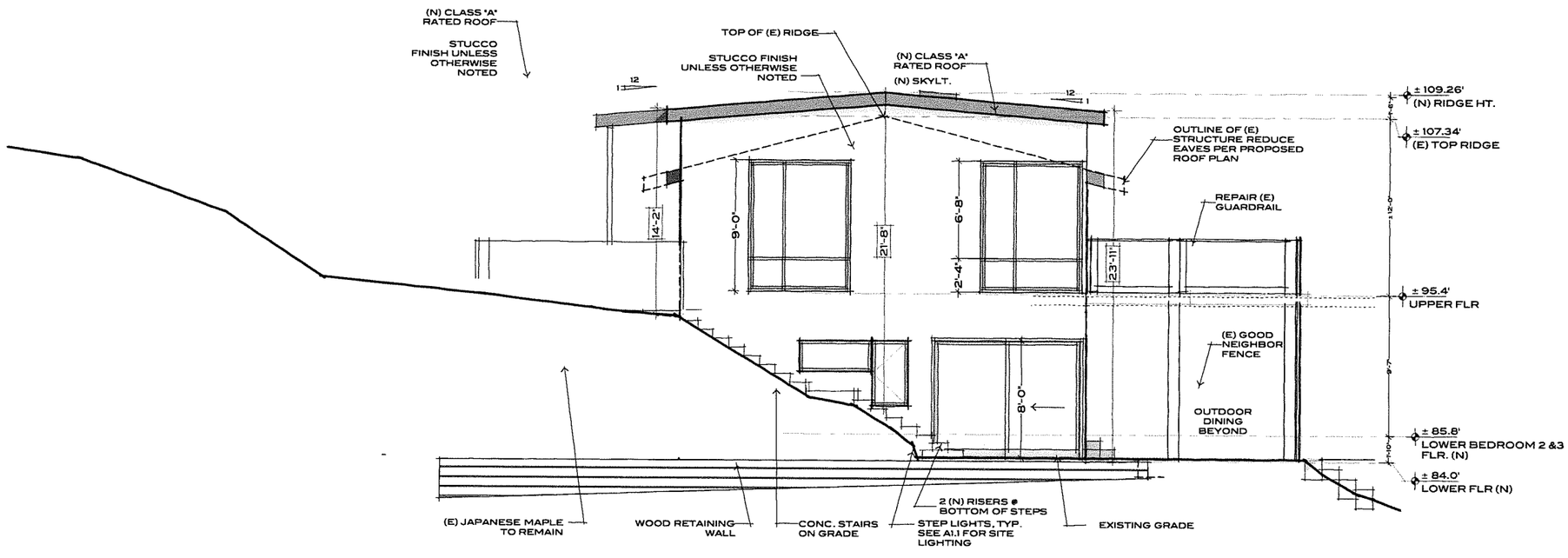
C. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.

D. THE EXPOSED UNDERSIDE OF EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF AI-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.



EXISTING WEST ELEVATION 2

1/4" = 1'-0"



PROPOSED SOUTH ELEVATION 1

1/4" = 1'-0"

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

11.8.19 DRB-PERMIT SET DRAFT

RUSSELL RESIDENCE REMODEL

EXISTING & PROPOSED SOUTH ELEVATION

DATE:	ISSUE:
08.21.17	DESIGN REVEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A3.2

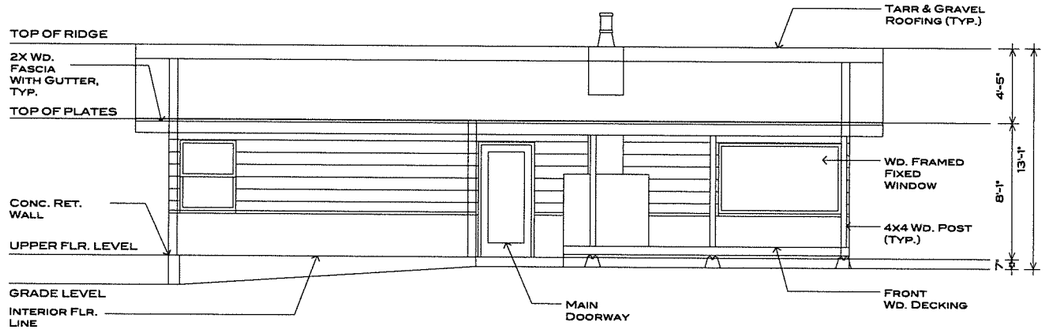
W.U.I. REQUIREMENTS FOR EXTERIOR WALL COVERING AND OPEN ROOF EAVES:

A. THE EXTERIOR WALL COVERING, OR WALL ASSEMBLY SHALL BE OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR HEAVY TIMBER OR LOG WALL CONSTRUCTION.

B. EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, TERMINATING AT 2" NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR TERMINATING AT THE ENCLOSURE OF ENCLOSED EAVES.

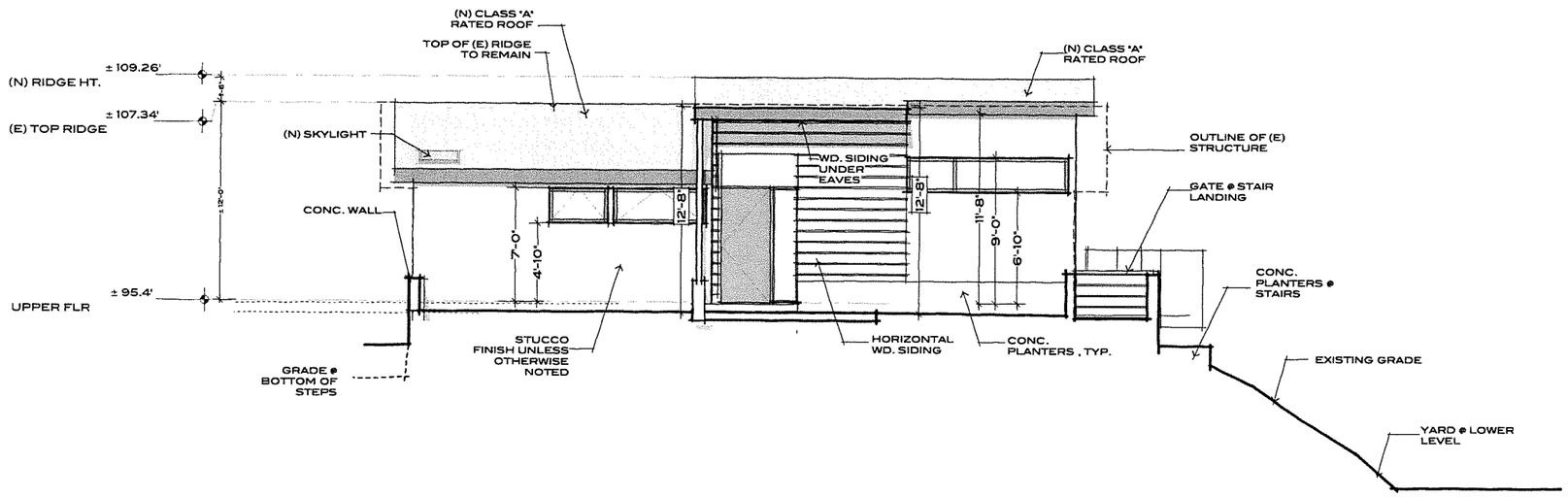
C. THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNENCLOSED ROOF EAVES SHALL CONSIST OF NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF A1-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.

D. THE EXPOSED UNDERSIDE OF EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY NONCOMBUSTIBLE MATERIAL, OR IGNITION-RESISTANT MATERIAL, OR 1-LAYER 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK, OR THE EXTERIOR PORTION OF A1-HOUR FIRE RESISTIVE ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK.



EXISTING WEST ELEVATION 1

1/4" = 1'-0"



PROPOSED WEST ELEVATION 1

1/4" = 1'-0"

11.8.19 DRB-PERMIT SET DRAFT

holder | design

88 TOYON DRIVE, FAIRFAX, CA

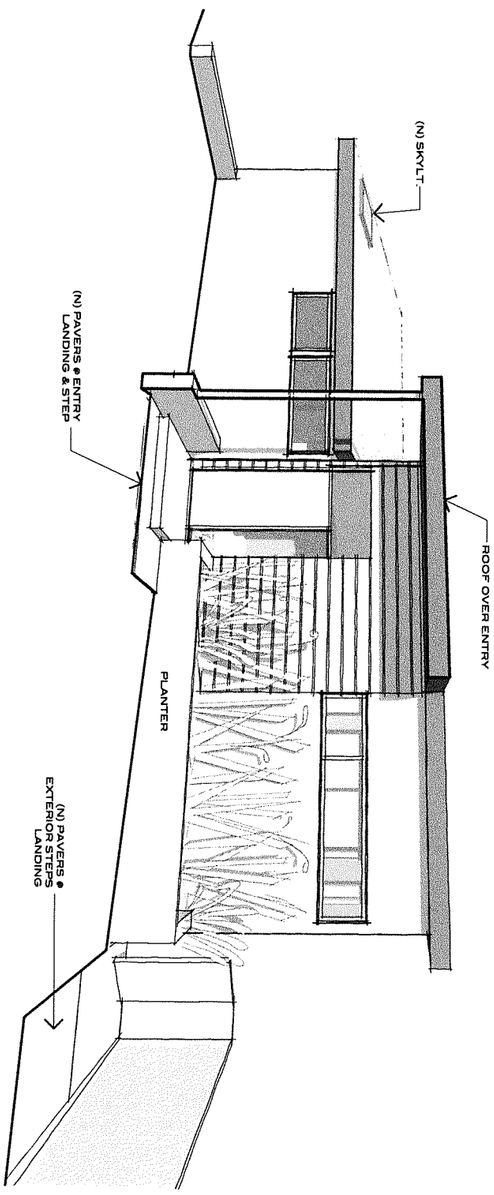
APN: 003-081-39

RUSSELL RESIDENCE REMODEL

EXISTING & PROPOSED WEST ELEVATION

DATE:	ISSUE:
08.21.17	DESIGN REVIEW
02.08.18	DRB, REV.1
05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A3.3



FRONT PERSPECTIVE 1
N.T.S.

