Attachment to Planning Application Form – HRD additional information

HRD OVERLAY ZONE DEVELOPMENT STANDARDS

In effect, building a new home on the site is two projects in one. The proposed hillside repair, with mitigation measures to stabilize the hillside, and residence on a specially engineered foundation is designed to comply with the town's HRD Overlay Zone's development standards, set forth in section #17.072 of the Fairfax Zoning Ordinance, in these ways:

- The site will have minimal grading beyond that required to complete excavation and restore the original contour negatively altered by a landslide;

- A safe means of ingress and egress to the hillside area would be provided, enhanced by the improvements to the town's right-of-way and access entry to the home, including a turn out area available to the fire department that will serve the new home, two adjacent homes, and if necessary, up to three homes across the road;

- Water runoff from the hillside will be minimal and controlled with a new drainage system incorporated into the retaining wall/foundation. Excavation and retaining wall/foundation construction will occur during the dry season cycle to minimize soil erosion;

- Stabilization of the hillside as proposed will help prevent, in the event of earthquake, a geologic hazard, that could be injurious to public health and safety, damage property, or cause economic dislocations;

- The project is an infill development that would conform to the size and scale appropriate to the site and in conformance to existing homes on Acacia Road.

The Acacia Road neighborhood has an eclectic mix of housing built from the 1920's to the '90's. Existing homes range from older, small, former seasonal bungalows and cottages converted to year-round occupancy and often expanded, to newer, larger, more contemporary homes with two-car garages. The subdivided lot sizes (13 on Acacia & 2 on Manor with back yards on Acacia) range from 3,225 to 9,600 square feet, while these homes' "living areas" range from 1,100 to over 2,500 square feet.

Overall, the proposed residence is about mid-way in size for the neighborhood. Off-street parking is limited along the narrow road and town right-of-way. Only a few homes have covered garages for two vehicles, contributing to parking congestion.

Utilizing the town's measurement guidelines, all space is measured from the outside walls, which for typical homes without a retaining wall/foundation is fine. The home's "livable space" is 1,977 square feet, to which is added the sub-level garage, unfinished entry area and utility space of 790 square feet, to total 2,767 square feet.

However, there is a slight measurement anomaly with the proposed home. The foot thick retaining walls require 123 square feet of the livable space to yield a net figure of 1,854 square feet. The sub-level retaining wall space requires 84 square feet, to yield 706 useable square feet for the garage and entry/utility area. Therefore, to be factually comparable to its Acacia Road neighbors, the proposed home's total size should be 2,560 square feet.

The table below compares the proposed residence to the Acacia Road homes within proximity to the site, all built or expanded since the 80's. These newer homes are the most comparable in design and size, having mostly larger living areas, but most have smaller garages. The proposed home's two-space garage and up to two additional off street parking spaces will help alleviate parking congestion. No parking will be permitted in the fire service's turn-out area.

Comparable Acacia Road Residences						
Address	Lot size	House size			FAR	Remarks
		Living area	Garage/unfinished	Total		
Proposed res.	**6,400**	**1,854**	**706**	**2,560**	**29.0**	W/O ret. walls
10 Acacia	9,000	1,762	292	2,054	19.6	
16 Acacia	9,600	2,270	144	2,414	23.6	
18 Acacia	8,400	2,106	322	2,428	25.1	
26 Acacia	8,350	2,200	300	2,500	26.3	Carport
34 Acacia	4,600	2,575	480	3,055	56.0	
Note 1: All figures shown are in square feet, obtained from the Marin County tax assessor's office						

Attachment to Supplemental Questionnaire Form – Excavation & side yard variances

VARIANCES

Statement 1: A variance is requested for excavation to remove 840cy of unstable, dangerous soil in the vicinity of a landslide head scarp, as depicted in a geotechnical investigation report of July 25, 2007 by Herzog Geotechnical, consulting engineers, made a part of the application. To ensure long term stability of the hillside, a side yard variance is requested to allow installation of an engineered three-sided retaining wall integrated as a single unit with a foundation and hillside drainage system.

FINDINGS

Statement 1: *Special Circumstances.*

- In the vicinity above, below and laterally from the landslide head scarp, loose, unstable soil must be removed to safely stabilize the hillside. This activity would include grading of slumping soil, repair and restoration of the hillside's original contours;

- Years of downhill "creep" of the lot's soils has undermined numerous bay trees, and threatens the integrity of a grove of 10 century old native Coast redwood trees, that begin at the 207 foot elevation and must be preserved;

- To safely mitigate the hillside's instability, extensive reinforcement and proper drainage are required;

- The lot's narrow, 42-foot width, prevents installation of the recommended engineered solution without a side yard variance.

We believe under these circumstances the requested variances are warranted and do not constitute a grant of special privileges.

Statement 2: *Health and Safety – No Material Affect*

- Long term hillside stability is assured with installation of a 32-foot rear retaining wall that features side retaining walls, integrated into a foundation with a drainage system. Tie back rods will be anchored into bedrock. The walls retain the slope while the foundation provides structural lateral stiffness. The drainage system will incorporate maintenance features to prevent blockages and enable controlled flow of run off;

- Mitigation of the site's unstable soil will protect adjacent homes at 13, 18 and 19 Acacia Road from future landslides that could topple and propel the redwood trees downslope at great risk to health and safety;

- Lot configuration for 13 Acacia Road, steep elevation, the home's location, and proximity to 7 Acacia Road, situated adjacent behind and at a higher elevation, will not allow rear or side yard expansion. The requested side yard variance will not materially affect the home or lot at 13 Acacia Road, since it and the proposed home's elevation will not be in alignment. Aesthetically, the proposed five foot upslope side yard will appear to be over 30 feet wide. The three homes, including 19 Acacia Road, will not appear cramped.

Statement 3: *Town Ordinance*

- The soil/geotechnical engineer recommends a retaining wall as wide as possible across the 42-foot wide lot. A 42 foot wide wall will require considerable excavation and full encroachment into both side yards. With required 20-foot combined side yards, a 22-foot wide retaining wall with no side yard encroachment, permitted under the town ordinance, will not fully retain the hillside nor provide drainage in the vicinity of the landslide adjacent to 13 Acacia Road;

- The proposed engineered solution, in effect a compromise, for a 32-foot wide retaining wall/foundation system, reduces required excavation, provides appropriate drainage and ensures long term safety and stability for the hillside. We believe a hardship will occur if the requested excavation and side yard variances cannot be obtained.

Statement 4: *Findings of Fact*

- The site's special features, including narrow width, unstable soil conditions, threatened redwood trees and landslide history combine to justify an exemption that will not be granting of special privileges;

- The variances are consistent with other properties in town with odd configuration, steep elevations and unstable soil that involve extraordinary circumstances and require special measures to mitigate the issues;

- Hardship and potential liability occurs if strict enforcement prevents execution of the engineered soil stability solution as recommended by the engineers;

- Owner/applicant and Acacia Road neighbors agree that the project and grant of the requested variances is in the public interest by allowing the remediation of an unsafe situation;

- Positioning the proposed residence further upslope would require more extensive excavation and retaining wall and drainage installation, plus removal of redwood trees that must be preserved, making this option unfeasible.

Attachment to Supplemental Questionnaire Form – Retaining wall height variance

VARIANCE

Statement 1: A variance is requested for construction of side retaining walls that exceed the 4 foot permitted height within the 6 foot front yard set back area.

FINDINGS

Statement 1: *Special Circumstances*

- To accomplish the hillside's soil stabilization and mitigate a past landslide, an engineered retaining wall/foundation system would be installed;

- The lot's steep slope features a grade elevation that falls off from south to north, requiring a higher retaining wall on the south side. These side walls will step down from 9 to 6 feet (south wall) and 9 to 4 feet (north wall) within the 6 foot front yard set back area;

- For safety and aesthetic purposes, the south retaining wall would connect to an existing wall at 13 Acacia Road, installed in early 2007 as a "Phase I" step to stabilize the hillside and residence. This wall is 6 feet high, located in the town's right-of-way, and required a variance;

- The existing retaining wall at 19 Acacia Road is over 9 feet high to accommodate a carport parking area. Connecting to this wall at 4 feet in the town's right-of-way, the north wall would ascend to a maximum of 9 feet in height in the 6 foot front yard set back area.

We believe under these circumstances the requested variance is warranted and does not constitute a grant of special privileges.

Statement 2: *Health and Safety – No Material Affect*

- The Ross Valley Fire Service has requested a turn-out area be created that would utilize Acacia Road and the town's right-of-way that is unusually wide in front of the proposed residence;

- A turn-out can be made physically possible with construction of the retaining walls that would be permitted upon grant of the requested variance;

- The variance will positively impact the health and safety of the neighborhood, specifically the homes at 13, 16, 18, 19 and 26 Acacia Road, by providing a turn-out fire safety feature that currently does not exist along the narrow road.

Statement 3: *Town Ordinance*

- The town's ordinance allows retaining walls up to 4 feet high within the 6 foot front yard setback area;

- Strict interpretation of the ordinance would create a hardship and compromise safety by preventing physical connection to utilize adjacent retaining walls, incorporate the fire service's requested turn-out, and create an aesthetically appealing outcome that would serve the proposed home and benefit neighboring homes.

Statement 4: *Findings of Fact*

- The site's special features, including narrow width, unstable soil conditions, threatened redwood trees and landslide history combine to justify an exemption that will not be granting of special privileges;

- The variance is consistent with other properties in town with odd configuration, steep elevations and unstable soil that involve extraordinary circumstances and require special measures to mitigate the issues;

- Connecting the new retaining walls for the proposed residence with the two existing retaining walls at 13 and 19 Acacia Road is a logical and practical approach to secure the lower portions of the hillside;

- Aesthetically, the new home, an "in-fill" project, will better fit in with its neighbors. The front elevation will have a neatly finished appearance at the garage/entry level that will physically comport with the adjacent homes at 13 and 19 Acacia Road;

- The retaining wall "connections" will ensure sufficient margins for space that will physically enhance installation of an important fire service turn-out in front of the proposed residence that will also provide an extra margin of safety for five nearby homes.

Attachment to Supplemental Questionnaire Form – 4th level mezzanine loft variance

VARIANCE

Statement 1: A variance for an exception is requested to allow mezzanine loft space in an attic area on a separate level, open to and above the living areas below.

FINDINGS

Statement 1: *Special Circumstances*

- To accomplish the hillside's soil stabilization and safely mitigate a landslide, an engineered retaining wall/foundation system would be installed;
- A considerable portion of the home will be below grade, affecting access and exit options and limiting adequate natural light penetration to the interior;
- The lot's narrow width affects layout options typically available for down slope and flat lots, or wider upslope lots;
- A utility room located in the garage level is the only location suitable to house the home's specialized heating, ventilation ducting, rainwater and gray water collection systems, associated cistern, solar hot water tankage and the supporting plumbing apparatus for recycling water. The attached photos of a contemporary comparable system's utility room are for reference.
- The foot-thick foundation/retaining walls require 123 square feet of livable area that in normal circumstances could be devoted to space for rooms;
- Access and exits require large staircases in the livable area connecting each level, reducing the useable space for rooms by over 200 square feet;
- The one room mezzanine loft space, open to the level below, will help offset the loss of natural light by allowing additional light penetration from the southern exposure through large window/door openings;
- Rear solar panels are to occupy the west roof area, out of sight when viewed from the front elevation, which is intended to emulate neighborhood homes with no dormers, skylights or other roof treatments visible from the road;
- Placement of the 211 square foot mezzanine loft space in the rear of either level of living area below the mezzanine loft would necessitate the retaining wall/foundation be positioned further upslope.

We believe under these circumstances the requested variance for an exception is warranted and does not constitute a grant of special privileges.

Statement 2: *Health and Safety – No Material Affect*

- Granting the requested variance will not negatively affect health and safety of the neighborhood or community.

Statement 3: *Town Ordinance*

- The town's ordinance would allow an open attic area as proposed that would be utilized for installation a solar powered clean air circulation fan. The "4th level" mezzanine loft area as proposed is also permitted. However, to allow the mezzanine loft area and qualify as three levels, corresponding unfinished utility space in the garage level would be eliminated, reduced or altered to conform to the ordinance's three-level limitation;

- As proposed, the residence's overall height falls well below the town's height limitation of 28.6 feet from the natural grade, thus with the requested variance, the home would not exceed this regulation's height limit;

- A hardship occurs if the requested exception cannot be obtained. Strict interpretation of the ordinance to allow the mezzanine loft would require an unnecessary reduction in the size, height and volume of the utility area needed to accommodate the systems described above.

