The Law Offices of Gloria D. Smith
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September 14, 2020

Angela Calvillo
Clerk of the Board
San Francisco Board of Supervisors
City Hall, Room 244
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

RE: Hearing on Appeal of San Francisco Planning Commission's CEQA Exemption for 66 Mountain Spring Avenue, (Case No. 2018-007763ENV)

Dear President Yee and Members of the Board:

In preparation for tomorrow's CEQA appeal hearing and on behalf of Ms. Margaret Niver, Mr. Ronald Niver ("Nivers") and Rosemarie MacGuinness (collectively "Appellants"), we submit this letter to supplement the March 23, 2020, appeal with the following reports and letters:

1. September 9, 2020, supplemental report from geo-technical engineer Dr. Lawrence Karp describing the potential for catastrophic slope failure absent specific structural design and planning at 66 Mountain Spring Ave.

2. September 14, 2020, letter of concern from Jungsoo Park and Yeunju Kang. Mr. Park and Ms. Kang reside directly below 66 Mountain Spring Avenue at 75 Clarendon Avenue.

3. September 14, 2020, letter of concern from Hajame Hiraragi. Mr. Hiraragi resides directly below 66 Mountain Spring Avenue at 79 Clarendon Avenue.

4. September 14, 2020, letter of concern from Franklin Jackson. Mr. Jackson resides directly below 66 Mountain Spring Avenue at 71 Clarendon Avenue.

5. Photograph of rock debris at 71 Clarendon Avenue.

6. Report by Dr. Lawrence Karp on the deficiencies of the applicant's land survey and geo-technical report (August 11, 2020).

7. Follow up letter from H. Allen Gruen to Leo Cassidy regarding geotechnical consultation (January 5, 2019).

8. Report on geotechnical investigation prepared for Leo Cassidy by H. Allen Gruen (April 28, 2018).

9. Applicant's site survey as a component of the project drawings for 66 Mountain Spring Avenue. (June 12, 2019).

The above fact-based letters and reports show why the Board must grant the appeal and send the project back to the Planning Department with direction to fully comply with CEQA.

THE LAW OFFICES OF GLORIA D. SMITH

By: Gloria D. Smith

LAWRENCE B. KARP
CONSULTING GEOTECHNICAL ENGINEER

FOUNDATIONS, WALLS, PILES
UNDERPINNING, TIEBACKS
DEEP RETAINED EXCAVATIONS
SHORING & BULKHEADS
CEQA, EARTHWORK & SLOPES
CAISSONS, COFFERDAMS
COASTAL & MARINE STRUCTURES

SOIL MECHANICS, GEOLOGY
GROUNDWATER HYDROLOGY
CONCRETE TECHNOLOGY

September 9, 2020

Board of Supervisors
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Subject: 66 Mountain Spring Avenue Project [Block 2706 - Lot 025]
Wrongful Determination of CEQA Categorical Exemption
(Basis for Incompetent Discretionary Review Action)
Environmental Impact Report Required

Members of the Board:

This letter supplements an 8/11/20 report to the Board of Supervisors. As noted earlier, I studied areal slope stability and from topography (the Project is shown on City maps as being in a "landslide area" subject to the Slope & Seismic Protection Act, SSPA, as previously discussed) and determined (no proper survey of the 66 Mountain Spring was performed by the developer) that the lower portion of the 66 Mountain Spring property is part of a existing landslide which was not reported by the Project's geotechnical engineer who produced only a skeletal boilerplate report based on earlier planning for remodeling of the presently existing residence, not properly intended for a massive new structure.

A Slope Failure Exists On and Below the Project Site

Ignored by the developer and their consultants, landslide debris exists along the northern end of 66 Mountain Spring which is fenced off from 71 and 75 Clarendon. Sedimentary radiolarian chert with debris is exposed at 71 Clarendon, with the neighbor's slope under 66 Mountain Spring comprised of total landslide debris at 75 Clarendon. The slope along and below 66 Mountain Spring, which is the full width of both 71 and 75 Clarendon, is reposed at an average inclination that is steeper than 1h:1v (45° +). The red ribbon chert of Twin Peaks, known as geology of the Marin Headlands terrane, of Jurassic Cretaceous age, has clay seams which when saturated cause the ribbons to break apart.