PATIO PERSPECTIVE 2
N.T.S.

11.8.19 DRB-PERMIT SET DRAFT

A3.4

ISSUE:	DATE:
DESIGN REVIEW	08.21.17
DRB1 REV1	02.08.18
DRB1 REV2	05.03.18
DRB1 REV3	07.29.19
DRB1 REV4	11.08.19

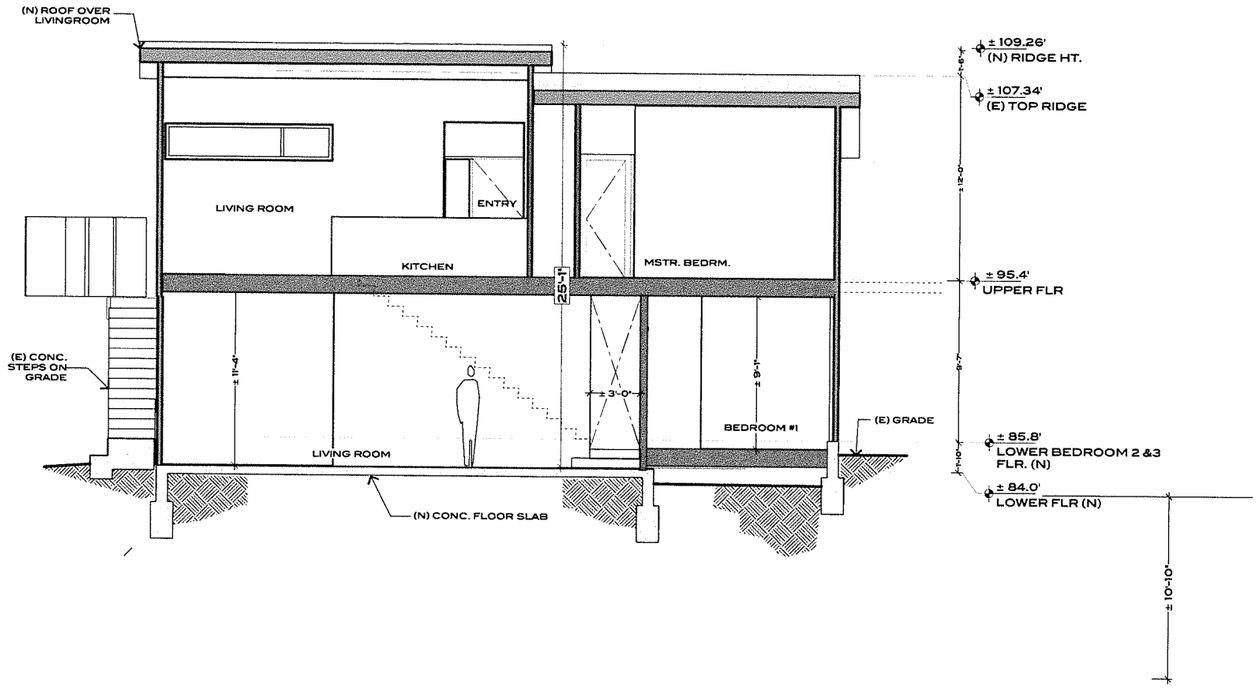
RUSSELL RESIDENCE REMODEL

PROPOSED PERSPECTIVES

88 TOYON DRIVE, FAIRFAX, CA

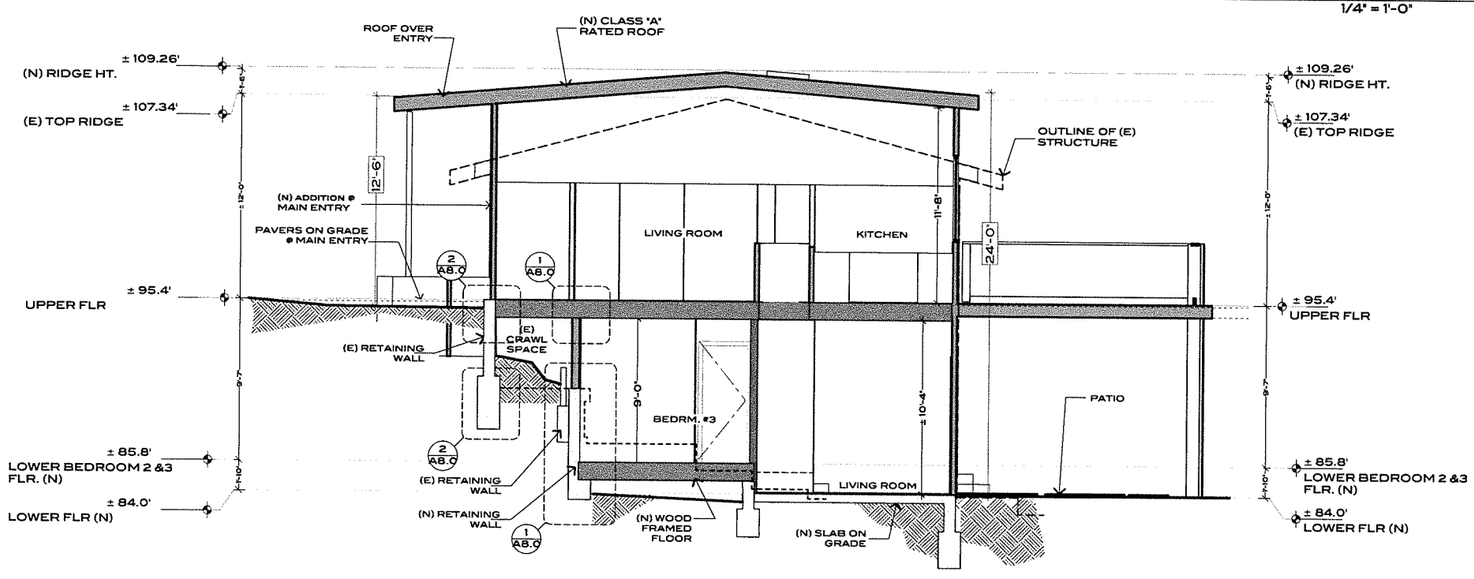
APN: 003-081-39

holder | design



PROPOSED SITE SECTION 2

1/4" = 1'-0"



PROPOSED SITE SECTION 1

1/4" = 1'-0"

holder | design

88 TOYON DRIVE, FAIRFAX, CA

APN: 003-081-39

11.8.19 DRB-PERMIT SET DRAFT

RUSSELL RESIDENCE REMODEL

PROPOSED SECTIONS

DATE:	ISSUE:
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05.03.18	DRB, REV.2
07.29.19	DRB, REV.3
11.08.19	DRB, REV.4

A4.0

NOTES

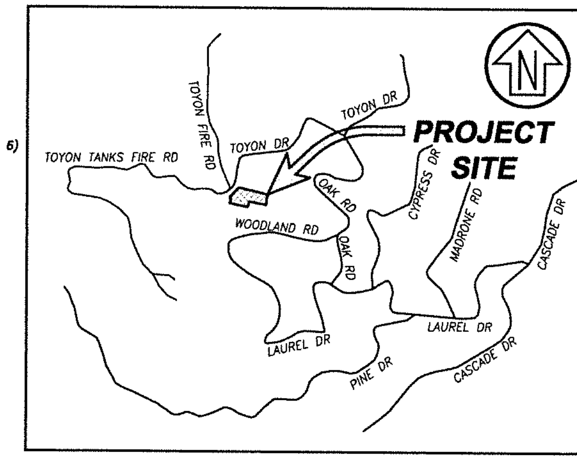
1. DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF.
2. HORIZONTAL DATUM IS ASSUMED.
3. VERTICAL DATUM IS ASSUMED ELEVATION 100.00'
4. TOPOGRAPHY SHOWN WAS PERFORMED BY FIELD SURVEY IN MAY 2017.
5. EXACT ROUTE MAY DIFFER FROM WHAT IS SHOWN FOR UNDERGROUND UTILITIES. CONTRACTOR SHOULD POTHOLE AND CONFIRM UTILITY LOCATIONS PRIOR TO ANY WORK. UNDERGROUND UTILITIES MAY EXIST THAT ARE NOT SHOWN HEREON.
6. BOUNDARY INFORMATION SHOWN HEREON IS BASED ON A BOUNDARY SURVEY PERFORMED BY CSW|STUBER-STROEH ENGINEERING GROUP, INC. A DRAFT/PRELIMINARY RECORD OF SURVEY HAS BEEN PREPARED AND WILL BE SUBMITTED TO THE COUNTY OF MARIN FOR REVIEW/RECORDING.