Statement 4: *Findings of Fact*

- Given the site's constraints, the home's proposed design aesthetic and interior layout are reasonable and appropriate. The residence's street elevation will appear as a conforming three level home. It would be several feet below the town's permitted 28.6 foot height limit;

- The proposed mezzanine loft in the attic area can be incorporated into the proposed structure's interior with no negative effect to the home's exterior appearance;

- Literal adherence to the ordinance, by altering the size, height and volume of the utility space, intended to accommodate specialized green building hardware installation would materially effect access and utilization of the utility room for these systems, and future enhancements to these systems, all for no apparent reason or outward benefit;

- Natural light would be admitted that is important to conserve energy. Combined with the two open areas between the living levels below, plus front (street) two-level window treatments and clerestory windows in the attic area, sufficient light will be admitted, reducing energy costs for artificial light;

- The mezzanine loft area would create useful living space within the structure. It is a reasonable approach to mitigate the loss of livable area to accommodate the specialized foundation and extra access stairs;

- Alternatively, positioning the 211 square foot space at the rear of either living area level would require additional deep excavation and create an unsafe condition by situating the retaining wall/foundation farther upslope, within unacceptable proximity to the redwood trees, making this option unfeasible;

- Granting the exception would not materially alter the home's aesthetic appearance, keeping in conformance with neighboring homes, while the west roof area would be available for a separate hot water solar array;

- The site's special features, including narrow width and steep slope, create unusual challenges for reasonable and practical use of the site. The circumstances and findings described justify an exemption that will not be granting of special privileges;

- The exception allowed with the variance is consistent with other properties in town with odd configuration and steep elevations and that create extraordinary circumstances and require exceptions to mitigate the issues.

Driveway width variance

SUPPLEMENTAL QUESTIONNAIRE

VARIANCE

VARIANCE (S) REQUESTED:

_____foot front yard variance to construct a _____within

_____feet of the front property line.

_____foot rear yard variance to construct a _____within

_____feet of the rear property line.

_____foot side yard variance to construct a _____within

_____feet of the side property line.

_____foot creek setback variance to construct a _____within _____feet of the top of the creek bank.

Other (fence height, building height, parking number or size, etc.) CONSTRUCT A 30' WIDE DRIVEWAY

FINDINGS:

1. List below special circumstances applicable to the property, including size, shape, topography, location, or surroundings, to show why the variance should be granted; and why the granting of the variance will not be a granting of special privileges inconsistent with the limitations upon other properties in the vicinity and zone (you may attach a statement).

   SEE ATTACHED 'FINDINGS' STATEMENT 1

2. List below your reasons why the variance will not materially adversely affect the health or safety of persons residing or working in the neighborhood or be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood (you may attach a statement).

   SEE ATTACHED STATEMENT 2

3. Explain why complying with the Town Ordinance requirements will be a hardship for the owner.

   SEE ATTACHED STATEMENT 3

Variance - Additional information required.

- Include a cross section through the proposed project depicting the project and the relationship of the proposal to existing features and improvements on adjacent properties.
- Lot coverage calculation including all structures and raised wooden decks.

In order to approve your project, the Planning Commission must make findings of fact which state that 1) there is a special feature of the site (such as size, shape or slope) which justifies an exception; 2) that the variance is consistent with the treatment of other property in the neighborhood; 3) that strict enforcement of the ordinance would cause a hardship; and 4) that the project is in the general public interest.

In the space below, please provide any information which you feel is relevant to these issues and which further explains your project.

SEE ATTACHED STATEMENT 4

Attachment to Supplemental Questionnaire Form – Driveway width variance

VARIANCE

Statement 1: A variance is requested for construction of a driveway that is approximately 30 feet wide.

FINDINGS

Statement 1: *Special Circumstances.*

- To accomplish the hillside's soil stabilization, mitigate a past landslide, and preserve an upslope grove of Coast redwood trees, a 32 foot wide engineered retaining wall/foundation and drainage system would be installed, subject to approval of excavation, side yard and retaining wall height variances;

- The lot's steep slope features an existing grade elevation that falls off from south to north, requiring a higher retaining wall on the south side. These side walls will step down from 9 to 6 feet (south wall) and 8 to 4 feet (north wall) within the 6 foot front yard set back area;

- For safety and aesthetic purposes, the south retaining wall would connect to an existing wall at 13 Acacia Road, installed in early 2007 as a "Phase I" step to stabilize the hillside and residence. This wall is 6 feet high, located in the town's right-of-way, and required a variance;

- The existing retaining wall at 19 Acacia Road is over 9 feet high to accommodate a carport parking area. Connecting to this wall at 4 feet in the town's right-of-way, the north wall would ascend to a maximum of 9 feet in height in the 6 foot front yard set back area.

- The lot's property line extends at an angle to Acacia Road, effectively altering the orientation of the driveway to the road and reducing its area. When combined with the town's right-of-way, a unique opportunity to accommodate the Ross Valley Fire Service's request for a fire turn-out can be incorporated in front of the proposed residence;

- A driveway in between the side retaining walls would be 30 feet wide, which is the corresponding inside width of the rear retaining wall/foundation.

We believe under these circumstances the requested variance is warranted and does not constitute a grant of special privileges.

Statement 2: *Health and Safety – No Material Affect*

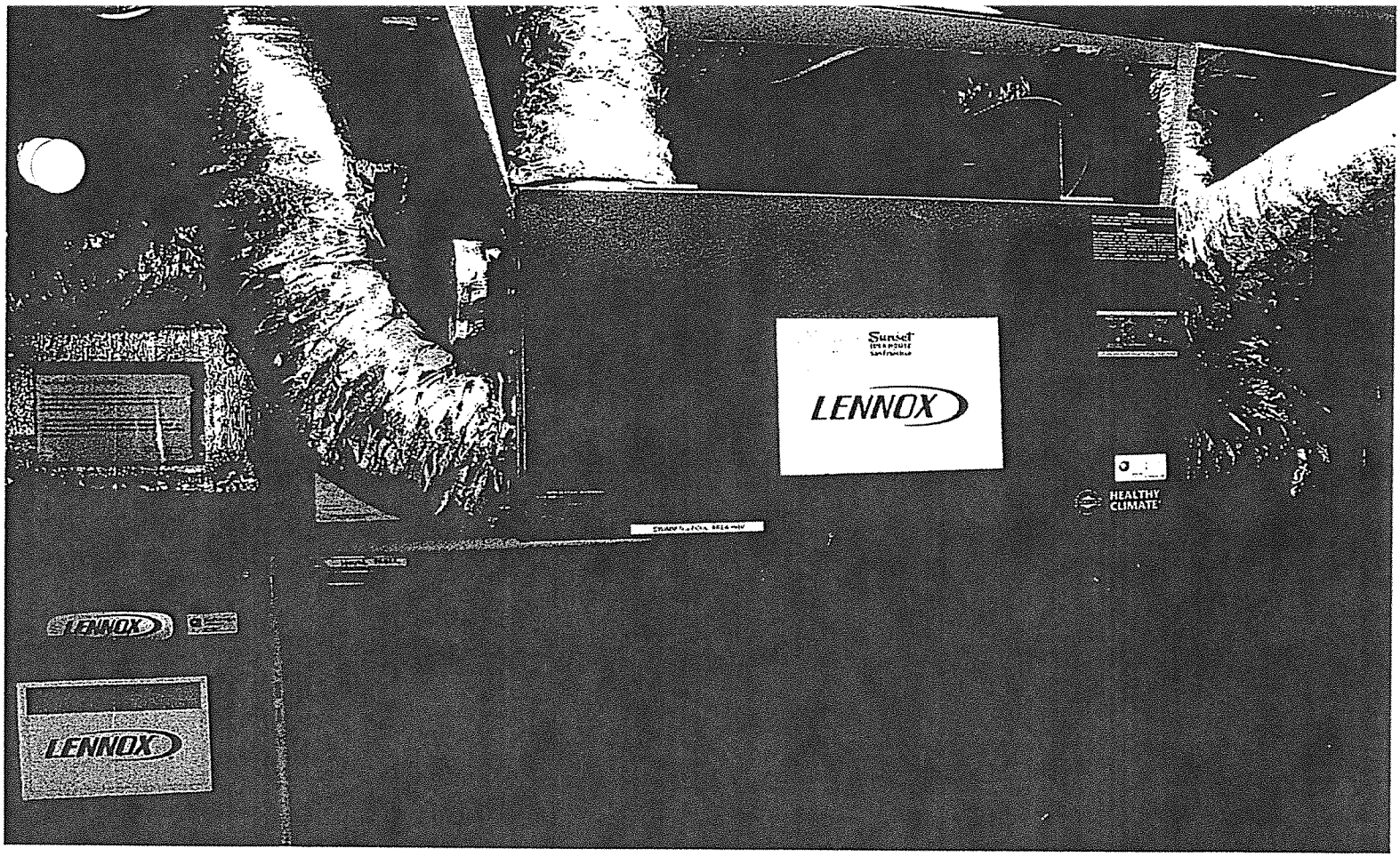
- The Ross Valley Fire Service has requested a turn-out area be created that would utilize Acacia Road and the town's right-of-way that is unusually wide in front of the proposed residence;
- A required 20 foot wide turn-out can be made physically possible with construction of the retaining walls, subject to a height variance;
- A 30 foot wide driveway would enhance utilization of the turn-out;
- The variance will positively impact the health and safety of the neighborhood, specifically the homes at 13, 16, 18, 19 and 26 Acacia Road, with enhanced utilization of a turn-out fire safety feature that currently does not exist along the narrow road.

Statement 3: *Town Ordinance*

- The town's ordinance allows driveways up to 20 feet wide;
- Literal interpretation of the ordinance would physically restrict utilization of the driveway area between the retaining walls with the turn-out in the adjacent town right-of-way.