The red chert and landslide debris is unsuitable for lateral support for the intended massive development at 66 Mountain Spring. Although the developer failed to submit any structural design, schematics and a questionnaire completed by SiA indicates slab-on-grade is intended to be the foundation, which is totally inappropriate for a Project that will hover over, and load, the very steep slope down to Clarendon. The Project must be scaled down; stability analyses performed, and a deep foundation system designed.

Revised Drawings and Appeal Reviews are Specious

Developer has submitted "new" drawings, the only new items are computer generated roof outlines as contrived illustrations, no real architecture or engineering. As outlined on 8/11/20, a proper survey and geotechnical report to C&CSF standards is mandatory. The provisions of the SSPA must be followed.

Lawrence B. Karp

LICENSED ARCHITECT LAWRENCE B. KARP No. 10130 STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER LAWRENCE B. KARP No. 25389 CIVIL STATE OF CALIFORNIA
REGISTERED PROFESSIONAL ENGINEER LAWRENCE B. KARP No. 452 GEOTECHNICAL STATE OF CALIFORNIA

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1938

75 Clarendon Ave.
San Francisco, CA 94114

September 14, 2020

Board of Supervisors
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Re: Appeal of CEQA Exemption Determination for 66 Mountain Spring Ave. – Hearing Date September 15, 2020(Case No. 2018-00763ENV; BOS File No. 200754)

Dear President Yee and Members of the Board of Supervisors,

I am writing to urge you to reverse the Planning Department's determination that the proposed demolition of the existing home at 66 Mountain Spring Avenue and the construction of a new three story home are categorically exempt from the California Environmental Quality Act (CEQA).

My wife, Yeunju, and I live with our two young children at 75 Clarendon Avenue, directly down the hill from the proposed new construction at 66 Mountain Spring. The new house that the project sponsor plans to build on the hill above my home is massive – almost 6,000 gross square feet – and almost three times as large as the existing home on the lot.

The proposed new construction is in a landslide zone. The slope of the hill that is my backyard is very steep – more than 45 degrees. Geotechnical engineer Lawrence Karp inspected the slope behind my home and, as reflected in his report dated September 9, 2020, found that it consisted of "total landslide debris." In his report, Dr. Karp stated that a proper survey had not been done of the project site, and that the project sponsor's geotechnical engineer produced "a skeletal boilerplate report based on earlier planning for remodeling of the presently existing residence, not properly intended for a massive new structure." Dr. Karp also stated in his report that the project sponsor plans to use a "slab-on-grade" foundation, which he believes is inappropriate given the landslide zone in which the house will be built.

I am very concerned about my family's safety given the lack of environmental review done by the Planning Department on this proposed construction. As you know, these days, our house is effectively a pre-school for my second daughter, Paige, and an elementary school classroom for my first daughter, Claire. Of course, I'm working from home to run my company. And as you also know, this 'school/work-at-home' situation will be prolonged. Given this situation, the potential, additional risk of the proposed construction will be compounded for sure.

In addition, the recent wildfires ravaging the entire West Coast is the result of the reckless development as you notice. We need to look into any development and

construction plan with the same cautious manner that we should have toward the broader ecosystem and climate change. I strongly urge you to have this perspective on any development and construction plan regardless of scale. Moreover, the climate change and its catastrophic impact on our lives are also to be considered in this case because the change is throwing and adding a lot of uncertainty and potential risk in this case; who can be sure there will be no landslide due to the new construction given that the plan itself imposes more risk on top of the uncertain circumstance caused by the climate change?

I implore the Board to reverse the Planning Department's CEQA exemption determination and send the project back to the Department to conduct an environmental review. Failing to do so could lead to tragic consequences for my family and our neighbors.

Sincerely,

Jungsoo Park

Yeunju Kang

79 Clarendon Avenue
San Francisco, CA 94114

September 14, 2020

San Francisco Board of Supervisors
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Re: Sept. 15, 2020 Hearing on Appeal of CEQA Exemption for 66 Mountain Spring

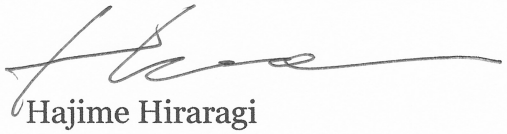
Dear members of the Board of Supervisors,

I live at 79 Clarendon Avenue. I am writing to ask the Board to require the Planning Department to conduct a thorough environmental review of the proposed construction of the very large new home planned for 66 Mountain Spring Avenue.