ABBREVIATIONS

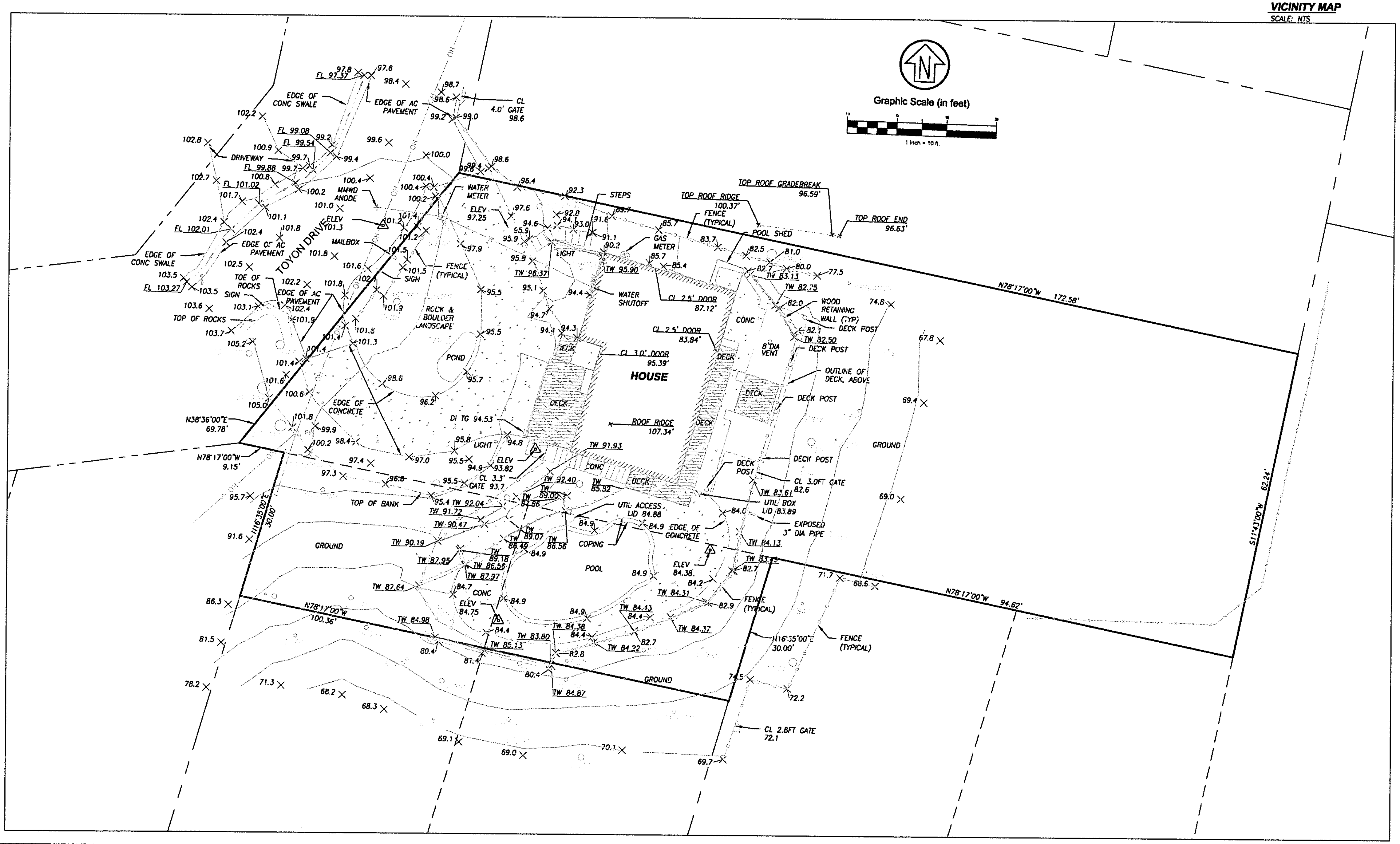
AC	ASPHALT CONCRETE	G	GAS
APN	ASSESSORS PARCEL NUMBER	MMWD	MARIN MUNICIPAL WATER DISTRICT
CL	CENTERLINE	OH	OVERHEAD
CONC	CONCRETE	PP	POWER POLE
DI	DRAIN INLET	TG	TOP OF GRATE
DIA	DIAMETER	TW	TOP OF WALL
ELEV	ELEVATION	TYP	TYPICAL
FL	FLOWLINE	UTIL	UTILITY
FT	FOOT	W	WATER

ABBREVIATIONS

- BOUNDARY (SEE NOTE 6)
- BOUNDARY ADJOINING (SEE NOTE 6)
- BUILDING
- CONTOUR MAJOR (5' INTERVAL)
- CONTOUR MINOR (1' INTERVAL)
- FENCE
- GAS LINE
- OVERHEAD UTILITY LINE
- TOE OF BANK
- TOP OF BANK
- RETAINING WALL
- WATER
- CONTROL POINT



VICINITY MAP
SCALE: NTS



Rev	Date	Description	Designed	Drawn	Checked
-	08/07/17	REISSUED TOPO WITH BOUNDARY INFO		KNP	KNP
-	06/08/17	CLARIFIED CONTROL POINT IN LEGEND		KNP	KNP
-	06/07/17	SUBMIT TO CLIENT			

CSW | ST2

CSW/Stuber-Stroeh Engineering Group, Inc.
45 Leveroni Court, Novato, CA 94949 tel: 415.883.9850 fax: 415.883.9835
Civil & Structural Engineers
Surveying & Mapping
Environmental Planning
Land Planning
Construction Management

TOPOGRAPHIC MAP

88 TOYON DRIVE
APN 003-081-39

City Of Fairfax
County Of Marin
State Of California

Prepared Under the Direction of:
AL G. CORNWELL No. 27577 CIVIL STATE OF CALIFORNIA

Sheet **V1**

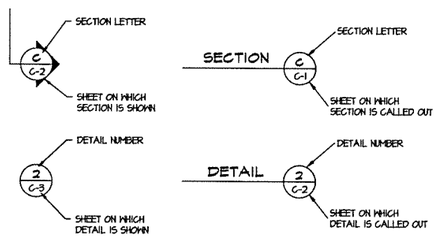
Scale: 1" = 10'
Date: 05/24/17
Project Number: 5.1507.00
Plan File: D-5404

U.S.A. NOTIFICATION SERVICE
CALL BEFORE YOU DIG 800-642-2444

LEGEND

EX	NEW	
		ASPHALT PAVING (IMPERVIOUS)
		CONCRETE PAVING (IMPERVIOUS)
		NEW FLAGSTONE PAVING (IMPERVIOUS)
		NEW CONCRETE PAVERS (SEMI-PERVIOUS)
		NEW WOOD DECK (PERVIOUS)
		PERVIOUS PAVING
		PLANTED, LANDSCAPED AREA
		GRAVEL OR DECOMPOSED GRANITE (PERVIOUS)
		EROSION CONTROL BLANKET
		BUILDING ADDITION
AD ⊕		AREA DRAIN
▣ OR ▤		DRAINAGE INLET
▭ RL		ROOF LEADER
		FIRE HYDRANT
		JOINT POLE
Ⓖ Ⓔ		GAS METER, ELECTRIC METER
		WATER METER
		EX TREE
		EX TREE DRIPLINE
		PROPERTY LINE
		EASEMENT LINE
		EX WOODEN RET WALL
		DRAINAGE DITCH/ BIO-SWALE
		UNDISTURBED SOIL
		COMPACTED FILL MATERIAL
		GEOTEXTILE
		EROSION CONTROL BLANKET
		TURF REINFORCING MAT
		STRAW WATTLE
		RUNOFF FLOW DIRECTION
		SWALE FLOW DIRECTION
		STORMWATER LEVEL SPREADER
		BUBBLE-UP DRAINAGE EMITTER
		POP-UP DRAINAGE EMITTER
		SUBDRAIN END CAP
	CO	SUBDRAIN OR STORMWATER CLEANOUT
		SUBDRAIN OUTLET
		HIDDEN FOUNDATION OR RETAINING WALL
		TREE PROTECTION FENCING
EX	NEW	
		CONC RETAINING WALL
		SUBDRAIN (PERFORATED PIPE)
		STORM DRAIN PIPE
E/OH	E/OH	ELECTRICAL OVERHEAD LINE
E/UG	E/UG	ELECTRICAL UNDERGROUND
COM/OH	COM/OH	COMMUNICATION OVERHEAD LINE
COM/UG	COM/UG	COMMUNICATION UNDERGROUND
JT	JT	JOINT TRENCH
SS	SS	SANITARY SEWER
W	W	WATER LINE
G	G	GAS LINE
		EDGE OF ROAD
		ROOF EAVE
X		EX FENCE
		NEW WIRE FENCE
		NEW WOOD FENCE
		EXISTING GRADE ELEVATION CONTOUR
	82	FINISHED GRADE ELEVATION CONTOUR
	85.5 x	FINISHED GRADE ELEVATION
		REMOVE EX TREE

DETAIL AND SECTION DESIGNATIONS



UTILITY CONNECTION NOTES:

1. THE PROPOSED ALIGNMENT FOR UTILITY SERVICE CONNECTIONS HAS NOT BEEN APPROVED BY SERVICE PROVIDERS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH UTILITY SERVICE PROVIDERS TO DETERMINE UTILITY ROUTES AND REQUIRED SERVICE UPGRADE DETAILS. REVIEW ALL PROPOSED UTILITY ROUTES AND UPGRADE DETAILS WITH THE ENGINEER PRIOR TO CONSTRUCTION.