Statement 4: *Findings of Fact*

- The site's special features, including narrow width, unstable soil conditions, threatened Coast redwood trees and landslide history combine to justify an exemption that will not be granting of special privileges;
- The variance is consistent with other properties in town with odd configuration, steep elevations and unstable soil that involve extraordinary circumstances and require special measures to mitigate the issues;
- The property line's angle across the front of the lot reduces the square footage of the area, therefore minimizing the impact of a 30 foot driveway;
- When designed with the side retaining walls, connected to existing retaining walls serving the adjacent homes, the 30 foot driveway would provide a sufficient margin of space to incorporate a fire safety turn-out and ensure its safe utilization in emergencies;
- Acacia Road has no fire service turn-out. A fire hydrant is located across the road near 26 Acacia Road. Locating a new turn-out in front of the proposed residence improves the neighborhood's fire safety.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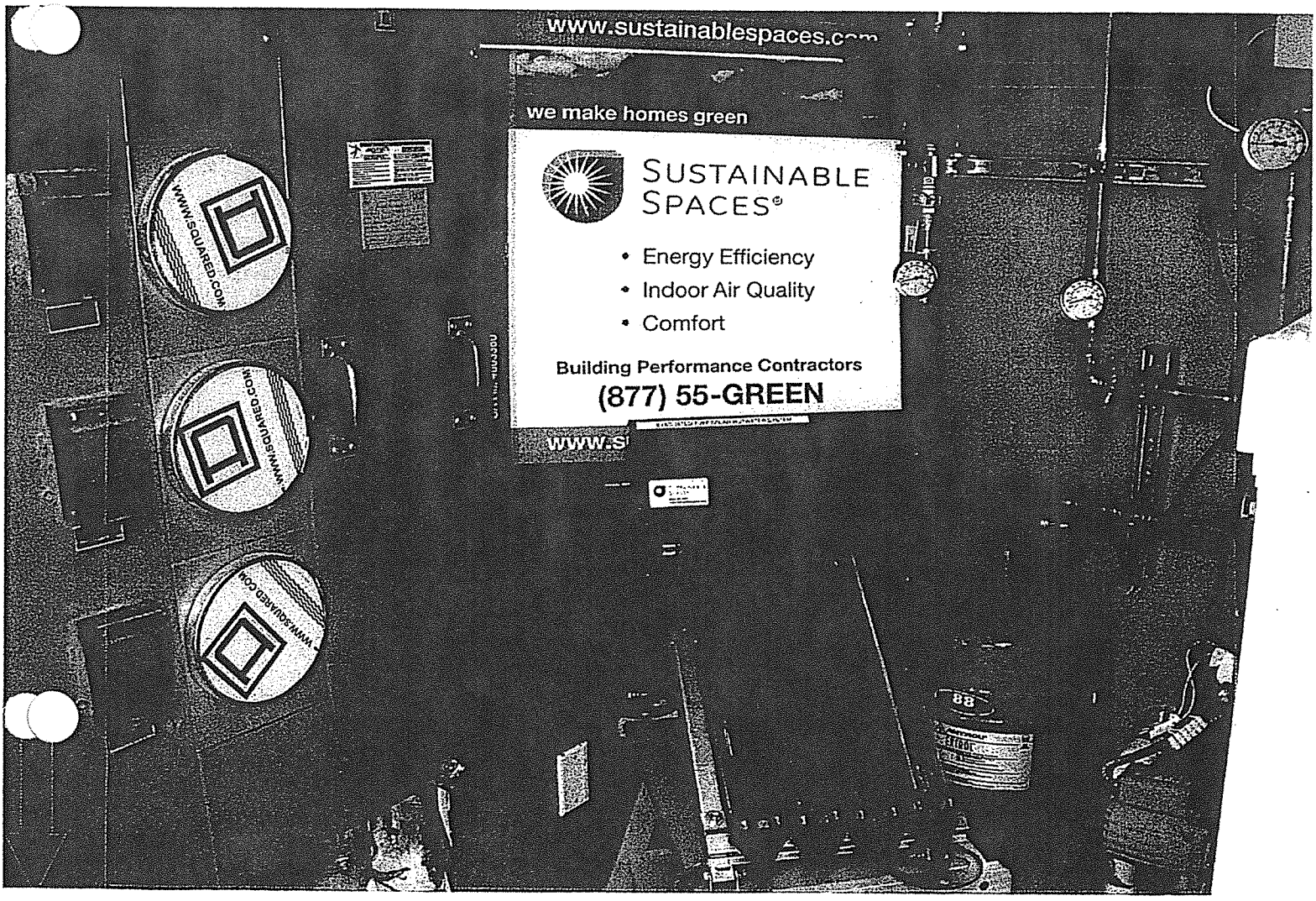
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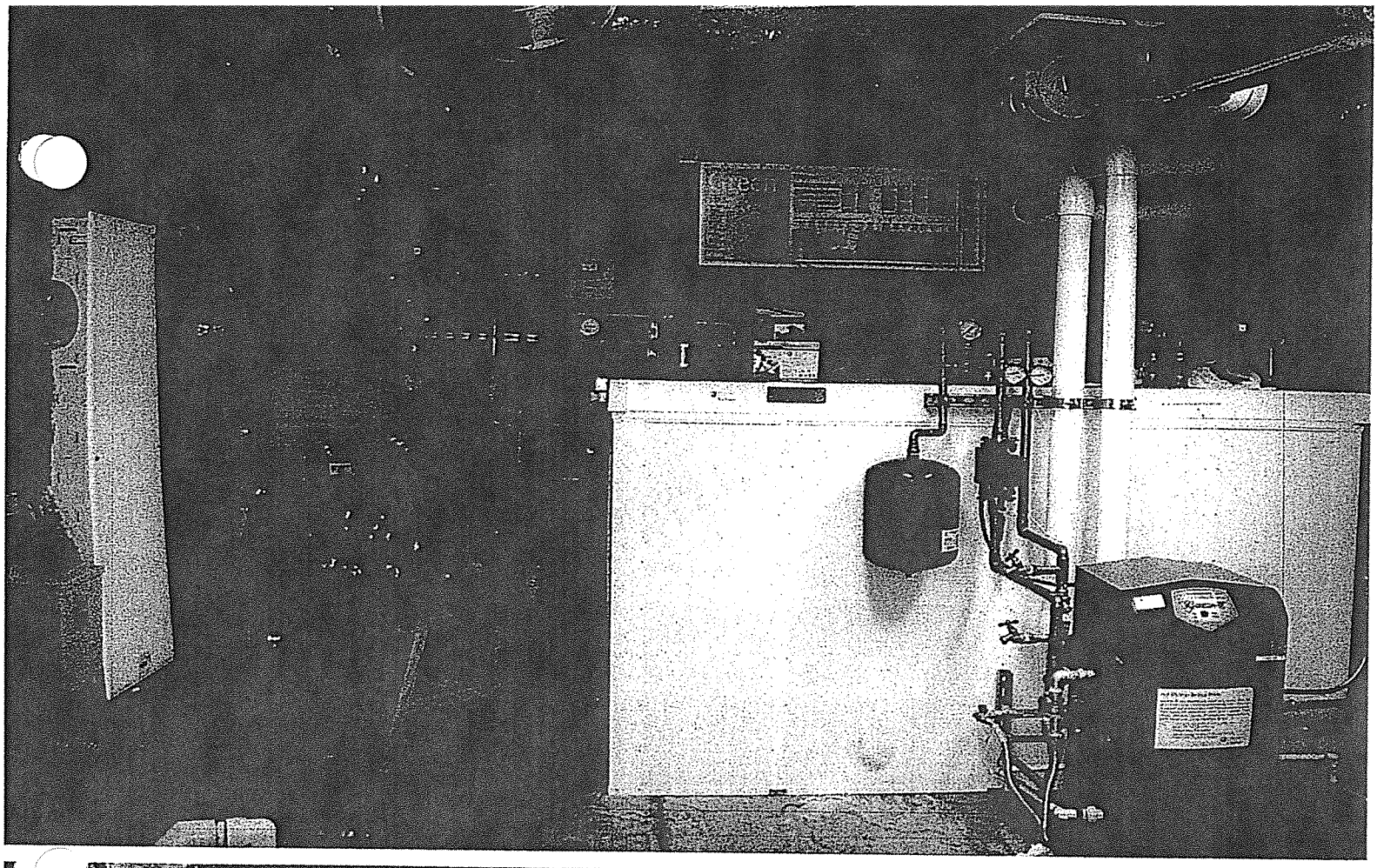
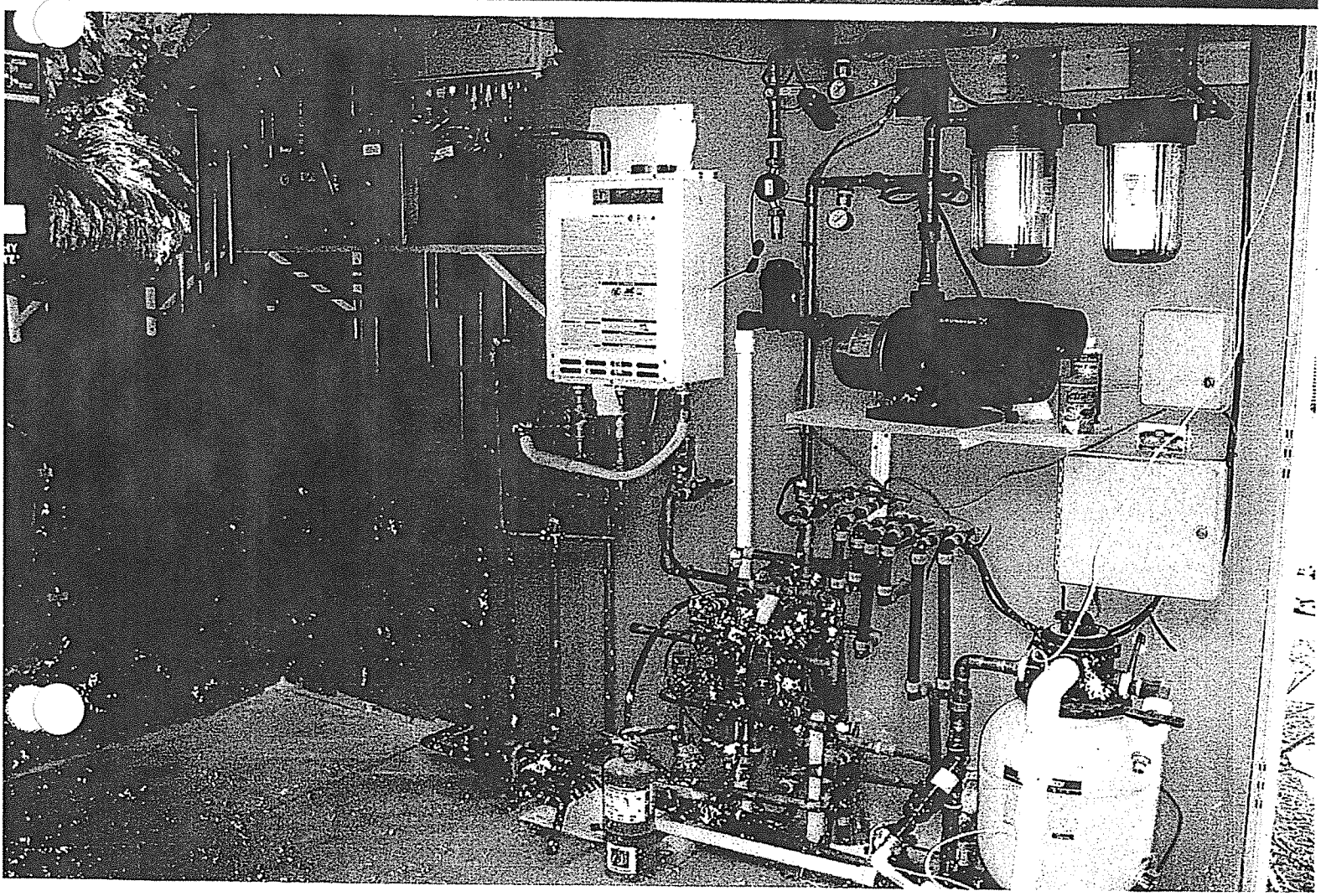
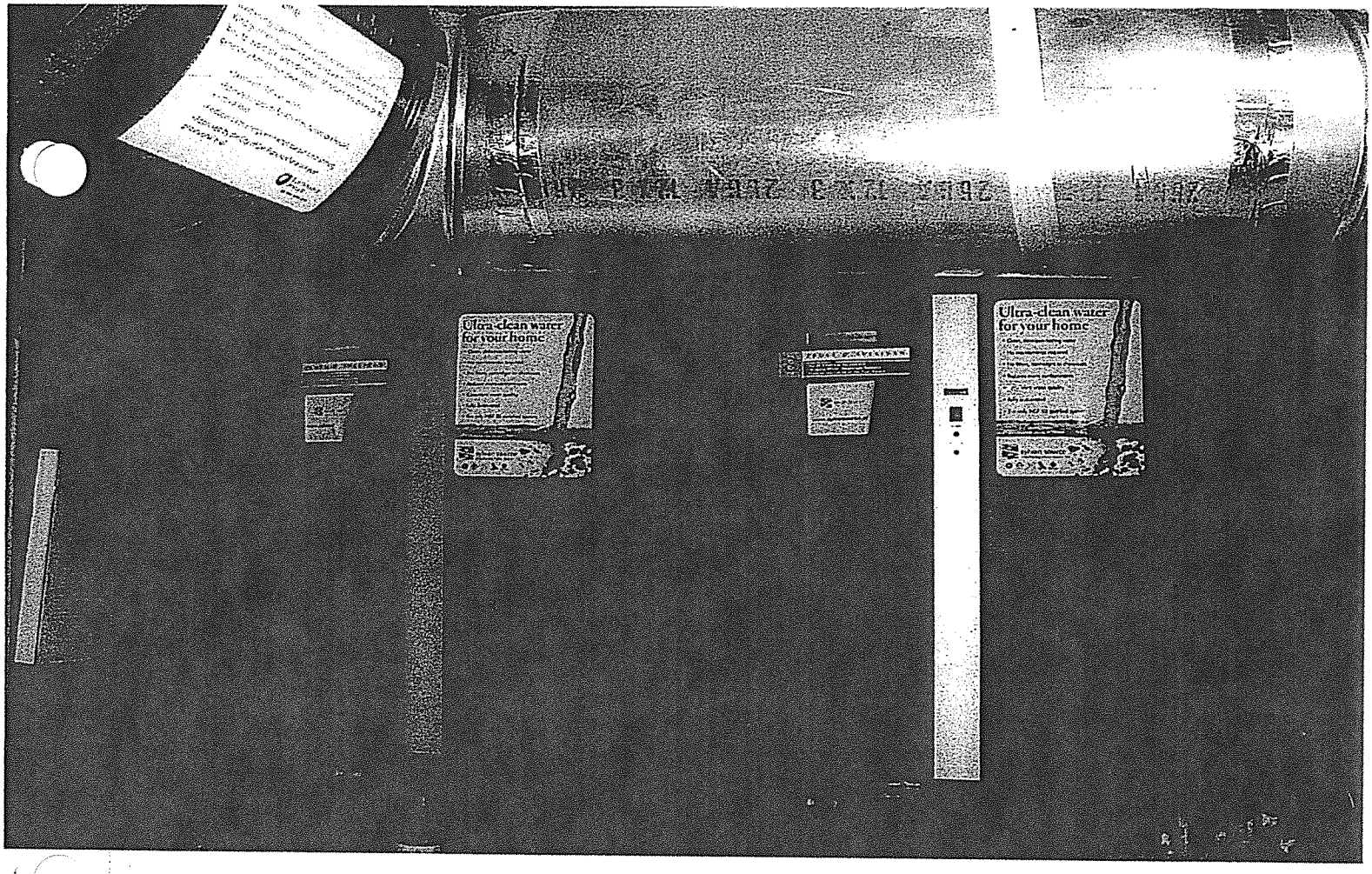
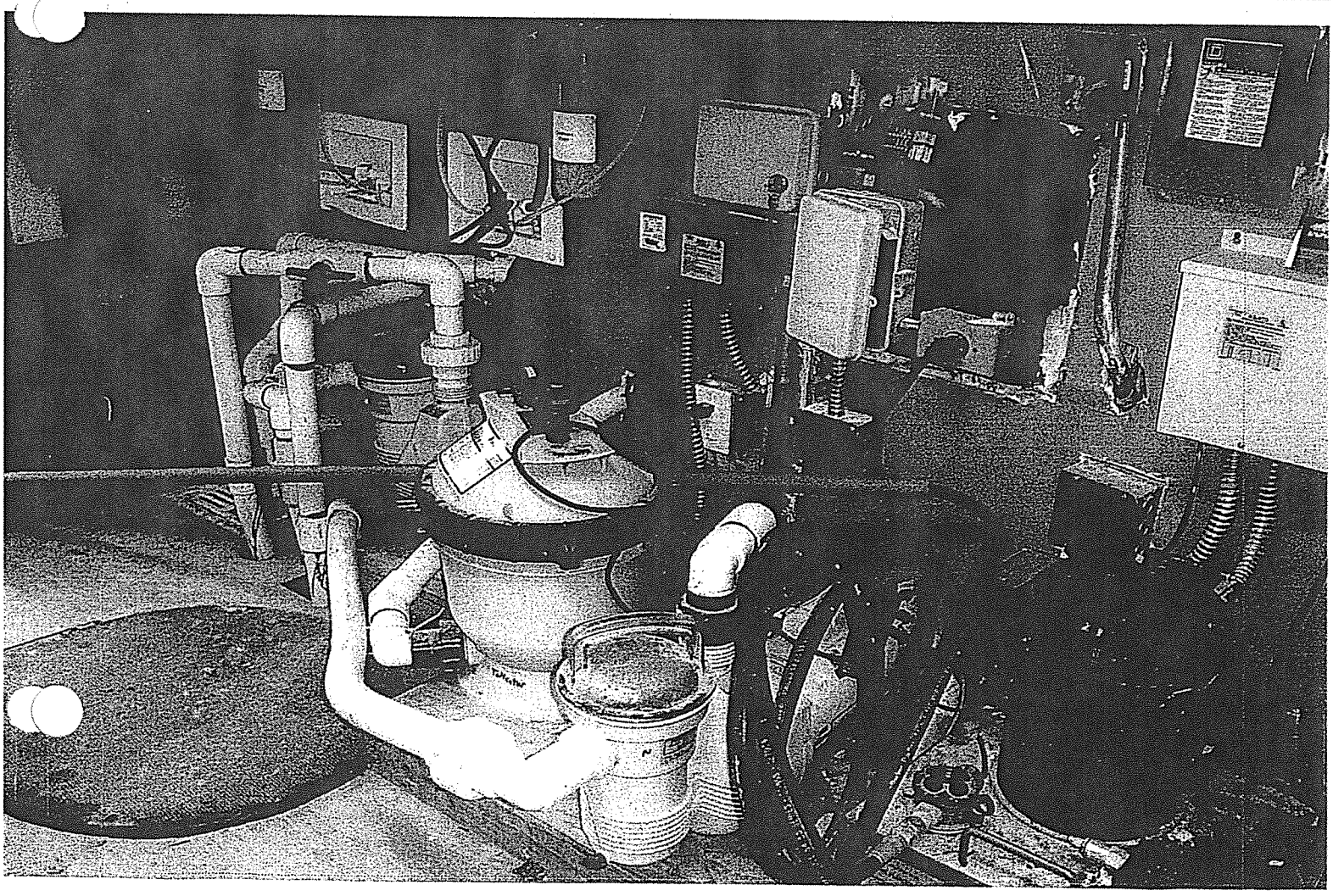