My home is one house to the west of the homes that are directly down the hill from the proposed new house at 66 Mountain Spring. I have read the supplemental report prepared by geotechnical engineer Lawrence Karp, and based on what Dr. Karp said, I am very concerned about the construction.

Please reverse the Planning Department's CEQA exemption determination and, for the safety of myself and my neighbors, send the project back to the Department for further environmental review. Thank you.

Sincerely,



Hajime Hiraragi

71 Clarendon Ave.
San Francisco, CA 94114

September 14, 2020

Board of Supervisors
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Re: Appeal of CEQA Exemption Determination for 66 Mountain Spring Ave. – Hearing Date September 15, 2020(Case No. 2018-00763ENV; BOS File No. 200754)

Dear members of the Board of Supervisors,

I live at 71 Clarendon Avenue and I am writing to you in support of the appeal of the Planning Department's determination that the proposed demolition and new construction at 66 Mountain Spring Avenue are categorically exempt from the California Environmental Quality Act (CEQA).

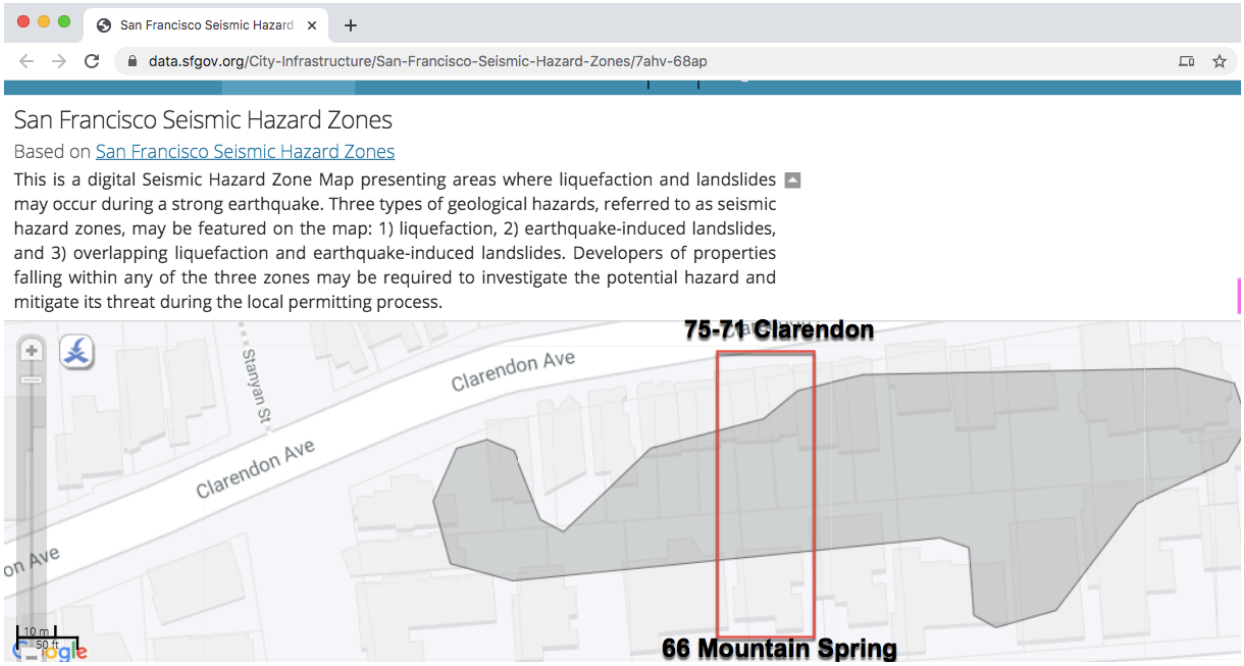
My home is directly down the hill from the proposed new construction at 66 Mountain Spring. The new house that the developer plans to build on the hill above my home is very large, and based on the information contained in the supplemental report prepared by geotechnical engineer Lawrence Karp, and what I have seen in my own backyard, I am afraid for my family's safety if further environmental review is not done by the Planning Department.