2. UTILITY SERVICES TO THE PROJECT SITE ARE PROVIDED BY:

   WATER: MARIN MUNICIPAL WATER DISTRICT

   SEWER: ROSS VALLEY SANITARY DISTRICT NO. 1

   ELECTRIC POWER: PACIFIC GAS AND ELECTRIC (PG&E)

   GAS: PACIFIC GAS AND ELECTRIC (PG&E)

   TELEPHONE: AT&T

   CABLE: COMCAST

3. INSTALL NEW WATER SERVICE PIPE BETWEEN THE EXISTING WATER METER AND THE HOUSE. SIZE THE WATER SERVICE PIPE FOR THE REQUIRED FIRE SPRINKLER FLOW RATE. REPLACE THE WATER METER IF IT HAS INADEQUATE CAPACITY FOR THE MAXIMUM FIRE SPRINKLER FLOW RATE.

INDEX OF DRAWINGS

DRAWING NO.	DESCRIPTION
C-1	COVER SHEET
C-2	GRADING AND DRAINAGE PLAN
C-3	DETAILS (1 OF 2)
C-4	DETAILS (2 OF 2)
C-5	DRIVEWAY PROFILE AND PARKING
C-6	EROSION CONTROL PLAN

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ADA	AMERICANS WITH DISABILITIES ACT
APN	ASSESSOR'S PARCEL NUMBER
APPROX	APPROXIMATE
ASTM	AM. SOCIETY OF TESTING MATERIALS
BM	BENCH MARK
BPD	BACKWATER PREVENTION DEVICE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
COM	COMMUNICATION
COM/OH	COMMUNICATION OVERHEAD
COM/UG	COMMUNICATION UNDERGROUND
CONC	CONCRETE
CY	CUBIC YARDS
DI	DRAINAGE INLET
DIA	DIAMETER
E	ELECTRICAL
E/OH	ELECTRICAL OVERHEAD
E/UG	ELECTRICAL UNDERGROUND
EG	EXISTING GROUND
EL or ELEV	ELEVATION
EX	EXISTING
FD	FLOOR DRAIN
FF	FINISHED FLOOR ELEVATION
FL	FLOW LINE
FG	FINISHED GRADE ELEVATION
FT	FEET or FOOT
G	NATURAL GAS
GALV	GALVANIZED
GM	GAS METER
GPM	GALLONS PER MINUTE
H	HEIGHT OF EXPOSED WALL FACE
HB	HOSE BIB
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT
INV	INVERT ELEVATION
JP	JOINT UTILITY POLE
JT	JOINT UTILITY TRENCH
LLFF	LOWER LEVEL FINISHED FLOOR ELEV
LPFF	LOW POINT FINISHED FLOOR ELEV
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MLFF	MAIN LEVEL FINISHED FLOOR ELEV
MMWD	MARIN MUNICIPAL WATER DISTRICT
OH	OVERHEAD
PG&E	PACIFIC GAS AND ELECTRIC
PVC	POLYVINYL CHLORIDE PIPE
R	RADIUS
RIM	ELEV AT MH COVER OR DI GRATE
RL	ROOF LEADER
ROW	RIGHT-OF-WAY
S	SLOPE
SCH	SCHEDULE
SIM	SIMILAR
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SDR	STANDARD DIMENSION RATIO
TC	TOP OF CURB ELEVATION
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
UCS	UNIFORM CONSTRUCTION STANDARDS, MARIN COUNTY
ULFF	UPPER LEVEL FINISHED FLOOR ELEV
VB	VALVE BOX
W	WATER
WM	WATER METER
WV	WATER VALVE

GENERAL NOTES:

1. SITE SURVEY AND TOPOGRAPHIC BASE MAP PREPARED BY CSW/STUBER-STROEH ENGINEERING GROUP, INC. 45 LEVERONI COURT, NOVATO, CA. 94949. (415) 883-1850. http://www.cswst2.com. DATED 5/24/2017. HORIZONTAL DATUM IS ASSUMED. VERTICAL DATUM IS ASSUMED ELEVATION 100.00'.

2. THE LOCATION OF EXISTING UNDERGROUND UTILITIES OR IMPROVEMENTS HAS NOT BEEN VERIFIED BY THE ENGINEER AND NO GUARANTEE IS MADE AS TO THE ACCURACY OR COMPLETENESS OF INFORMATION SHOWN ON THE DRAWINGS. THE CONSTRUCTION CONTRACTOR MUST NOTIFY UTILITY COMPANIES AT LEAST TWO WORKING DAYS BEFORE EXCAVATION AND REQUEST FIELD LOCATION OF ALL UNDERGROUND UTILITIES. CALL UNDERGROUND SERVICE ALERT (USA) AT 811 OR 800-227-2600. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE COMPLETELY RESTORED TO THE SATISFACTION OF THE LOCAL UTILITY ENGINEER, AT THE SOLE EXPENSE OF THE CONTRACTOR. ANY PROPERTY DAMAGE OR DAMAGE TO CONSTRUCTED FACILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AND OWNER AT THE SOLE EXPENSE OF THE CONTRACTOR.

EROSION CONTROL PLAN

AN APPROVED EROSION CONTROL PLAN IS REQUIRED FOR ALL PROJECTS INVOLVING EXCAVATION, DRILLING, OTHER EARTHWORK OR EXPOSED BARE SOIL. THE PLAN MUST BE SUBMITTED TO THE TOWN ENGINEER AND APPROVED PRIOR TO STARTING WORK. IMPLEMENT EROSION CONTROL MEASURES YEAR ROUND AS APPROPRIATE. REGULARLY MONITOR EROSION CONTROL MEASURES AND PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR INEFFECTIVE EROSION CONTROL MEASURES AS REQUIRED BY THE EROSION CONTROL PLAN. A SIGNED COPY OF THE EROSION CONTROL PLAN MUST BE POSTED AT THE WORK SITE.

DRAINAGE CONSTRUCTION REVIEW

THE CONTRACTOR SHALL CONTACT THE ENGINEER AND REQUEST REVIEW OF ALL SUBSURFACE DRAINAGE PIPING AND STORMWATER DRAINAGE PIPING AT LEAST 2 DAYS BEFORE PLACING BACKFILL MATERIAL.

RETAINING WALL AND FOUNDATION ELEVATIONS

BUILDING FOOTING, GRADE BEAM AND FOUNDATION WALL ELEVATIONS ARE SHOWN ON THE ARCHITECTURAL AND STRUCTURAL DRAWINGS. RETAINING WALL ELEVATIONS SHOWN ON THIS GRADING PLAN ARE BASED ON SURVEYED SITE TOPOGRAPHY. CONTACT THE ENGINEER IF ACTUAL SITE ELEVATIONS DIFFER FROM THE TOPOGRAPHY SHOWN ON THE GRADING PLAN. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL FOUNDATION AND RETAINING WALL ELEVATIONS WITH THE GRADING PLAN, ARCHITECTURAL PLANS, STRUCTURAL PLANS AND LANDSCAPE PLANS. CONTACT THE ENGINEER AND ARCHITECT TO RESOLVE ANY CONFLICTS BETWEEN WALL ELEVATIONS, FOUNDATION ELEVATIONS OR THE SITE TOPOGRAPHY.

ESTIMATED EARTHWORK QUANTITIES

EXCAVATION	10 CY
FILL	70 CY
IMPORT	60 CY
MAX. EXCAVATION DEPTH	1 FT
MAX. FILL DEPTH	5 FT
DISTURBED AREA	0.10 AC

EARTHWORK NOTES:

1. QUANTITIES ARE "IN-PLACE" ESTIMATES AND DO NOT INCLUDE AN ALLOWANCE FOR SHRINK OR SWELL. ESTIMATES ARE FOR PERMITTING PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING QUANTITIES FOR CONSTRUCTION PURPOSES.

2. SITE GRADING IS NOT PERMITTED BETWEEN OCTOBER 15 AND APRIL 15 UNLESS PERMITTED IN WRITING BY THE BUILDING OFFICIAL/ DIRECTOR OF PUBLIC WORKS.

GREEN BUILDING STANDARDS

1. THE GRADING AND DRAINAGE PLAN SHOWN ON THE DRAWINGS COMPLIES WITH CALIFORNIA GREEN BUILDING CODE STANDARDS SECTION 4.106.3 REQUIRING MANAGEMENT OF SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS.

2. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING STORMWATER DRAINAGE DURING CONSTRUCTION TO PREVENT FLOODING OF ADJACENT PROPERTY, PREVENT EROSION AND RETAIN RUNOFF ON THE SITE AS REQUIRED BY CALIFORNIA GREEN BUILDING CODE STANDARDS SECTION 4.106.2.

STORMWATER PLAN SUMMARY

	EXISTING SITE	PROPOSED SITE DEVELOPMENT PLAN
IMPERVIOUS SURFACES	3,439 SF	2,453 SF
CONCRETE PAVERS (PERVIOUS)	0 SF	0 SF
LANDSCAPE (PERVIOUS)	11,284 SF	12,270 SF
TOTAL LOT AREA	14,723 SF	14,723 SF

STORMWATER NOTES:

1. IMPERVIOUS SURFACES INCLUDE ROOF, DRIVEWAY, WALKWAYS AND PATIOS. FOR DRAINAGE PURPOSES, IMPERVIOUS AREA INCLUDES ROOF EAVE OVERHANG AREA.