Ultra-clean water for your home
Ultra-clean water for your home



Ricki Kerner & Ted Pugh

Memorandum

To: Town of Fairfax
Planning Commission

From: Ricki Kerner & Ted Pugh
Applicants

Subject: Acacia Road Lot
Project Information

Date: October 4, 2007

This memorandum provides additional project information regarding input received from the Ross Valley Fire Service and our goal to build a home that is sensitive to existing green building initiatives.

Ross Valley Fire Service

Fire chief Roger Meagor reviewed the project's site plans on September 18, 2007. Modifications to the side retaining walls were incorporated into the plan to connect the new walls with the existing walls located at 13 and 19 Acacia Road. Encroachment will be required into the town's Right-Of-Way. The benefit is a wider driveway area that accommodates two+ visitor parking spaces and allows over 20 feet for a fire department "turn out". In effect, this design will enable the fire department to serve the proposed home, and the homes at 13, 16, 18 and 19 Acacia Road where the existing road is too narrow to accommodate a fire engine and provide adequate space for vehicles to pass.

The site and Acacia Road vicinity are located in the "Wildland Urban Interface" area, designated by the state as a high fire hazard severity zone. The proposed home will comply with a new requirement, effective January, 2008, for one hour fire rated exterior siding, such as Hardie plank/shingle, or similar non-combustible or ignition resistant material such as stucco, and additional design requirements intended to resist fire. In addition, remaining bay trees will be trimmed as necessary, no flammable ground cover will be used, and a vegetation management plan will be prepared.

Green Building

The home will incorporate recycled and sustainable materials in line with guidelines set by the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED), which is comparable to Marin County green guidelines and a rating obtainable from Build It Green, a Bay Area organization that assigns "green points" to qualifying homes. The goal is LEED "silver" certification.

Green building materials will include products, sourced locally if possible, with high recycled content and appliances with green Energy Star ratings for energy efficiency. Other green features include:

- Solar energy generation – green solar electric technology
- Water conservation with gray water circulation system – landscaped area irrigation
- Integrated rainwater collection and circulation irrigation system – cistern storage, garage level
- On-demand "tankless" hot water heaters
- Recycled – wall insulation, flooring, decking, glass countertops
- High recycled materials, i.e.: engineered lumber, siding – Hardie plank/shingle, fiber cement, and mineral fiber roofing
- Sustainable materials, i.e.: bamboo or cork floors
- Recycled fly ash concrete – foundation
- Recycled site clay, est. 220 cubic yards. 5,000-8,000 bricks & pavers, driveway, front retaining walls
- Low-flow bath fixtures
- Interior daylighting – windows/doors, dual pane, Low E
- Low/no VOC paint
- Ceiling fan outlets
- Landscaping design to use native plants and resources

September 13, 2007

Mr. Ted Pugh
POB 99485
Emeryville, CA 94662

Dear Ted:

This letter comes in support for your property on Acacia Road in Fairfax, which is adjacent to my property at 19 Acacia Road. This hillside property had a serious slide in the New Year's Eve, 2005 storm and I, like other neighbors, will be happy to see it secured from further mishap with the retaining walls, foundation and new home you are planning for the property.

I am very excited that you will be building "green", and amazed, if not a bit jealous, at the wonderful features building "green" offers. I am also relieved that someone as knowledgeable about building, as yourself, will be taking care of this delicate property. We have an exceptional neighborhood on Acacia Road, and you and Ricki will be happy additions to our community.

Best of luck to you with this new project.

Sincerely,

Jenny Houston
19 Acacia Road
Fairfax, Ca 94930

The winds of grace are always blowing; you just have to raise your sail. Ramakrishna, long ago

Neil R. Kraus, D.C., Elizabeth Baker
7 Acacia Road
Fairfax, CA 94930
Phone: (415) 459-1882 Fax: (415) 456-3532
Email: nkrausdc@sbcglobal.net

September 17, 2007

Ted Pugh
P.O. Box 99485
Emeryville, CA 94662

Re: Your "Green Dream Home"

Dear Ted,

I have reviewed your design and landscape architect's site plans for your proposed home and have no objections. I see your proposed side yard, adjacent to the 13 Acacia Road property. That lot has an upslope yard area between the existing house and your proposed house. The side yard area between your house and mine will appear over 50 feet wide. I like the fact that in such a dense neighborhood our houses do not feel cramped.

Our home's elevation is higher and overlooks your property. The hillside's landslide area is just downhill from my property toward and into yours and the unstable soil is in a dangerous condition. There have been several small and moderate slides between your proposed house and mine. Your project will make the area safer from another landslide and deal with drainage issues.

Thank you for keeping me well informed on your project and allowing me to comment on the design. I expect that we will be good neighbors.

Sincerely,

Neil Kraus

Neil Kraus

David C. Walkup

18 Acacia Road
Fairfax, CA 94930
415-485-4383
dwalkup@prodigy.net

December 8, 2007

Ms. Ann Welsh
Planning Director, Town of Fairfax
142 Bolinas Road
Fairfax, CA 94930

Re: 15 Acacia Road – New Building Permit application.

Dear Ms. Welsh,

My wife Barbara and I live directly across the street from the new home proposed by Ricki Kerner and Ted Pugh at 15 Acacia Road. We have seen their site plan and elevation. I am writing you to indicate our support for this project and encourage an expeditious approval of this building permit application.

As background; the undeveloped lot at 15 Acacia Road along with parts of the lot next door was the subject of a mudslide on December 31, 2005 and January 1, 2006. Part of the hillside, several trees included, slid down and blocked Acacia Road at the end of our driveway and diverted the run off from upper Acacia Road across the street and onto our property and the property next door to us. On January 1, 2006, the town of Fairfax cleared the road of earth and trees and arranged to have rip-rap placed along the roadway on the opposite side of the street from us in an attempt to keep the hillside from continuing to slide.

The town has copies of the letters we sent in 2006 to Mr. Art Black, the former owner of both 13 & 15 Acacia Rd., expressing our concern that the work Mr. Black was attempting to do to "repair" the home at 13 Acacia Rd. was doing nothing to stabilize the hillside at 15 Acacia Rd from further erosion and possible damage to our property. Mr. Black subsequently sold the house and the adjoining lot.

I am of the opinion that the foundation and retaining work that is currently being done by the new owner at 13 Acacia Rd., and the construction of the new home proposed at 15 Acacia Rd. should certainly reduce our fear of the hillside sliding once this work is completed.

In the process of building new retaining walls and foundation for the repair and renovation at 13 Acacia, much of the rip-rap that the town placed in front of 13 Acacia was moved to the area in front of the lot at 15 Acacia. This rip-rap is still in place, with much of it on the public right of way. Although we recognize its purpose as temporary, it is not only an eye sore it makes access to our driveway more difficult. It also prevents vehicles from passing head on. I am sure a fire truck in front of our property would block the rest of the west end of Acacia Road and possibly prevent these residents from being able to exit the area.

We therefore request that the town expedite the building permit application and approvals so as to not delay any longer than necessary the work to stabilize this area from further erosion, mudslide and possible damage to our property. We think it is incumbent upon the town to use emergency powers, if necessary, to approve this application soonest.