The home the developer plans to build at 66 Mountain Spring is in a landslide zone. In particular, the adjoining backyards of 71 Clarendon, 75 Clarendon, and 66 Mountain Spring are in the same Seismic Hazard Zone according to data provided by SFGov.org, and developers of properties falling within these zones are "required to investigate the potential hazard and mitigate its threat during the local permitting process." (See https://data.sfgov.org/City-Infrastructure/San-Francisco-Seismic-Hazard-Zones/7ahv-68ap and the attached excerpts below):

San Francisco Seismic Hazard Zones

Based on San Francisco Seismic Hazard Zones

This is a digital Seismic Hazard Zone Map presenting areas where liquefaction and landslides may occur during a strong earthquake. Three types of geological hazards, referred to as seismic hazard zones, may be featured on the map: 1) liquefaction, 2) earthquake-induced landslides, and 3) overlapping liquefaction and earthquake-induced landslides. **Developers of properties falling within any of the three zones may be required to investigate the potential hazard and mitigate its threat during the local permitting process**.



Moreover the slope behind my home is very steep. It is so steep that my landscaper at one point recommended that I install a chain-link barrier hugging the surface of the hill to prevent rocks from rolling down the hill and hitting my home. In the last few weeks, I noticed rocks had started to fall down onto my deck. Attached is a photo I took of the rocks that fallen down the hill.

As reflected in the supplemental report prepared by geotechnical engineer Lawrence Karp, when he viewed my backyard he found that it consisted of "sedimentary radiolarian chert with debris" from an existing landslide. In his report, Dr. Karp criticized the survey of the project site, and the geotechnical report prepared for the developer, calling the geotechnical report "a skeletal boilerplate report based on earlier planning for remodeling of the presently existing residence, not properly intended for a massive new structure." Dr. Karp also criticized the developer's plans to use a "slab-on-grade" foundation, which he believes is inappropriate given the landslide zone in which the house will be built.

For the safety of my family and our neighbors, I urge the Board to reverse the Planning Department's CEQA exemption determination and send the project back to the Department to conduct an environmental review.

Sincerely,

Franklin Jackson

LAWRENCE B. KARP
CONSULTING GEOTECHNICAL ENGINEER

FOUNDATIONS, WALLS, PILES
UNDERPINNING, TIEBACKS
DEEP RETAINED EXCAVATIONS
SHORING & BULKHEADS
CEQA, EARTHWORK & SLOPES
CAISSONS, COFFERDAMS
COASTAL & MARINE STRUCTURES

SOIL MECHANICS, GEOLOGY
GROUNDWATER HYDROLOGY
CONCRETE TECHNOLOGY

August 11, 2020

Board of Supervisors
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Subject: 66 Mountain Spring Avenue Project [Block 2706 - Lot 025]
Wrongful Determination of CEQA Categorical Exemption
(Basis for Incompetent Discretionary Review Action)
Environmental Impact Report Required

Members of the Board:

I have independently inspected sites and studied areal slope stability records for the subject project as well as reviewed plans, reports, and other documents pertaining to the actions of the C&CSF Planning Department (CPD) with respect to an unprofessionally based Categorical Exemption Determination forming the basis for the incompetent Discretionary Review Action DRA-0687 for this massive Project.

CEQA Cat Ex Determination Was Wrongful

CPD published a Determination that the subject Project was categorically exempt from environmental review based on both non-professional input and partial or misleading professional input. Architects licensed in California are well aware that the California Environmental Impact Act (CEQA) Guideline §15300.2 [c] reads: "A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances." Nevertheless, although CPD is supposed to be cognizant of Code requirements, the City's Ordinances adopted over the years to protect slope and buildings built on them has included maps classifying the Project area as being susceptible to landslides, CPD chose to ignore the facts and skip over the project site's "unusual circumstances" in their determination that a categorical exemption automatically applies to the area and Project when it does not.