2. NEW OR REPLACEMENT IMPERVIOUS AREA IS 146 SF.

LTD Engineering, Inc.
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Tel. 415.446.7402 Fax 415.446.7419
gdearth@LTDengineering.com

PROFESSIONAL ENGINEER GREGORY D. DEARTH 39124 9-30-21 CIVIL OF CALIFORNIA

DATE:

PROGRESS PRINT NOT FOR CONSTRUCTION

ISSUED FOR REVIEW
NOT FOR CONSTRUCTION

HOLDER DESIGN ASSOCIATES

APN ??-???-??
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

REVISIONS		
NO.	DATE	DESCRIPTION
2	7/16/19	ISSUED FOR REVIEW
1	8/2/19	PARKING ADDED
△		
△		
△		

DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	NA
DATE: 7/16/2019	PROJECT NO. 546.001

COVER SHEET

REVISION 1

SHEET NO. 1 OF 6

DRAWING C-1

EXISTING UTILITY LOCATION

CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL EXISTING UTILITIES PRIOR TO STARTING WORK. CONTACT THE ENGINEER TO REVIEW UTILITY LOCATION AND ANY CONFLICTS WITH THE PROPOSED WORK PRIOR TO STARTING WORK. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE ASSUMED LOCATIONS BASED ON VISIBLE FEATURES AND MAY NOT INCLUDE ALL EXISTING UTILITIES.

CONTRACTOR VERIFY EX GAS SERVICE AND COORDINATE WITH PG&E

EX WATER SERVICE. UPGRADE AS REQUIRED FOR FIRE SPRINKLERS

EX GAS METER TO REMAIN

ESTIMATED ROOF EDGE (1 FOOT FROM HOUSE WALLS)

SUBDRAIN OUTLET INV 88.0 (5/C-3)

4" PVC

WIDEN PAVING FOR FIRE TRUCK

EX WATER METER

FIRE MARSHALL APPROVED CLEARANCE

TOYON DRIVE

TYPICAL ROOF LEADER CONNECTION (3/C-3)

EX RESIDENCE

ULFF = 45.34'

LLFF = 84.00'

DI #1 RIM 94.5 INV 93.9

9'x18' GUEST PARKING STALL

RELOCATE NEW WOOD FENCE

WIDEN DRIVEWAY

SUBDRAIN CLEANOUT (6/C-3)

HP SUBDRAIN INV 91.9

EX ELEVATED WOOD DECK x 95.3

20 FOOT-LONG LEVEL SPREADER (7/C-4)

TYPICAL CONCRETE PAVER (11/C-4)

FOUNDATION DRAINAGE AT CRAWL SPACE (4/C-3)

ADDITION

AD

PLANTER

DI #2 RIM 94.5 INV 93.8 (4/C-3)

CLEANOUT FOR FLUSHING SEDIMENT OUT OF LEVEL SPREADER

TYPICAL CONCRETE PAVER BELOW ELEVATED DECK

EX ELECTRIC METER TO REMAIN

EX WOOD WALL

4" PVC SUBDRAIN OUTLET PIPE

BPP

94.7 x

DN

DN

x 89.90

SUBDRAIN OUTLET INV 82.0

GATE

4" PVC S=0.020 MIN

PROPOSED RETAINING WALL

EX CONCRETE DRIVEWAY

EX JOINT POLE

STORMWATER PIPE (1/C-3)

RETAINING WALL SUBDRAIN (9/C-4)

WALL SUBDRAIN OUTLET (8/C-4)

9'x18' GUEST PARKING STALL

EX OVERHEAD ELECTRIC AND COMMUNICATION TO REMAIN

NEW SEWER LATERAL SEE DRAWINGS C-4 & C-5

EX UTILITY EASEMENT

LAWN x 86.5

TYP WOOD RETAINING WALL

NEW CONCRETE RETAINING WALL

APN 003-081-40 75 WOODLAND ROAD

TYP EX CONCRETE WALL

BACKFILL EX SWIMMING POOL

5'-0" SEWER EASEMENT

EX FENCE

NEW FENCE

EX RETAINING WALLS

APN 003-081-34 10 WOODLAND COURT

TRENCH DAM (10/C-4)

MATCH LINE SHEET C-3 FOR SEWER LATERAL

DRAINAGE INLET SCHEDULE

NUMBER	DROP INLET	FRAME & GRATE
AD	4" PVC SWEEP ELBOW OR WYE FITTING	NDS #78 BLACK ROUND 4" ATRIUM GRATE
I	NDS #900 SQUARE 9" CATCH BASIN	NDS #981 BLACK 9" SQUARE ATRIUM GRATE

N

0 5 10 15

SCALE IN FEET

LTD Engineering, Inc.
1050 Northgate Drive, Suite 315
San Rafael, CA 94903
Tel. 415.446.7402 Fax 415.446.7419
gdearth@LTDengineering.com

PROFESSIONAL ENGINEER GREGORY D. DEARTH 39124 3-30-21 REGISTERED CIVIL ENGINEER STATE OF CALIFORNIA

DATE:

PROGRESS PRINT NOT FOR CONSTRUCTION

ISSUED FOR REVIEW NOT FOR CONSTRUCTION

HOLDER DESIGN ASSOCIATES

APN 003-081-39
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

REVISIONS		
NO.	DATE	DESCRIPTION
1	7/16/19	ISSUED FOR REVIEW
2	8/2/19	PARKING ADDED
3		
4		
5		
6		

DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	1" = 5'-0"
DATE: 7/16/2019	PROJECT NO. 596.001

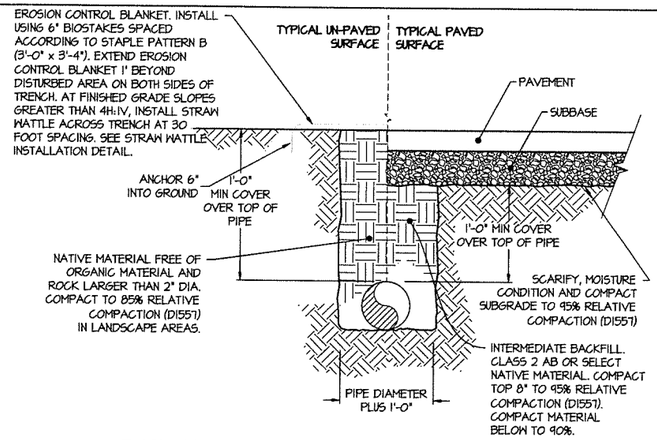
GRADING AND DRAINAGE PLAN

REVISION 1

SHEET NO. 2 OF 6

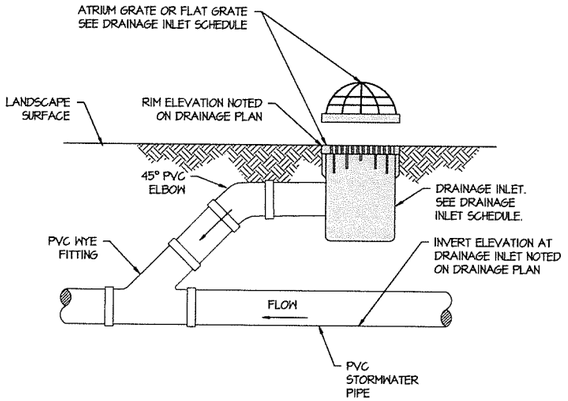
DRAWING C-2

C:\CAD\Holder Design Assoc Toyon Dr Fairfax (596.001) Grading and Drainage\Design\Holder Conceptual Grading and Drainage (Rev 1).dwg, 9/30/2019 1:44:19 PM