Sincerely,

David C. Walkup

Garrett M. Dowd
236 Marinda Drive
Fairfax, CA 94930

September 5, 2007

Dear Ted,

I have reviewed your site plan for the new home that you are proposing to build on the lot adjacent to my home at 13 Acacia Road in Fairfax. This letter is to let you know I fully support your plan.

Specifically, I am pleased with the solution your engineers suggested that incorporates a retaining wall directly into the house's foundation. I am very much concerned about long-term soil stability on your lot and your retaining wall will clearly augment the new retaining wall that was recently completed in front of my property at 13 Acacia Road.

I support and encourage the Town of Fairfax granting a side yard variance for the ten feet needed to allow a wider retaining wall and foundation system for your house. In my view, given past issues related to your lot, retaining the hillside is by far the most important aspect of your project and I am hopeful your design will be approved and implemented as soon as possible. The five foot side yard setback you are proposing bordering my lot doesn't concern me given it will actually appear to be far wider based on the fact our two homes will not be in alignment. Your plan places your new home considerably farther upslope and this location should have little affect on my privacy, views, or overall enjoyment of my home.

Finally, per your request, I also agree to provide you an easement allowing engineered tiebacks to encroach on my property. These tiebacks will be subsurface and far above my home, which will not affect me in any way. It is my understanding they will also help with much desired soil stability.

Sincerely,

G. M. Dowd

Acacia Road LLC
236 Marinda Drive
Fairfax, CA 94930

December 12, 2007

Dear Ted,

This letter is in response to your request that the Town of Fairfax be provided with a notarized statement regarding our allowing an easement on the property at 13 Acacia Road. For reference, please refer to the letter of September 5, 2007 in support of your proposed project with comments about the engineered solution to the landslide and granting the easement.

We have reviewed the soils report of July 25, 2007 by Herzog Geotechnical and the August 22, 2007 letter report by BHW Engineers regarding engineered tiebacks, and agree to provide a side yard easement for tiebacks to encroach on the 13 Acacia Road lot. These tiebacks will be subsurface into the hillside and will not negatively affect the home aesthetically, while helping to ensure long-term soil stability. We will work with you to formally record the easement, as the town requires.

Sincerely,

Garrett M. Dowd

Brian ~~M~~ R. Morelli
R. YB

STATE OF _____

COUNTY OF _____ See attached

On _____, before me, _____, Notary Public, personally appeared _____, personally known to me (or proved to me on the basis of satisfactory evidence) whose names(s) is/are subscribed to this document and acknowledged to me that he/she/they executed the same in his/her authorized capacity(ies) and that his/her/their signature(s) on this document the person(s) or the entity upon behalf of which the person(s) acted, executed the document.

WITNESS my hand and official seal.

Signature_____

My Commission Expires:_____

Notary Name:_____ Notary Phone:_____
Notary Registration Number:_____ County of Principal Place of Business:_____

ACKNOWLEDGMENT

State of California
County of San Francisco)

On 1-8-08 before me, Kathleen V. Bianchi
(insert name and title of the officer)

personally appeared Garrett M. Dowd and Brian R. Morelli,
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.

NRO1 KATHLEEN V. BIANCHI COMM. #1602857 Notary Public · California San Francisco County My Comm. Expires Sep. 24, 2009 NRO1

Signature Kathleen V. Bianchi (Seal)

ILS ASSOCIATES, INC.
CIVIL ENGINEERING AND LAND SURVEYING

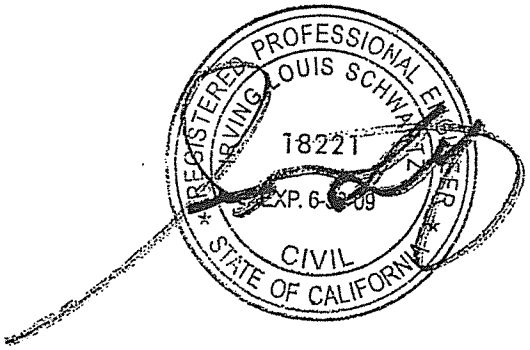
Hydrology & Hydraulics Study

for

15 Acacia Road
Fairfax, CA

Prepared for:
Ted Pugh

Prepared by:
ILS Associates, Inc.
79 Galli Drive – Suite A
Novato, CA 94949



Prepared on:
February 25, 2008

Job No. 8207

DRAINAGE NARRATIVE

The site is located at 15 Acacia Road. The property is narrow and long. The terrain is steep and wooded and faces northeasterly. Acacia Road is paved and slopes toward the site. The concentrated roadway runoff flows along the edge of the roadway in an old concrete gutter. This gutter has been mostly filled in by asphalt due to overlaying the roadway asphalt pavement. Approximately 120' southeasterly from the subject site is an existing storm drain system in the street which consists of grated drop inlets, a concrete headwall inlet structure and 12"+/- diameter outlet pipes, which presently collects the drainage from the subject site.

Our Hydrology analysis is based on; Cal-Trans Rainfall Intensity-Duration-Frequency Analysis, County of Marin Hydrology Manual, Marin County Rational Method Computation form (Revised August 2, 2000), the memorandum by Ray Wrysinski dated February 15, 2008 and our follow up conversations with Mr. Wrysinski on February 22 and 25th 2008.

For the post development condition we have calculated a weighted value for coefficient of runoff. We take a conservative approach in our analysis by assuming hardscape areas are impervious even though pervious type materials are to be used.

We modify the Marin County Rational Method computation, by not adding five minutes to the time of concentration. This change is based on conversations with Mr. Wrysinski and on review of other methods such as the Kipich formula. The resulting time of concentration for both pre and post development runoff is less than five minutes. We use Caltrans rainfall intensity curve chart for determining rainfall intensity (I), which has a minimum time of concentration of five minutes. The Hydrology calculations show a small increase in post development runoff; from 1.25 cubic feet per second (c.f.s.) to 1.32 c.f.s., for a 100 year storm event. We calculate that there would be an additional 430 gallons of runoff from the site during a 100-year storm event. This increased runoff can be mitigated with an onsite detention facility. We recommend that the capacity of this detention facility be oversized to handle the increase in runoff plus any accumulation of silt. If the detention facility is incorporated into the Improvement Plans, then the development of this site as proposed will not increase downstream flows.

ILS ASSOCIATES, INC.
CIVIL ENGINEERING AND LAND SURVEYING

BY: AJS JOB NO. 8207

DATE: 2/22/08 SHEET NO: 1

RATIONAL METHOD COMPUTATION FORM

EXISTING PRE-DEVELOPMENT HYDROLOGY 15 ACACIA RD. FAIRFAX

(From Cal-Trans Rainfall Intensity-Duration-Frequency Analysis & County of Marin Hydrology Manual Revised 8/2/00)

$Q = C \times I \times A$

Watershed TRIBUTARY 'A' At Point P.O.C. 1

Area = 18,548 sq. ft. = 0.42 acres.

Time of Concentration (+C)

$t_c = \frac{1.8(1.1-C)\sqrt{L}}{[S(100)]^{1/3}}$ ~~+5 Min.~~ $= \frac{1.8(1.1-0.7)\sqrt{330}}{[0.47(100)]^{1/3}} = 3.6$ min.

C = Runoff Coefficient* = 0.70

L = Longest run in feet = 330'

S = Average Slope in ft/ft = $\frac{\Delta H}{L} = \frac{154}{330} = 0.47$

TRY KIRPITCH METHO

$t_c = 0.0078(L)^{0.77}(S)^{-0.3}$

$t_c = 0.9$ min.

Intensity

P_{60} (chart I) = 1.5 zone (chart V) = C subzone (chart v) 2

C2 .71.67

I_{100} (chart k) = 4.25 Rd_{10} (chart k) _____

$I_{10} = I_{100}$ 4.25 x Rd_{10} (chart k) 0.7 = 2.98 in/hr.

I _____ = Rd _____ (from Chart R) x I_{100} _____ = _____ in/hr.

Coefficient of Runoff

Relief = 0.40

Soil infiltration = 0.10

Vegetal cover = 0.05

Surface storage = 0.15

C = 0.70 (0.70 minimum)*

Peak Discharge $Q = C \times I \times A$

Q 10 = 0.70 x 2.98 x 0.42 = 0.88 c.f.s.

Q 100 = 0.70 x 4.25 x 0.42 = 1.25 c.f.s.

79 GALLI DRIVE, SUITE A NOVATO, CA 94949-5717 (415) 883-9200 FAX (415) 883-2763

ILS ASSOCIATES, INC.
CIVIL ENGINEERING AND LAND SURVEYING

BY: AJS JOB NO. 8207

DATE: 2/22/08 SHEET NO: 2

PROPOSED
POST-DEVELOPMEN
HYDROLOGY
15 ACACIA RD.
FAIRFAX

RATIONAL METHOD COMPUTATION FORM

(From Cal-Trans Rainfall Intensity-Duration-Frequency Analysis
& County of Marin Hydrology Manual Revised 8/2/00)

$$Q = C \times I \times A$$

Watershed TRIBUTARY 'A' At Point P.O.C. 1

Area = 18,548 sq. ft. = 0.42 acres.

Time of Concentration (+C)

$t_c = \frac{1.8(1.1-C)\sqrt{L}}{[S(100)]^{1/3}}$ ~~+5 Min.~~ $= \frac{1.8(1.1-.74)\sqrt{330}}{[0.47(100)]^{1/3}} = 3.3$

USING KIRPICH METH[OD]
$t_c = 0.9$ mi[n]
see sheet [...]

C = Runoff Coefficient* = 0.74

L = Longest run in feet = 330

S = Average Slope in ft/ft = $\frac{\Delta H}{L} = \frac{154}{330} = 0.47$

Intensity

P_{60} (chart I) = 1.5 zone (chart V) = C subzone (chart v) 2

(C2: .7 | .67)

I_{100} (chart k) = 4.3 Rd_{10} (chart k) ______

$I_{10} = I_{100}$ 4.3 x Rd_{10} (chart k) 0.7 = 3.0 in/hr.

I ______ = Rd ______ (from Chart R) x I_{100} ______ = ______ in/hr.

Coefficient of Runoff

[NEW IMPERVIOUS AREA = 2,022 sq. ft = 0.046 Acres; .046/.42 = 11%]

Relief = .40 = .40

Soil infiltration = .89(.10) + .11(.20) = .11

Vegetal cover = .89(.05) + .11(.20) = .07

Surface storage = .89(.15) + .11(.20) = .16

C = 0.74 (0.70 minimum)*

Peak Discharge $Q = C \times I \times A$

Q 10 = 0.74 x 2.98 x 0.42 = 0.93 c.f.s.

Q 100 = 0.74 x 4.25 x 0.42 = 1.32 c.f.s.

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NOVATO, CA 94949-5717
Ph (415) 883-9200 • Fax (415) 883-2763
www.ilscels.com

PROJECT 15 Acacia PROJECT# 8207
SHEET NO. 3 OF 3
CALCULATED BY AJS DATE 2/22/08
CHECKED BY _____ DATE _____
SCALE _____

T_c = 5 min.

Time (min)	L	%	Ex. (GPM)	Prop. (GPM)
5.0	25	6	34	35
4.0	20	9	50	53
3.0	15	12	67	71
2.0	10	19	106	112
1.5	7.5	26	145	153
1.0	5	41	229	242
0.5	2.5	72	402	425
0	0	100	559	590
0.5	2.5	78	436	460
1.0	5	52	291	307
1.5	7.5	35	196	207
2.0	10	24	134	142
3.0	15	11	61	65
4.0	20	4	22	24

$Q_{100\,Ex} = 1.25 \times 6.6 \times 7.4 = \frac{Gal}{Ac} \times 60 \frac{Ac}{min} = 559$ G.P.M.

$Q_{100\,Proposed} = 1.32 \times 6.6 \times 7.4 \frac{Gal}{Ac} \times 60 \frac{Ac}{min} = 590$ G.P.M.