CPD's Determination, first setting aside the facts that the basis for the Determination were incomplete or misleading, and then misconceived and unprofessional, was sloppy and faulty in that it is not dated and misclassifies the Project's nature; fundamentals that show a lack of care by CPD that carried through with-out hesitation to the Design Review. The first page of the Determination has no date but gives Permit Application 2018.05.17.9469 which means it was applied for on 5/17/18, and the second page refers to a geotechnical report of 4/28/18 (for a remodeling of an existing building activity) with an updated memo of 1/5/19 (for demolition of the existing building and then construction of a new building). DBI records show P/A 2018.05.17.9470 is for demolition of the existing building.

The Determination starts with a list "Step 1: Exemption Class", where the first box, "Class 1 - Existing Facilities" (i.e. remodeling) is checked but the second box, "Class 3 - New Construction" is not checked. Checking of further boxes on the checklist depends on a proper Exemption Class, as consideration of the environment and Codes are different. As the premise was wrong to begin with, the Determination fails.

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Slope Protection Acts

There is a huge difference between (A) remodeling an existing, built in 1947 to the first post-war Codes, a 2,100 square foot two story building, and (B) designing-demolishing-constructing, to 2020 Standards, a 6,022 square foot three story building in a compact long established steep hillside residential neighborhood. The disparity is so great that any planner should immediately recognize the difference and its probable new affect on the land and neighbors especially if the Project is located in a designated "Landslide Area", regardless of being presented with (and referencing) an 1/5/19 very short letter stating that the remodeling contemplated by a site investigation on 4/28/18 would have the same geotechnical ("soil & foundation") engineering for both existing and new building plans. And then that agency supposedly reviewing and not questioning a grossly incomplete and superficial survey map prepared on 4/26/18 as a basis for the 4/28/18 cursory geotechnical report generated for the former remodeling Project now shown on 3/13/19 CAD drawings, last revised on 4/9/19, as a new three story building.

For various reasons, particularly as the Project's location (Lat 37.75/Long -122.45) is in a steep "Heights" neighborhood (25%+ sloped area although obscured by buildings that may have only 5 foot sideyard setbacks) the site is mapped as being within a City designated landslide (and a steep slope) area, and within a State designated earthquake-induced landslide area. Demolition and construction of a new three story building exceed the size and location triggers for the City's Slope & Seismic Protection Act (SSPA), "finally passed by the Board of Supervisors 5/15/18" ("C&CSF Tails Ordinance, File No. 171284, printed at 11:43 am on 5/16/18" and referenced in Ordinance 121-18) as being "Amended in Board 5/8/18". The SSPA Ordinance are serious life-safety measures which are recognized by licensed professionals as being included in designs immediately, not appropriate for circumventing years later for grandfathering unapproved Projects. The SSPA references the State of California's 11/17/00 "Seismic Hazard Zones map" (which shows areas of the City subject to liquefaction and earthquake induced landslides) as well as every other landslide map ever used by the City and the City's topography referring to average slope areas (e.g Clarendon Heights) exceeding 4h:1v (noted 25% in previous versions of the Slope Protection Act), as being subject to both the SPA and SSPA.

The operative words in the SSPA Ordinance, 121-18, "File No. 171284, Amended in Board 5/8/18" that are repeated in the San Francisco Building Code Amendments revising Section 106A.4.1.4 are: "106A.4.1.4.1 Creation. The Slope and Seismic Hazard Zone Protection Act shall apply to all property within San Francisco that exceeds an average slope of 4 horizontal to one vertical grade or falls within certain mapped areas of the City". The best known maps of landslide areas in the City are those posted by DBI and referenced in DBI Information Sheets: The 1974 "Seismic Safety Investigation Report", (Map, Figure 4) by URS/John Blume & Associates, Engineers, and the 1987 "Landslide Hazard Map" posted at the DBI's offices, at 1660 Mission Street, second floor near the permit counter. Both maps show the subject property is located in a landslide area.

The latest topographical map of the City, prepared by CPD and posted for use in considering categorical exemptions, is dated 7/25/18, and shows the area has slopes 4h:1v or greater (previous Code amendments used 25% as the limiting slope inclination, the values are the same). Other triggers for the SSPA are proposed construction of new buildings over 1,000 square feet in area, projects with shoring or underpinning, and grading more than 50 cubic yards of earth materials. No matter what the 66 Mountain Spring Project is or becomes it is governed by the SPA and SSPA (which are also tied to CEQA evaluations); the mandates have been ignored by CPD so the required SSPA Checklist was never completed nor was a CEQA Initial Study, and of course a categorical exemption is impossible.