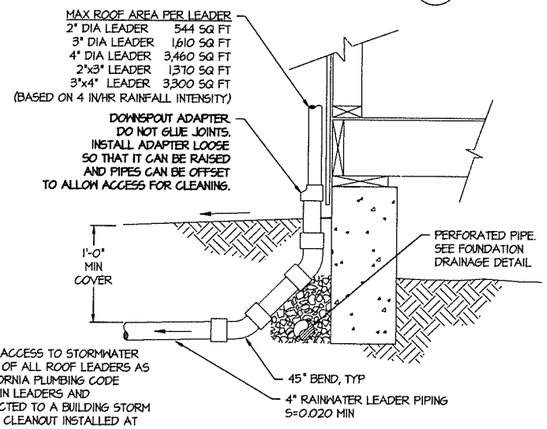
TYPICAL DRAINAGE PIPE TRENCH DETAIL 3", 4" AND 6" DIAMETER PIPE

NO SCALE — 1 / C-2



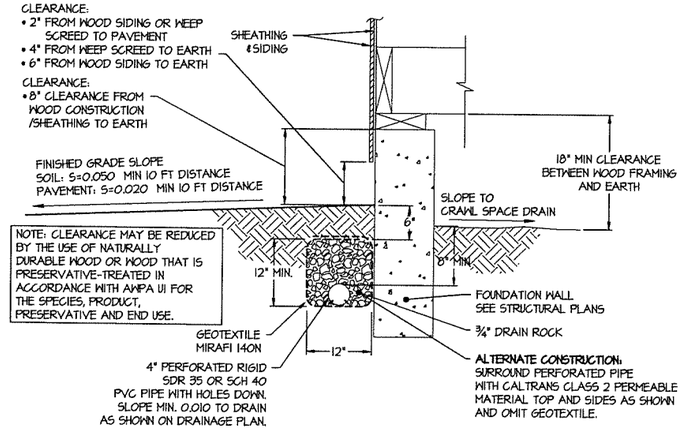
LANDSCAPE DRAINAGE INLET DETAIL

NO SCALE — 2 / C-2



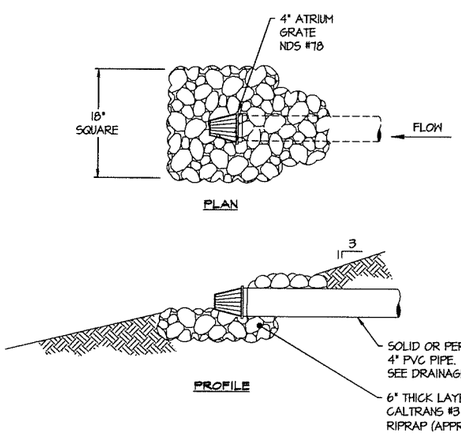
ROOF LEADER CONNECTION DETAIL

NO SCALE — 3 / C-2



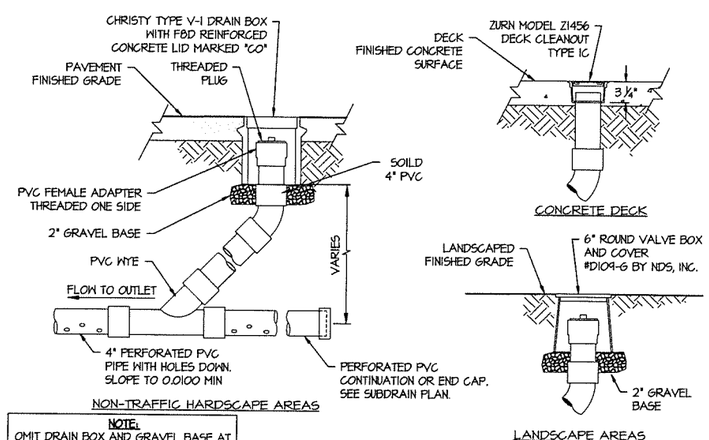
FOUNDATION DRAINAGE AT CRAWL SPACE DETAIL

NO SCALE — 4 / C-2



SUBDRAIN OUTLET DETAIL

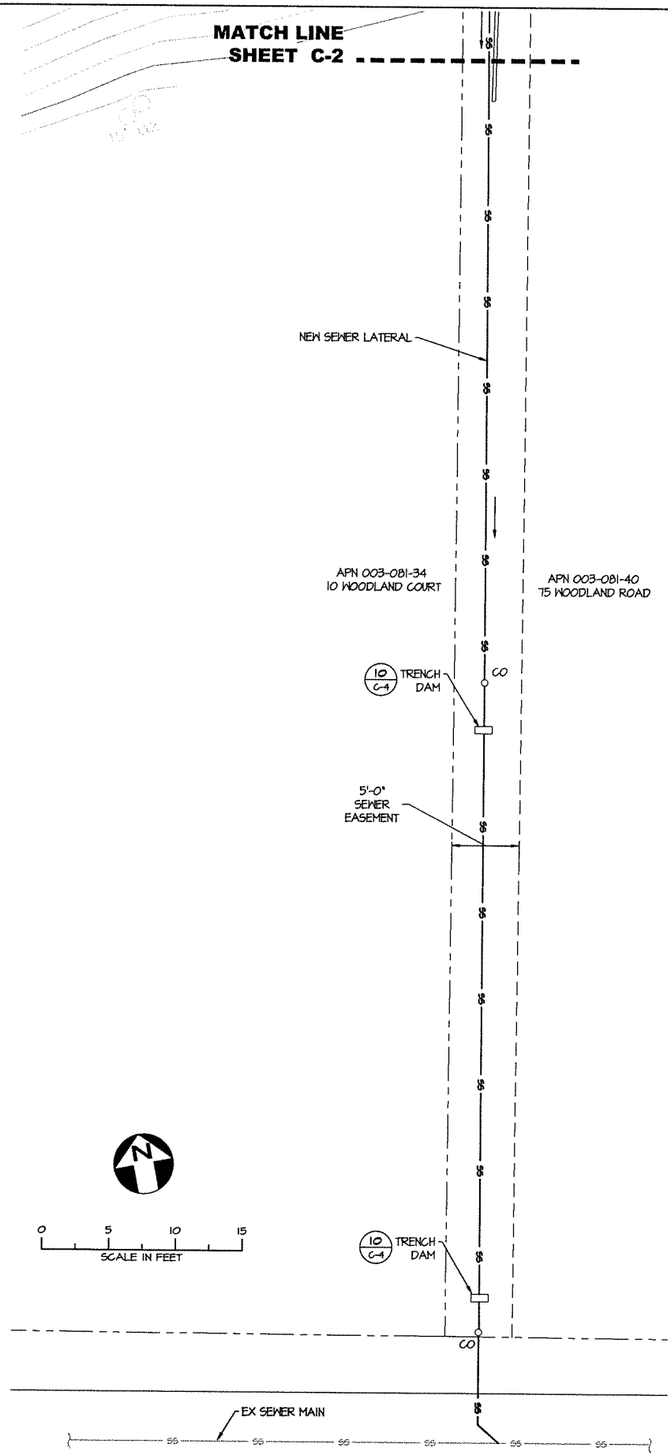
NO SCALE — 5 / C-2



NOTE: OMIT DRAIN BOX AND GRAVEL BASE AT CLEANOUTS LOCATED IN CRAWL SPACE. SET THREADED PLUG 6" ABOVE FINISHED GRADE IN CRAWL SPACE.

SUBDRAIN CLEANOUT DETAIL

NO SCALE — 6 / C-2



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GREGORY D. DEARTH — 39124 — 10-30-21 — REGISTERED PROFESSIONAL ENGINEER — CIVIL — STATE OF CALIFORNIA

DATE:

PROGRESS PRINT NOT FOR CONSTRUCTION

ISSUED FOR REVIEW NOT FOR CONSTRUCTION

HOLDER DESIGN ASSOCIATES

APN 003-081-39
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

REVISIONS		
NO.	DATE	DESCRIPTION
2	7/16/19	ISSUED FOR REVIEW
1	8/2/19	NO CHANGES

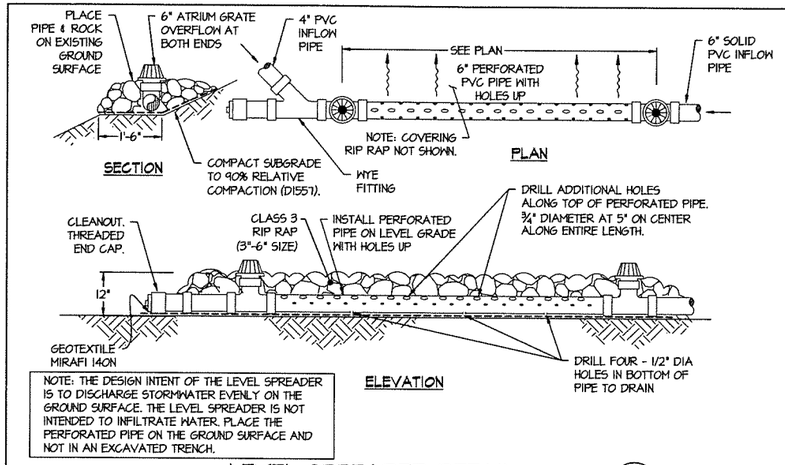
DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	AS SHOWN
DATE: 7/16/2019	PROJECT NO. 546.001

DETAILS (1 OF 2)

REVISION 1

SHEET NO. 3 OF 6

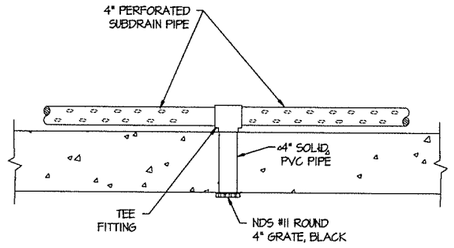
DRAWING **C-3**



LEVEL SPREADER DETAIL

NO SCALE

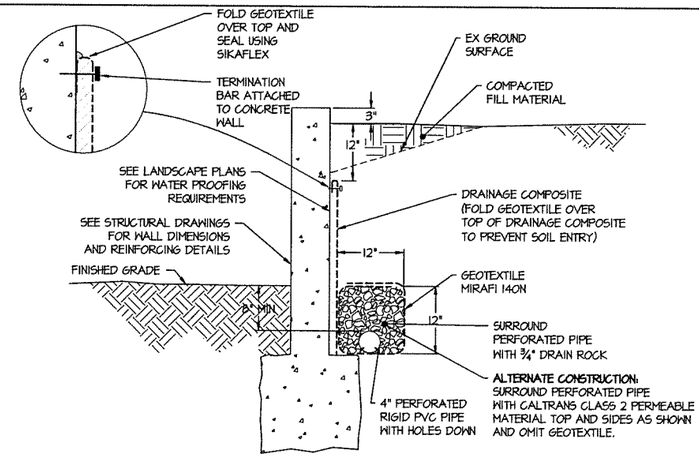
7 / C-2



RETAINING WALL SUBDRAIN OUTLET

NO SCALE

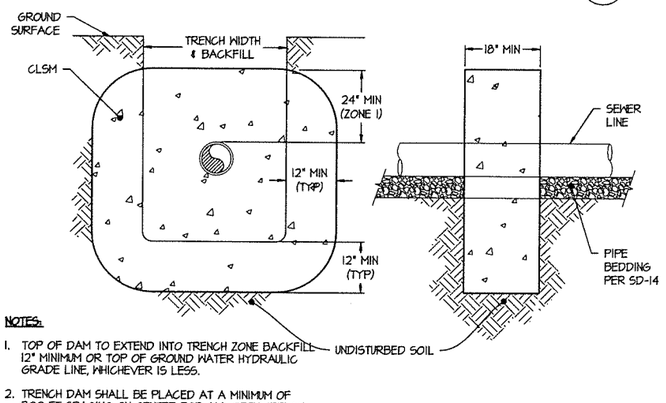
8 / C-2



TYPICAL RETAINING WALL SUBDRAIN DETAIL

NO SCALE

9 / C-2



NOTES:

1. TOP OF DAM TO EXTEND INTO TRENCH ZONE BACKFILL 12" MINIMUM OR TOP OF GROUND WATER HYDRAULIC GRADE LINE, WHICHEVER IS LESS.
2. TRENCH DAM SHALL BE PLACED AT A MINIMUM OF 300 FT SPACING ON CENTER FOR ALL OPEN TRENCH INSTALLATIONS.