CHART I

RUNOFF COEFFICIENTS FOR AGRICULTURAL AND OPEN AREAS *

RUNOFF PROPENSITY / WATERSHED CHARACTERISTICS	A RELIEF	B SOIL INFILTRATION	C VEGETAL COVER	D SURFACE STORAGE
EXTREME	0.40 Steep rugged terrain average slopes greater than 30%	0.20 No effective soil cover; either rock or thin soil mantle negligible infiltration capacity	0.20 No effective plant cover; bare or very sparse soil cover	0.20 Negligible; surface depression few and shallow; drainage ways steep and small, no ponds or marshes
HIGH	0.30 Hilly with average slopes of 10 to 30%	0.15 Slow to take up water; clay or other soil of low infiltration capacity such as heavy gumbo	0.15 Poor to fair; clean cultivated crops or poor natural cover; less than 10% of area under good cover	0.15 Low; well defined system of small drainage ways; no ponds or marshes
NORMAL	0.20 Rolling with average slopes of 5 to 10%	0.10 Normal, deep loam	0.10 Fair to good; about 50% of area in good grass land, woodland or equivalent cover	0.10 Normal; considerable surface depression storage; typical of prairie lands; lakes, ponds and marshes less than 20% of area
LOW	0.10 Relatively flat land average slopes 0 to 5%	0.05 High; deep sand or other soil that takes up water readily and rapidly	0.05 Good to excellent; about 90% of area in good grass land, woodland or equivalent cover	0.05 High; surface depression storage high; drainage system not sharply defined, Lg. flood plain storage; large number of ponds and marshes

NOTE: Runoff coefficient is equal to sum of coefficients from the appropriate block in Rows A, B, C and D.

* After H. L. Cook, as published in Engineering for Agricultural Drainage, by Harry B. Roe and Quincy C. Ayres, McGraw-Hill Book Co., Inc., New York, 1954, p. 105.

QECIA

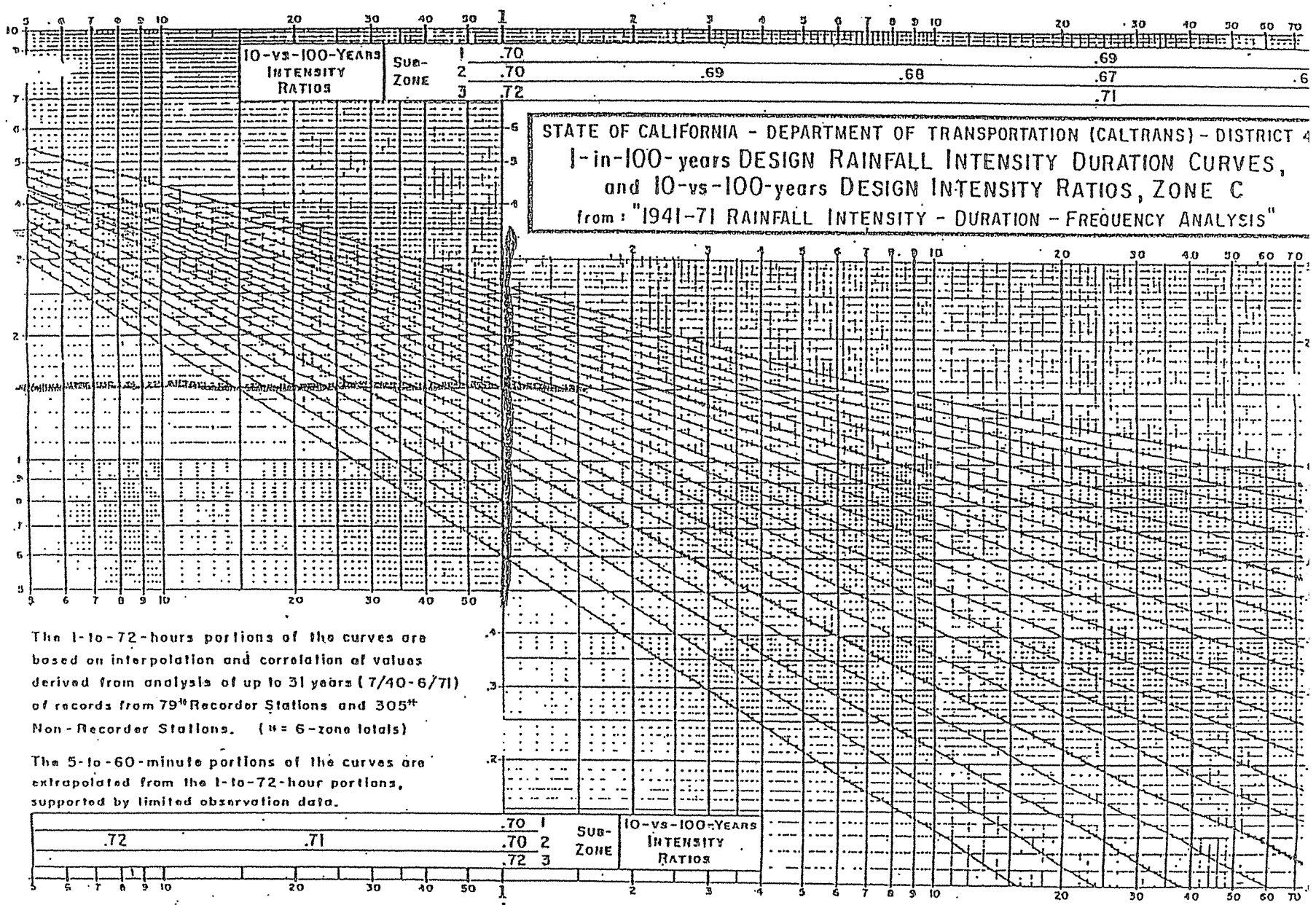
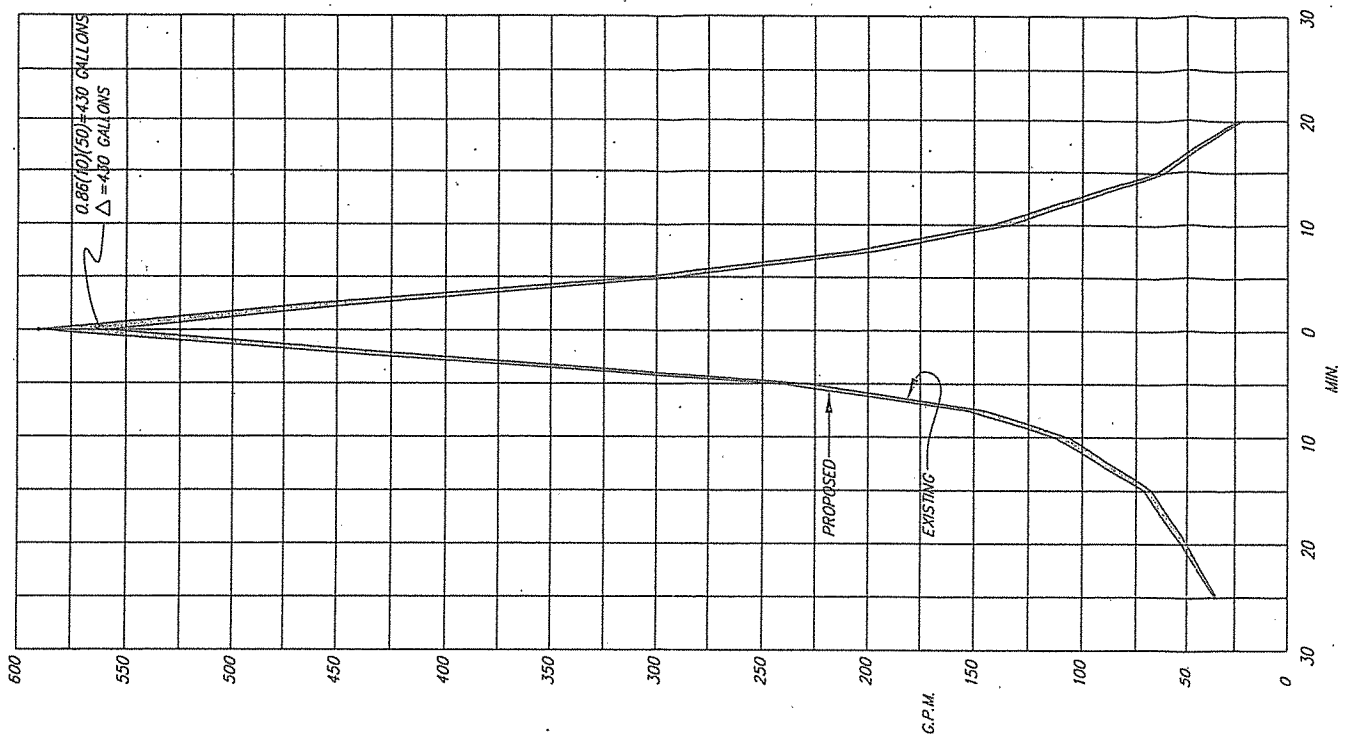


CHART "K", ZONE C

EK/ERR
9/74



A.P.N.: 001-112-31
FIELD BOOK NO.: ###

8207DR.dwg

Irving L. Schwartz, C.E.
R.C.E. 18221

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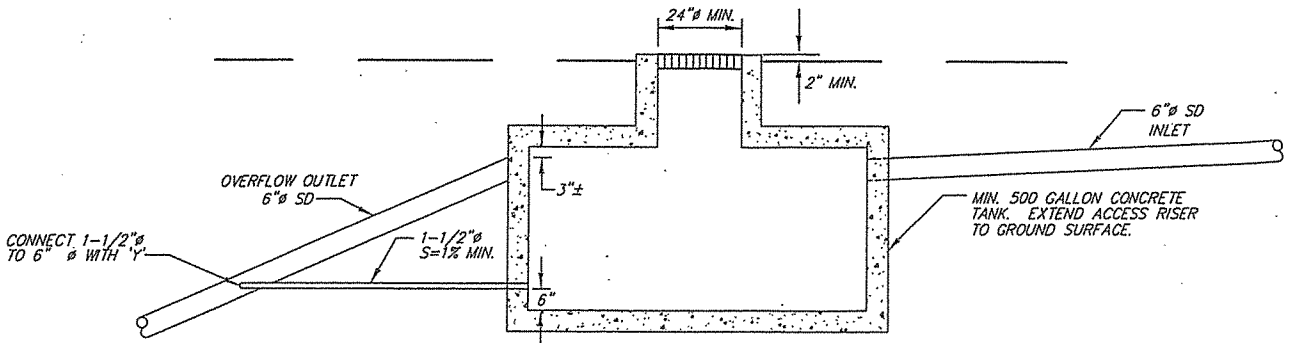
PUGH RESIDENCE

15 ACACIA ROAD

FAIRFAX CALIFORNIA

HYDROGRAPH WORKSHEET

DRAWN: A.J.S.
DATE: 2-22-2008
JOB NO. 8207
SHEET NO. 1 OF 1



DETENTION TANK/CISTERN DETAIL

NOT TO SCALE

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PUGH RESIDENCE
15 ACACIA ROAD
FAIRFAX CALIFORNIA

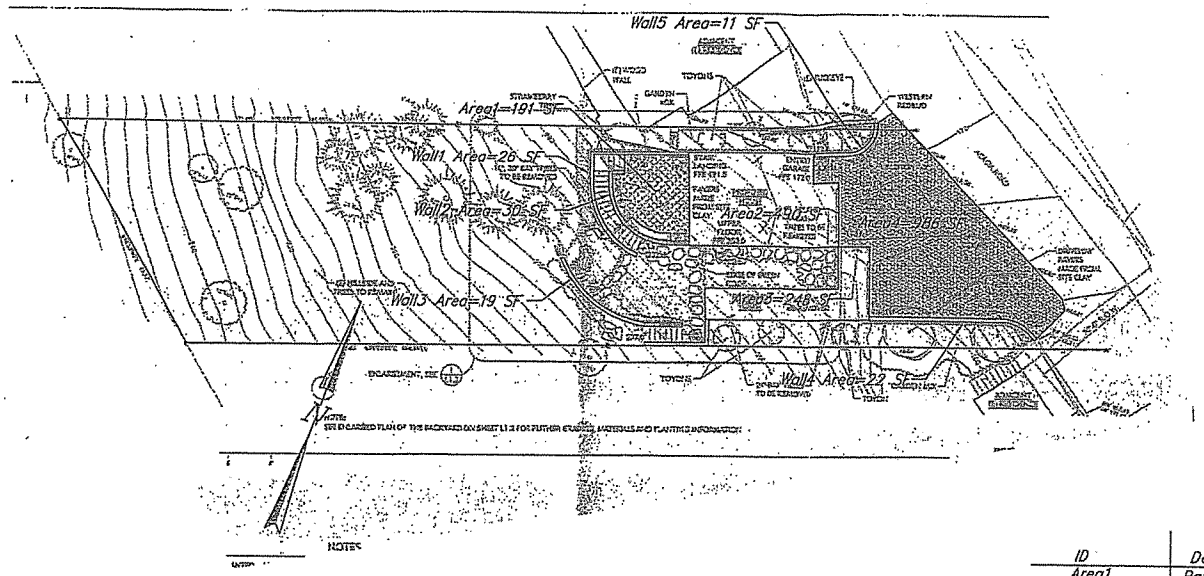
SCHEMATIC DETENTION SYSTEM DETAIL

DRAWN: A.J.S.
DATE: 2-25-2008
JOB NO. 8207
SHEET NO. 1 OF 1

A.P.N.: 001-112-31
FIELD BOOK NO.: ###

8207DR.dwg

Irving L. Schwartz, C.E.
R.C.E. 18221



SITE MAP

NOT TO SCALE

ID	Description	Area S.F.	C value
Area1	Paver Terrace	191	0.8
Area2	Roof	490	0.9
Area3	Roof	248	0.9
Area4	Paver Driveway	986	0.8
Wall1	Concrete	26	0.9
Wall2	Concrete	30	0.9
Wall3	Concrete	19	0.9
Wall4	Concrete	22	0.9
Wall5	Concrete	11	0.9

A.P.N.: 001-112-31

FIELD BOOK NO.: ###

8207DR.dwg

Irving L. Schwartz, C.E.
R.C.E. 18221

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PUGH RESIDENCE

15 ACACIA ROAD

FAIRFAX CALIFORNIA

RUNOFF COEFICIENT WORKSHEET

DRAWN: A.J.S.