Dysfunctional Drawings

The plans for the 66 Mountain Spring Project, latest revision date on some of the drawings is 4/9/19, consist of 16 CAD drawings were prepared by SiA Consulting. There is no architect's license stamp on any of the drawings; Business & Professions Code §5536.1(a) requires all plans and specifications prepared by licensed architects bear their stamps and signatures. SiA Consulting advertises on the Internet as performing "Architectural Design", which is a protected term; Business & Professions Code §5610.3 prohibits an architectural firm from using a name that does not include that of a licensed architect;

SiA Consulting turns out to be a factitious name entity whose principal is Bahman Ghassemzadeh, a reeently licensed civil engineer (75941). There is no engineer's license stamp on any of the drawings; Business & Professions Code §6735.1 requires all drawings and reports prepared by licensed engineers must bear their stamps and signatures. Business & Professions Code §6738(I) requires an Organization Record be filed by licensed engineers that use factitious business names. There is no Organization Record for SiA Consulting on file with the Board of Professional Engineers. Project sponsor, Amir Afifi, has no licenses in California.

With the lack of professional input it is not surprising the drawings are dysfunctional, which CPD failed to recognize in their reviews and approvals which lead to misstating the Exemption Class in the Cat Ex Determination. SPA/SSPA items for CEQA evaluation are missing which CPD also failed to notice apparently because they do not understand the purpose of the slope protection acts. "General Notes" appear on both Sheets A-0.1 and A-0.2 but the major topics are specifications for interior finishes with nothing about building siting, foundations, and structure except a note about a slab-on-grade (or thickened to form a mat) foundation on Sheet A-0.2 and building sections on Sheet A-0.3 and A-4.1 which also indicate a slab-on-grade foundation, which would be inappropriate for the site and building (4/28/18 report states "conventional spread footings"). Sheet A-2.2 shows an "Existing Third Floor Plan (Street Level)" for the present two story building (as-built record 2,100 square feet) where the crawl space was converted to Storage rooms without permits (the only building permit application prior to current was for roofing, 19 years ago (P/A 2001.10.05.0005)).

The Site Plan(s) on Sheet A1.1 totally fails to comply with document submittal regulations for permitting changes to a site where there is an existing building and demolishing an existing building (2019 SFEBC §106.2.6) which are Slope Protection Act and CEQA issues for the necessary evaluation of site documents. No corners or lines of equal contour or elevations to City datum are shown; the SiA Consulting plans show a relatively deep excavation which reaches near the property lines to the West and East but the neighboring foundations are not located and there is no indication of the shoring necessary to protect contiguous land from loss of lateral and subjacent support which is required (2016/2019 SFBC §3307). Excavations near adjoining building foundations are prohibited (2016/2019 SFBC §§1803.5.7, 1804.1) but no provisions for shoring and underpinning neighboring structures are specified on the drawings which are both Slope Protection Act and CEQA issues because the proposed construction is in a designated landslide area.

Deficient Land Survey

The 4/26/18 "Site Survey" map (Sheet C-1) prepared by Daniel Westover was dated before the geotechnical ("soil & foundation") engineering report concerning existing house remodeling, not a new building. Plans submittal requirements for altering or demolishing an existing building (2019 SFEBC §106.2.6) require an "accurate" boundary survey with all site and adjacent features delineated. A proper orthocontour survey map is crucial for a properly designed Site Plan. Westover's map is missing all key data especially along the 74 Mountain Spring property line so environmental evaluation of the submitted drawings is blocked. The map is deficient in depicting all site features and data related to slopes and structures. Alarming is that CPD never noticed any defects in the map e.g. the bizarre depiction of the easterly portion of 74 Mountain Spring house.