SEWER LATERAL TRENCH DAM DETAIL

NO SCALE

10 / C-2

AC PAVING DETAIL

NO SCALE

11 / C-2

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PROFESSIONAL ENGINEER — GLEN D. DEARTH — 39124 — 6-30-21 — CIVIL — STATE OF CALIFORNIA
DATE:

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ISSUED FOR REVIEW
NOT FOR CONSTRUCTION

HOLDER DESIGN ASSOCIATES

APN 003-081-39
88 TOYON DRIVE
FAIRFAX, CALIFORNIA

REVISIONS		
NO.	DATE	DESCRIPTION
2	7/16/19	ISSUED FOR REVIEW
1	8/2/19	NO CHANGES

DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	AS SHOWN
DATE: 7/16/2019	PROJECT NO. 596.001

DETAILS (2 OF 2)

REVISION 1
SHEET NO. 4 OF 6
DRAWING C-4

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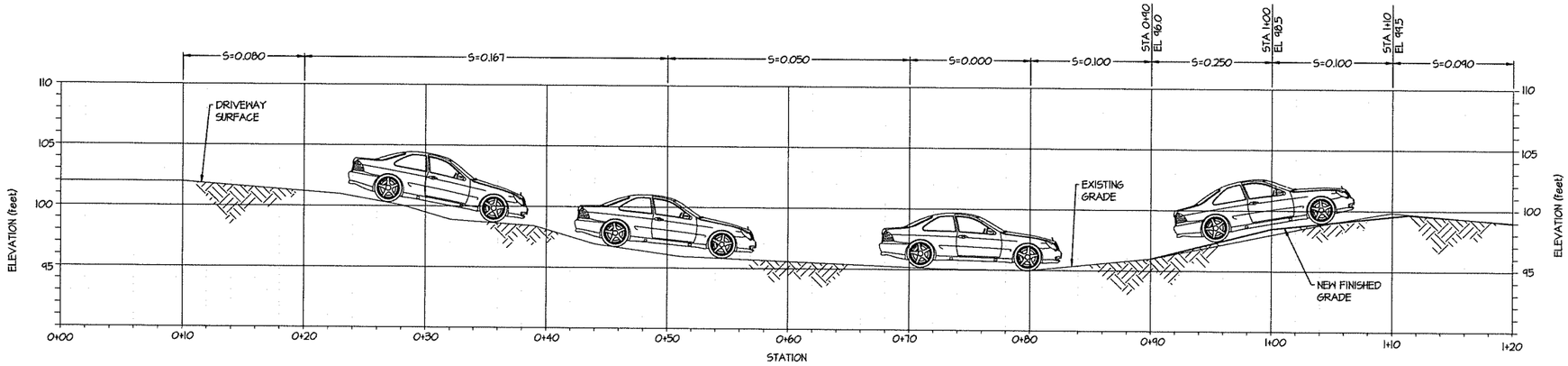
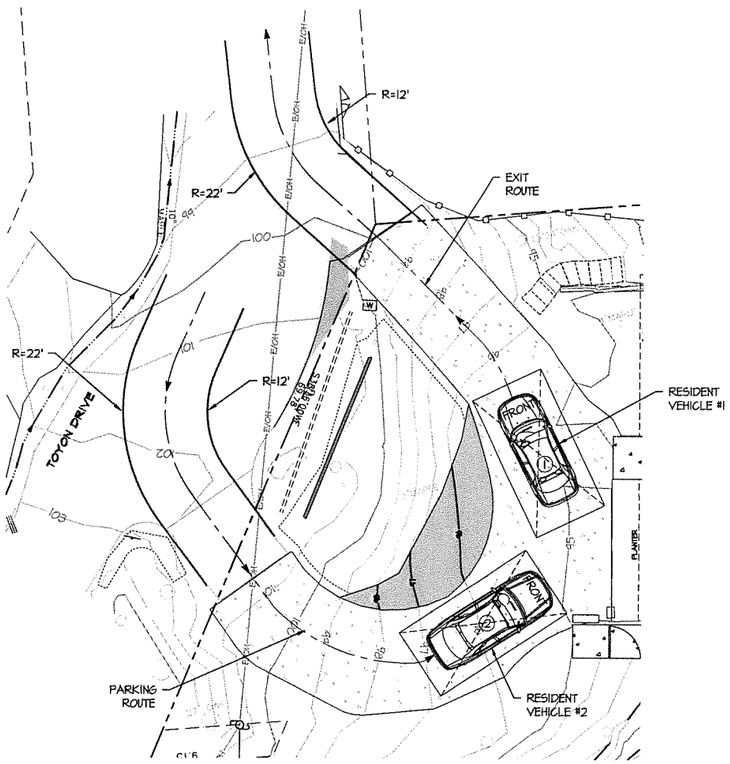


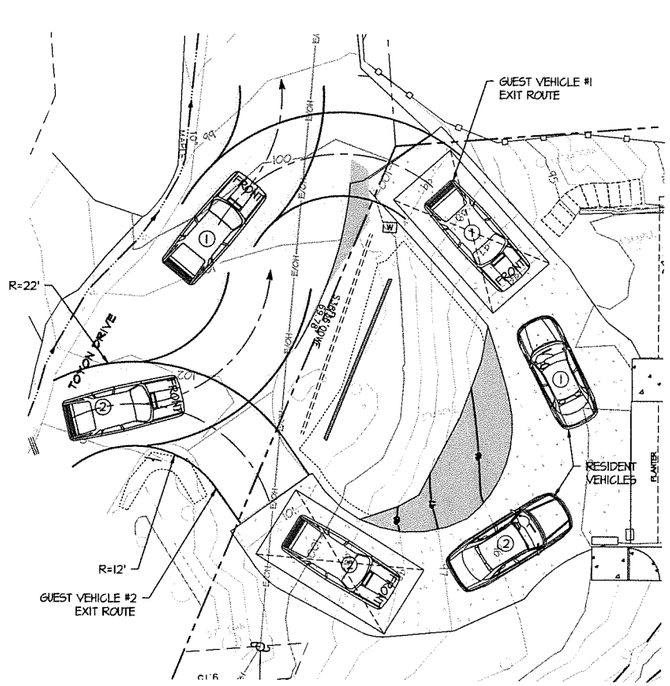
DRIVEWAY PROFILE

SCALE: 1"=10'



RESIDENT PARKING DETAIL

SCALE: 1"=8'-0"



GUEST PARKING DETAIL

SCALE: 1"=8'-0"

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PROFESSIONAL ENGINEER — GREGORY D. DEARTH — 39124 — 9-30-21 — REGISTERED CIVIL ENGINEER — STATE OF CALIFORNIA

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FAIRFAX, CALIFORNIA

REVISIONS		
NO.	DATE	DESCRIPTION
2	9/26/19	ISSUED FOR REVIEW
1	8/2/19	SHEET ADDED

DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	AS SHOWN
DATE:	PROJECT NO.
9/26/2019	546.001

DRIVEWAY PROFILE AND PARKING

REVISION 1

SHEET NO. 5 OF 6

DRAWING **C-5**

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Continued from sheet C-7

WATER SYSTEM NOTES

1. Coordinate all water service line and water meter replacement work with Marin Municipal Water District.
2. Do not operate valves on existing public water mains. Contact Marin Municipal Water District personnel to operate valves.
3. Unmetered connections to the public water system are not permitted. Do not bypass water meter for testing on-site plumbing or for obtaining construction water.
4. Size water meter and water service line for required fire sprinkler flow rates.
5. Install backflow prevention assembly and regulator in compliance with Marin Municipal Water District approved standards for equipment and installation.
6. Install all water piping with minimum 30 inch cover over crown of pipe.
7. Contact the Engineer and Marin Municipal Water District to request review of all water system piping at least 2 days before placing backfill material in the pipe trench.