DATE: 12-11-2007

JOB NO. 8207

SHEET NO. 1 OF 1

TYPE	THICKNESS	TRANSITION
Residential	6"	2'
Commercial	8"	4'

NOTE: See Drawing No. 100 for general notes.

UNIFORM STANDARDS ALL CITIES AND COUNTY OF MARIN	STANDARD DRIVEWAY APPROACH	REV.	DATE	BY	DATE: JUNE 1979
					DWG. NO. A102

Construction Management Plan – Acacia Road Lot, Fairfax, CA

Overview

The intention of the property owners, Ricki Kerner and Ted Pugh, is to build a single family dwelling on Acacia Road in Fairfax, California. The address will likely be designated by the post office as 15 Acacia Road. This construction management plan outlines procedures that will enable timely and efficient construction of the proposed residence with minimal impact on the Acacia Road neighborhood.

Parking

Acacia Road, with the town's right-of-way, unusually wide at the foot of the lot, is over 20 feet wide, allowing convenient passage for Acacia Road neighbors. Once the existing rip-rap is removed during the excavation phase for construction of a new retaining wall/foundation, sufficient space will be provided for construction vehicles to park without impairment to neighbors. In addition, daytime parking is available on the opposite side of Acacia Road for workers' vehicles. All trucks engaged in the soil removal phase will make their 'U' turns prior to loading. Required street permits for the project will be procured and kept current.

Staging

Toilet facility – A rented on-site portable toilet will be secured at night and serviced weekly.

Temporary power – A temporary power pole will be attached to the porta-potty unit.

Temporary fencing – Once excavation has commenced, a temporary fence will be rented and installed the full width of the project, extending 20 feet upslope. This fence will be secured and locked nightly.

Equipment and tool storage – Once the excavation phase is completed and foundation built, a temporary storage container will be placed in the driveway area, off the right-of-way and secured nightly.

Waste container – When deemed necessary during construction, a rented debris container will be placed in the right-of-way area, which is over 50 feet long, providing ample space.

Schedule and Hours of Operation

Estimated project commencement date – July, 2008
Completion of excavation – August, 2008
Completion of retaining wall/foundation – September, 2008
Completion of enclosed exterior – December, 2008
Completion of all work – March, 2009

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

MEMORANDUM

To: Linda Neal – Principal Planner

Date: March 31, 2016

From: Ray Wrysinski
Town Engineer

Subject: Proposed Residence
15 Acacia Road
Fairfax, CA

A.P. 001-012-31

I have reviewed the information provided with your 3/9/16 transmittal. The documents reviewed included a letter from Ricki Kerner and Ted Pugh, dated 3/8/16, Herzog Geotechnial Consulting Engineers letters and report, dated 2/4/16, 8/18/08, 5/7/08, 2/26/08, 12/18/07, 9/5/07 and 7/25/07, J. L. Engineering – Civil Engineering – Land Surveying letters, dated 3/4/16/, 9/10/08, 3/31/08 and 7/24/07, Marin Tree Service letters, dated 3/14/16, 5/7/08, 1/9/08, 9/25/07 and some tree protection guidelines, BHW Engineers, LLC letters, dated 3/3/16, 5/6/08, 3/31/08, 1/10/08 and 8/22/07, ILS Associates letters, dated 2/22/16 and 3/27/08, Shades of Green unsigned e-mail, dated 3/2/16 (typically, I do not look for licensing on landscape design so the lack of a signature may be more important to you than it is to me) and there is a letter from Jeff Kroot Architect, dated 3/1/16.

The submitted information was checked to determine if it satisfied requirements in the 1/15/16 Town Engineer Memorandum.

The 3/8/16 letter from Ricki Kerner and Ted Pugh states that "All of the information specifically requested by the town engineer is included ---". That is not quite correct.

The Hydrology and Hydraulics study by ILS Asscociates, Inc. was submitted with the fold out pages only partly copied and it was required that a complete copy be submitted.

The required summary letter, provided by Ricki Kerner and Ted Pugh, was submitted but I believe it would be difficult for anyone, unfamiliar with the project, reading that letter, to understand what the project is.

There is, in the summary letter, mention of information leading to eventual approval by the Planning Commission. I am not sure what that means but it seem to refer to information in the 2008 project submittal that has expired. It is my understanding that the Town does not keep official file information from expired applications so an applicant could not rely on that set of information to clarify the project. I have some information from that old submittal which allowed me to identify some items that could be submitted for this current application so that it was not necessary to develop that information all

ATTACHMENT C

over again for this application. The summary letter seems to rely on that old information which I presume you do not have.

The 2/4/16 letter from Herzog Geotechnical updated information for the 7/25/07 report but did not verify subsequent letters as being updated. I do not consider updating those letters to be critical for this review. The Herzog, 2/4/16 letter did not provide comments on the new retaining wall noted in the 1/15/16 Memorandum. This is not a big issue and it can be taken care of when the noted fence, stairs and walls are shown on the updated topographic survey at building permit review stage of the project.

The booklet "Acacia Road Application", September 10, 2008, was not submitted as required. I believe that booklet would have been helpful to others reviewing this project but it is not critical to my review. The Standard Drawing A102, noted in the 1/15/16 Memorandum, for submittal, was not provided but is not critical to my review. The 12/12/07 Dowd tieback letter was not submitted. It will be needed prior to permit approval related to work on the adjoining property.

The previously required 1/16/08 and 3/27/08 memorandums by Ricki Kerner and Ted Pugh were not submitted and the construction management plan was not submitted.

The requirement to provide written confirmation from the project consultants, stating that the old project information is still suitable for use, has been satisfied.

The above information, that was required to be submitted but was not, is not critical to my review since I have sufficient old file information to allow this review. I assume you do not have old copies of the missing information. I had been trying to get a good base of information that would be part of your file so the project could be better understood by the Planning Commission. You will have to decide if the above information is important enough to your review to require it at this time. I know you want this project to move on toward approval. I do think these items must be submitted prior to building permit plan checking. The applicants should be able to easily obtain copies of the noted items from their file on the previous project application.

I do not need to do additional review of this project but I realize you may need the missing information for your review.

I recommend that the processing of this project proceed.

Ray Wrysinski

Ray Wrysinski, P. E.
Town Engineer

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

MEMORANDUM

To: Linda Neal – Principal Planner

Date: January 15, 2016

From: Ray Wrysinski
Town Engineer

Subject: Proposed Residence
15 Acacia Road
Fairfax, CA

A.P. 001-012-31

I have reviewed the project application documents that were included with your 12/18/15 transmittal. The items reviewed included the plans by Jeff Kroot Architect, four sheets, dated 11/08, plans by Shades of Green Landscape Architecture, two sheets dated September, 2008, plans by J. L. Engineering, 3 sheets dated Sept. 2008, erosion control plans by ILS Associated, Inc., dated 1/4/2008, a hydrology map by ILS Associates dated 2/25/08, a topographic survey by J. L. Engineering, dated Jan. 2008, a recorded record of survey by J. L. Engineering, recorded 10/31/06, a grant deed recorded July 6(unclear), 2007, an interim title binder dated July 6, 2007, a 7/25/07 Herzog Geotechnical report, a 9/5/07 Herzog Geotechnical letter, an 8/22/07 BHW Engineer letter and a 2/25/08 ILS Associates, Inc. Hydrology and Hydraulics Study with a number of pages only partially copied (a complete copy must be provided).

A site review was done 1/14/08 and there was no apparent change to the basic site but there was some new fence, stair and wood retaining wall construction that was in place along the southerly boundary. This new construction appears to have been done for the benefit of the adjoining southerly property and it looked fairly clear that some of the work extended into this project site property. As we discussed this new work does not seem significant enough to require that it be shown on an updated topography map for the project submittal at this time. If the topography was revised that would also require the various project site plans to add on that new information. It should be required that the topography and site plans must be updated with that new existing construction before plans for the building permit are reviewed.

At this time we do not have a lot of the information that clarified many issues on this proposed project when it was in process in 2008. We discussed that it seems the project could move on to the Planning Commission stage of review if it was submitted in the form that had previously been reviewed. The applicant must provide a summary letter describing this new project submittal. This letter will help clarify the project for Town Staff review and it will provide an introduction of the project to the Planning Commission for their review.

A critical element in the project is having the geotechnical engineering information all up to date. As we discussed, the soils report is very old, being from 2007. It is stated in the report that if 18 months

passes from the time of the report and the start of construction the report must reviewed to determine if it is applicable. That review and update must be done for this project review. That update must include an update of the very many supplemental letters from the geotechnical engineer for this project. The update must also include comments on what must be done to avoid stability problems when this project gets involved with removing some of the wood retaining walls noted above as new construction along the southerly side of the property. This geotechnical information update must also state an opinion regarding the current plans for this project submittal as to the need for revisions to those plans due to new information provided in the geotechnical information update required here. To restate this, will the new (if any) information in the updated geotechnical review and report, for the project, require the plans, that have been submitted, be revised so that Town Staff and the Planning Commission will be able to clearly review the current project design.

To obtain a complete submittal a booklet titled Acacia Road Application with the latest date on it of 9/10/08, that was part of the previous project submittal, must be submitted with all of the documents that were part of that booklet. In particular a copy of the 12/12/07 Dowd, notarized tieback approval, in that booklet, must be included. A copy of County Standard Drawing A102 – Driveway Approach, from the previous submittal must be provided. Memorandums by Ricki Kerner and Ted Pugh dated 1/16/08 and 3/27/08, and a construction management plan, two pages with no date or author must be provided. The letters from JL Engineering dated 7/24/07, 3/31/08 and 9/10/08 and the letters from Marin Tree Service dated 9/25/07, 1/9/08 and 5/7/08 must be provided. The letters from BHW Engineer dated 1/10/08, 3/31/08 and 5/6/08 must be provided. A drainage related letter by ILS Associates, Inc. dated 3/27/08 must be provided.

The updating of the geotechnical information is a project need that also falls on the information provided by the other project consultants. The plans and letters that we expect will be provided are from project design of a long time ago. Conditions and standards change. The Town must rely on the information provided by the various project consultants as being information that satisfies the consultants current design standards. The Town must receive something in writing from the project Architects, the project engineers and the Marin Tree Service indicating that the project information provided by them is suitable for current project review by the Town. We must know if the information submitted under the name of these consultants is still supported by them and is not out of date.

The grading quantities are given as 836 c.y. cut, 4 c.y. fill and 832 c.y. off-haul. The Town Code Section 12.20.080 requires Planning Commission approval of grading quantities greater than 100 cubic yards.

I recommend that the processing of this project be delayed until the above required information is provided.