SEWER SYSTEM NOTES

1. Comply with all requirements of Ross Valley Sanitary District No. 1 Standard Specifications and Drawings, and the California Plumbing Code.
2. Notify the District 48 hours prior to starting any sewer work.
3. Obtain an encroachment permit from the agency having jurisdiction for any work in a public street
4. The locations of utilities shown on these plans are approximate only, and it is the Contractor's responsibility to verify locations and depths with appropriate agencies or by potholing. Call USA Underground Service Alert at least 72 hours prior to commencing work.
5. Notify the District and the Engineer immediately of any conflict between sewers and other underground facilities.
6. Shore all excavations in accordance with applicable safety orders.
7. All sewer laterals shall be a minimum 4 inches inside diameter and shall have a minimum slope of 2.0% and minimum depth of cover at the property line of 3.0 feet (measured from the top of curb), unless otherwise noted on these plans.
8. CPC 718.1 Building sewers shall be run in practical alignment and at a uniform slope of not less than 1/4 inch per foot (0.021) toward the point of disposal. Exception: Where approved by the Authority Having Jurisdiction and where it is impractical due to the depth of the street sewer or to the structural features or to the arrangement of a building or structure, to obtain a slope of 1/4 inch per foot such pipe or piping 4 inches through 6 inches shall be permitted to have a slope of not less than 1/8 inch per foot (0.010) and such piping 8 inches and larger and shall be permitted to have a slope of not less than 1/16 inch per foot (0.0052).
9. CPC 707.4 Each horizontal drainage pipe shall be provided with a cleanout at its upper terminal, and each run of piping, that is more than one-hundred (100) feet in total developed length, shall be provided with a cleanout for each one-hundred (100) feet, or fraction thereof, in length of such piping. An additional cleanout shall be provided in a drainage line for each aggregate horizontal change of direction exceeding 135 degrees.
10. CPC 723.1 Before backfilling sewer pipe trench, test the sewer for leaks. Test building sewers by plugging the end of the building sewer at its points of connection with the public sewer or sewage disposal system and completely filling the building sewer with water from the lowest to the highest point thereof. Repair any leaking joints and retest.
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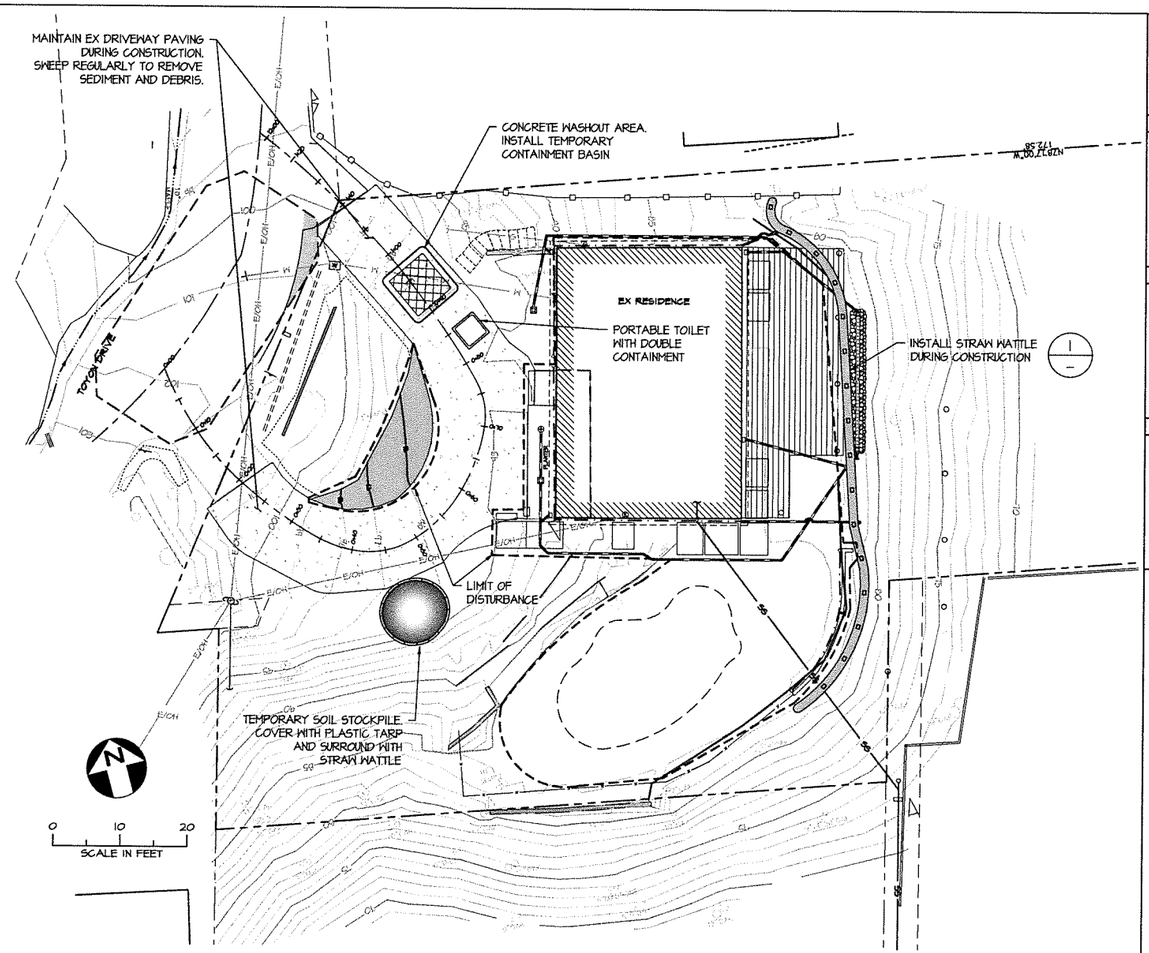

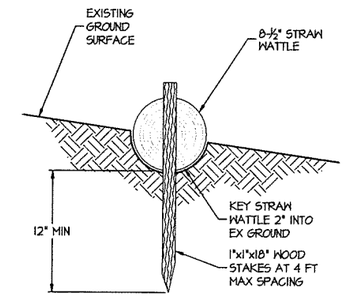

STRAW WATTLE DETAIL (1/—)

NO SCALE

SITE RESTORATION

SEE LANDSCAPE PLANS FOR PERMANENT SITE RESTORATION AND EROSION CONTROL DETAILS.

STRAW WATTLE SPACING

GROUND SURFACE SLOPE	HORIZONTAL SPACING
4:1 OR FLATTER	20 FT.
BETWEEN 4:1 AND 2:1	15 FT.
2:1 OR STEEPER	10 FT.

EROSION CONTROL REQUIREMENTS

CONTRACTOR SHALL INSTALL EROSION CONTROL AND WATER COURSE PROTECTION MEASURES PRIOR TO DISTURBING THE SITE, AND SHALL INSPECT, REPAIR OR REPLACE PROTECTION MEASURES AS NEEDED TO REMAIN EFFECTIVE THROUGHOUT THE DURATION OF THE WORK.

PREDICTED RAINFALL PREPARATION

STOCKPILE STRAW WATTLE, TARPS AND OTHER EROSION AND SEDIMENT CONTROL MATERIALS ON-SITE YEAR ROUND AND READY FOR INSTALLATION.

INSTALL, INSPECT AND REPAIR EROSION CONTROL AND STORMWATER POLLUTION PREVENTION MEASURES PRIOR TO PREDICTED RAINFALL.

1. INSTALL TEMPORARY DRAINAGE PIPING
2. INSPECT AND REPAIR ALL TEMPORARY EROSION CONTROL MEASURES
3. INSPECT, CLEAN AND REPAIR SEDIMENT TRAPS AND STRAW WATTLES
4. INSTALL STOCKPILE COVERS AND STRAW WATTLE
5. PLACE ALL HAZARDOUS MATERIALS IN STORAGE AND PROTECT FROM RAINFALL
6. PLACE ALL DEBRIS AND WASTE MATERIALS IN DISPOSAL BINS
7. COVER WASTE DISPOSAL BINS WITH WATERPROOF TARPS

SEE EROSION CONTROL MONITORING AND MAINTENANCE TABLE FOR FURTHER REQUIREMENTS

EROSION CONTROL & STORMWATER POLLUTION PREVENTION

1. COMPLY WITH ALL RULES, REGULATIONS AND PROCEDURES OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT FOR CONSTRUCTION ACTIVITIES AS REQUIRED BY THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD AND THE TOWN OF FAIRFAX. IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES (BMPS) FOR EROSION CONTROL AND STORMWATER POLLUTION PREVENTION. COMPLY WITH ALL REQUIREMENTS OF THE PROJECT EROSION CONTROL PLAN AND THE PROJECT STORMWATER POLLUTION PREVENTION PLAN (SWPPP).
2. INSTALL EROSION CONTROL MEASURES IN ACCORDANCE WITH THE PRODUCT MANUFACTURER'S RECOMMENDATIONS, THE CALIFORNIA STORMWATER BEST MANAGEMENT PRACTICES HANDBOOK (CALIFORNIA STORMWATER QUALITY ASSOCIATION, (www.cabmphandbooks.com) AND THE PROJECT EROSION CONTROL PLAN.
3. PRIOR TO OCTOBER 1ST, INSTALL EROSION CONTROL AND STORMWATER POLLUTION PREVENTION MEASURES NECESSARY TO MINIMIZE EROSION, CONTAIN ERODED SEDIMENT ON-SITE AND PREVENT POLLUTION OF STORMWATER RUNOFF.
4. REGULARLY MONITOR EROSION CONTROL AND MEASURES BETWEEN OCTOBER 15TH AND APRIL 1ST. PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR INEFFECTIVE EROSION CONTROL MEASURES AS REQUIRED BY THE PROJECT EROSION CONTROL PLAN.
5. REGULARLY MONITOR STORMWATER POLLUTION PREVENTION MEASURES YEAR-AROUND THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROMPTLY REPAIR OR REPLACE ANY DAMAGED OR INEFFECTIVE STORMWATER POLLUTION PREVENTION MEASURES AS REQUIRED BY THE PROJECT STORMWATER POLLUTION PREVENTION PLAN.
6. VISIT THE MARIN COUNTY STORMWATER POLLUTION PREVENTION PROGRAM (MCSTOPPP) WEBSITE FOR ADDITIONAL RESOURCES AND GUIDANCE ON EROSION CONTROL AND STORMWATER POLLUTION PREVENTION: http://mcstoppp.org/rendevresources.htm
7. SEE LANDSCAPE DRAWINGS FOR PERMANENT EROSION CONTROL AND SITE RESTORATION PLANTING.

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PROFESSIONAL ENGINEER GREGORY D. DEARTH 39124 8-30-21 REGISTERED CIVIL ENGINEER

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DESIGNED BY:	G. DEARTH
DRAWN BY:	E. HAYDEN
APPROVED BY:	
SCALE:	1" = 10'-0"
DATE: 7/16/2019	PROJECT NO. 546.001

EROSION CONTROL PLAN

REVISION 1

SHEET NO. 6 OF 6

DRAWING C-6