Ray Wrysinski

Ray Wrysinski, P. E.
Town Engineer

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

February 4, 2016
Project Number 1866-03-07

Mr. Ted Pugh
P.O. Box 447
Fairfax, California 94978

RE: Geotechnical Report Update
Proposed Residence
Assessor's Parcel #001-112-31
Fairfax, California

Dear Mr. Pugh:

This presents our geotechnical report update for the proposed residence on the above-referenced vacant Acacia Road lot in Fairfax, California. We previously performed a geotechnical investigation for the project and presented recommendations in our report dated July 25, 2007. The project is shown on the plans by Jeff Kroot, Architect revised December 16, 2015. Our work is being provided in accordance with the terms and conditions outlined in our professional services agreement dated January 30, 2007.

GEOTECHNICAL REPORT UPDATE

Based on our review, we conclude that the geotechnical design criteria presented in our July 25, 2007 report is applicable to the proposed project with the following modifications:

Seismic Design Criteria

The following updated seismic design criteria were developed in accordance with the *California Building Code* (2012) and *ASCE 7-10* (July 2013 errata):

Site Class	C
Site Coefficient F_a	1.0
Site Coefficient F_v	1.5
0.2 sec Spectral Acceleration S_S	1.50
1.0 sec Spectral Acceleration S_1	0.63
0.2 sec Max Spectral Response S_{MS}	1.50
1.0 sec Max Spectral Response S_{M1}	0.82
0.2 sec Design Spectral Response S_{DS}	1.00
1.0 sec Design Spectral Response S_{D1}	0.54
Design Category	D

ATTACHMENT D

Seismic Retaining Wall Pressures

Seismic wall stability should be evaluated based on a uniform lateral earth pressure of 10xH psf (where H is the height of the wall in feet). This pressure is in addition to the active equivalent fluid pressures presented in the report. For restrained walls, seismic pressures may be assumed to act in combination with active rather than at-rest earth pressures. The factor of safety against instability under seismic loading should be at least 1.1.

SUPPLEMENTAL SERVICES

Our conclusions and recommendations are contingent upon Herzog Geotechnical being retained to review for project plans for conformance with our recommendations, and on our being retained to provide observation and appropriate field and laboratory testing during pier drilling, footing excavation, tieback drilling and testing, slab subgrade overexcavation and backfill compaction, wall backfilling, void form installation, and subdrainage installation. We should also be notified to observe the completed project. Steel, concrete, slab moisture barriers, surface drainage, and waterproofing should be inspected by the appropriate party, and are not part of our work. We should be notified at least 48 hours before the beginning of each phase of work requiring our observation, and upon resumption after interruptions. We cannot provide comment on conditions, situations or stages of construction that we are not notified to observe.

LIMITATIONS

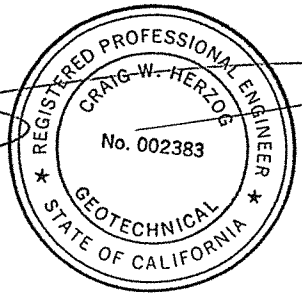
This report update has been prepared for the exclusive use of Mr. Ted Pugh and his consultants for the proposed project described above.

Our services consist of professional opinions and conclusions developed in accordance with generally-accepted geotechnical engineering principles and practices. We provide no other warranty, either expressed or implied. Our conclusions and recommendations are based on the information provided us regarding the proposed construction, the results of our field exploration and laboratory testing programs, and professional judgment. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

Our work did not include an environmental assessment or an investigation of the presence or absence of hazardous, toxic or corrosive materials in the soil, surface water, ground water or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands. Our work also did not include an evaluation of any potential mold hazard at the site.

We appreciate the opportunity to be of service to you. If you have any questions, please call us at (415) 388-8355.

Sincerely,
HERZOG GEOTECHNICAL



Craig Herzog, G.E.
Principal Engineer

Two copies submitted

cc. BHW Engineers, LLC
Attention: Paul Pieri, S.E.
5 Bon Air Road, Suite 222
Larkspur, California 94904

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

RECEIVED
SEP 10 2008
TOWN OF FAIRFAX

August 18, 2008
Project Number 1866-03-07

Mr. Ted Pugh
P.O. Box 99485
Emeryville, California 94662-9485

Re: Clarification of Stability Issues
Acacia Road Lot (APN 001-112-31)
Fairfax, California

Dear Mr. Pugh:

As requested, this letter addresses stability concerns discussed during the August 6, 2008 meeting with the Town of Fairfax in connection with your planned home at the referenced lot in Fairfax, California.

- As outlined in our July 25, 2007 report, unretained cuts would be subject to instability. A March 31, 2008 letter by BHW Engineer, LLC referred to this condition as a "potential landslide situation". As clarified during the meeting, this comment related to excavation for a previously proposed wall that is no longer part of the project, and is not in any way related to the existing landslide mapped on Plate 1 of our report. The existing slide will be remediated by complete removal during excavation for the proposed residence.

- As noted in our report, the soils at the site are subject to creep movement. Creep is the gradual downslope movement of soils on hillsides as a result of seasonal moisture variations and gravitational forces. Creep deformations are typically less than a fraction of an inch per year, and this condition is very common on Marin County hillsides. The effects of creep on the proposed construction will be mitigated by extending foundation support well into bedrock, and by designing foundations to resist creep forces imposed by the soils overlying the bedrock as outlined in the soils report.

Services performed by Herzog Geotechnical have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing in the same locality under similar conditions at the time the services were provided. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this letter or in any opinion, documented or otherwise. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

We trust this provides the information required at this time. If you should have further questions, please call.

Sincerely,
HERZOG GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER
CRAIG W. HERZOG
No. 002383
Exp. 9/30/09
GEOTECHNICAL
STATE OF CALIFORNIA

Craig Herzog, G.E.
Principal Engineer

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

May 7, 2008
Project Number 1866-03-07

Mr. Ted Pugh
P.O. Box 99485
Emeryville, California 94662-9485

Re: May 1, 2008 Town of Fairfax Memorandum
Acacia Road Lot (APN 001-112-31)
Fairfax, California

Dear Mr. Pugh:

As requested, we have reviewed the May 1, 2008 memorandum by the Town of Fairfax regarding your planned home at the referenced lot in Fairfax, California. We have also reviewed the BHW Engineers letter in response dated May 6, 2008. We have the following comments regarding the May 1, 2008 memorandum:

1. The landslide limits have been previously mapped and test borings have been drilled within the slide area. The mapping and boring locations are depicted on the *Site Plan* (Plate 1) of our July 25, 2007 geotechnical investigation report. As such, additional soil borings or mapping does not appear to be warranted.

2. Unless the hillside upslope of the existing landslide area is repaired and stabilized, the potential for additional landslides at the site will remain.

3. We have previously indicated approval of the proposed rear patio retaining walls working with the separate main retaining wall/foundation as a suitable means of enhancing long-term stability of the hillside immediately upslope of the house.

4. We judge that the additional subdrainage provided by the patio retaining walls is desirable from a geotechnical standpoint since elevated groundwater levels at the site will act to promote instability.

5. A structural section was submitted for design of the fire service turnout area in the Town's right-of-way to allow H20 highway wheel loads. Subgrade overexcavation and recompaction will need to be performed in the manner outlined in the *Slab Support* section of the soils report. The upper 6 inches of subgrade should be moisture conditioned and compacted to at least 95 percent relative compaction, and should be smooth and unyielding. Aggregate baserock should then be compacted to at least 95 percent relative compaction, and should be smooth and unyielding.

Specific design section thicknesses will be dependant upon actual conditions encountered, and we recommend that the final design be made a *Condition of Approval* by the Town's planning commission.

As previously discussed, care will need to be taken during excavation for the retaining walls. Excavation and shoring should be performed under the observation of the geotechnical engineer and project arborist, and wall construction should be performed under the observation of the structural engineer.

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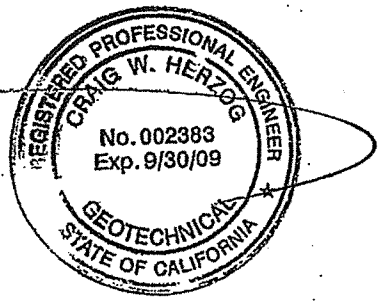
We trust this provides the information required at this time. If you should have further questions, please call.

Sincerely,
HERZOG GEOTECHNICAL



Craig Herzog, G.E.
Principal Engineer

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

February 26, 2008
Project Number 1866-03-07

Mr. Ted Pugh
P.O. Box 99485
Emeryville, California 94662-9485

RE: February 15, 2008 Town of Fairfax Memorandum
Acacia Road Lot (APN 001-112-31)
Fairfax, California

Dear Mr. Pugh:

As requested, we have reviewed the February 15, 2008 memorandum by the Town of Fairfax in connection with the planned residence at the referenced Acacia Road lot in Fairfax, California. Herzog Geotechnical previously performed a geotechnical investigation for the project and summarized results in our report dated July 25, 2007. We have the following comments regarding the February 15, 2008 memorandum:

1. Sheets C1 and C2 of the plans indicate drop inlets for the collection of storm water runoff. Although some storm water may infiltrate into the ground between the clay pavers specified on the landscaping plan, we judge that the combination of the proposed surface drains and subdrain system will be adequate to mitigate the risk of corresponding hydrostatic loads on the retaining walls.

2. The proposed use of grassed drainage swales to collect storm water upslope of the two patio retaining walls is an acceptable substitute for concrete V-ditches provided that the swales are lined with an approved turf reinforcement matting such as North American Green P300, or equivalent.

3. The 3-foot heights above grade for the two rear patio retaining walls will satisfy the intent our recommendation for slough debris catchment at the upslope foundation. If desired, structural fencing may alternatively be provided at the top of the patio retaining walls to create the 3-feet of slough catchment. The fencing should be designed to resist the lateral pressures outlined in the soils report.

Services performed by Herzog Geotechnical have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing in the same locality under similar conditions at the time the services were provided. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this letter or in any opinion, documented or otherwise. Verification of our conclusions and

recommendations is subject to our review of the project plans and specifications, and our observation of construction.

We trust this provides the information required at this time. If you should have further questions, please call.

Sincerely,
HERZOG GEOTECHNICAL

Craig Herzog, G.E.
Principal Engineer

HERZOG
GEOTECHNICAL
CONSULTING ENGINEERS

December 18, 2007
Project Number 1866-03-07

Mr. Ted Pugh
P.O. Box 99485
Emeryville, California 94662-9485

RE: November 2, 2007 Town of Fairfax Memorandum
Acacia Road Lot (APN 001-112-31)
Fairfax, California

Dear Mr. Pugh:

This presents our geotechnical responses to the November 2, 2007 memorandum by the Town of Fairfax in connection with the planned residence at the referenced Acacia Road lot in Fairfax, California. Herzog Geotechnical previously performed a geotechnical investigation for the project and summarized results in our report dated July 25, 2007. We also submitted a September 5, 2007 letter indicating that the proposed structural design and drainage methodology for a 32-foot wide retaining wall and foundation system at the site conforms to the intent of our geotechnical recommendations.

The November 2, 2007 memorandum requests information regarding stability impacts of proposed retained cuts for patio retaining walls adjacent to the redwood trees uphill of the house. We judge that unsupported cuts for the proposed walls could undermine support for these trees, particularly during the rainy season. It will therefore be necessary to maintain lateral support for soils downslope of the trees throughout the construction process. We judge that this can be achieved utilizing top-down shoring methods for all retaining wall construction, designed in accordance with the criteria presented in our report, and outlined in the letter August 27, 2007 by BHW Engineers. It will be necessary for the project arborist to evaluate the construction methodology to verify that damage to the root system does not occur during excavation or drilling.

Services performed by Herzog Geotechnical have been conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession practicing in the same locality under similar conditions at the time the services were provided. No other representation, expressed or implied, and no warranty or guarantee is included or intended in this letter or in any opinion, documented or otherwise. Verification of our conclusions and recommendations is subject to our review of the project plans and specifications, and our observation of construction.

We trust this provides the information required at this time. If you should have further questions, please call.

Sincerely,
HERZOG GEOTECHNICAL

REGISTERED PROFESSIONAL ENGINEER
CRAIG W. HERZOG
No. 002383
Exp. 9/30/09
GEOTECHNICAL
STATE OF CALIFORNIA

Craig Herzog, G.E.
Principal Engineer