Incomplete Geotechnical Report

The developer submitted a geotechnical (soil & foundation) report on 4/28/18 prepared by Allen Gruen based on an older deficient land survey map prepared for the developer. The report states "...the project will consist of the design and construction of improvements to an existing building. No other project details are known at this time." The report is comprised of boilerplates including "...free groundwater will be below planned excavations" on page 2. "Conclusions", on page 3, include opinions on the site supporting "proposed improvements" and "planned improvements" may be supported on "conventional spread footing foundation". As the Project's scope was limited to "improvements to an existing building", only one shallow exploratory boring was advanced at the street, not at side property lines for necessary shoring where excavations will occur.

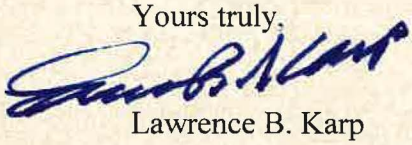
The report also notes in the "Conclusions" that "Temporary slopes will be necessary during the planned site excavations" with other "if" notes, so the report is mostly not site specific. However, importantly, Gruen does deviate from the generic by his noting that the site specifically falls within the City's maps of landslide areas, namely the 1974 URS/Blume ("Seismic Safety Investigation Report") therefore he opines the site "may" be subject to the Slope Protection Act and he quotes the San Francisco building code sections that require special procedures for improvements over 1,000 square feet and for sitework that includes excavation, grading, and shoring, all of which became necessary with the new 6,021 square foot building but not shown on the current plans and specifications. Gruen has never reviewed plans.

The report's premise was remodeling an existing building with no Project details being known, but in the report generic recommendations applicable to any site in San Francisco are given. The report refers to the Slope Protection Act (of 2008) and was dated 4/28/18 at which time the professional design and construction community was well aware that the Board of Supervisors had been working for some time on strengthening the Slope Protection Act (the Ordinance notes a public hearing before the Building Inspection Commission (BIC) was held on 3/21/18). As noted at page 2 - ¶2 herein, SSPA Ordinance 121-18 was "Amended in Board 5/8/18" and "finally passed by the Board of Supervisors 5/15/18" which was 17 days after the date of the Gruen report commissioned by developer (Transatlantic Construction Company), and 2 days before the developer submitted P/A 2018.05.17.9469 and 9470 to DBI.

Gruen's report, dated 4/28/18, was added to with a short letter dated 1/5/19 stating the project had changed from "...an addition to the existing structure" to "...complete demolition of the site and construction of a new building." Gruen then wrote himself into requiring a notice to him for "at least 48 hours prior to required site observations of foundation excavations and geotechnical-related construction." After learning that the Project had major changes (on 1/5/19), there was no request for the surveyor to fix the 4/26/18 site survey to comply with 2016/2019 SFEBC §106.2.6, e.g. show positions and relative elevations of all site features including neighboring foundations, but still no review of P/A plans. Basically, this process means developers can do anything they want under CPD to circumvent SSPA which must include certification by the Project engineer, under oath, about Project excavations, grading, underpinning, and foundations for all structures that must be provided to DBI "with the permit application" subject to outside independent review. No certifications, to the detriment of neighbors e.g the neighbors steeply downhill at 71 and 75 Clarendon have never been considered by CPD or otherwise involved with Design Review.

Due to the current dysfunctional SiA drawings, a deficient survey, and an incomplete geotechnical report for a Project in a designated landslide area, proper SSPA reviews and certifications will not be performed (now resulting in the poor design review of this massive Project) without an Environmental Impact Report.

Yours truly,



Lawrence B. Karp

LAWRENCE B. KARP *CONSULTING ENGINEER*

H. ALLEN GRUEN, C.E., G.E.

Geotechnical Engineer

360 Grand Avenue, # 262
Oakland, CA 94610
Phone (510) 455-0321
EARTHMECH1@AOL.COM

January 5, 2019
Project Number: 18-4788

Mr. Leo Cassidy
Transatlantic Construction Company
1189 Tennessee Street, #102
San Francisco, CA 94102

Subject: Geotechnical Consultation
Proposed Improvements at
66 Mountain Springs Avenue
San Francisco, California

Dear Mr. Cassidy,

This letter presents geotechnical consultation regarding the proposed improvements at 66 Mountain Springs Avenue in San Francisco, California. H. Allen Gruen, Geotechnical Engineer performed a geotechnical investigation for the project and presented results in the report dated April 28, 2018.

The scope of work has changed from that shown in preliminary geotechnical report which states that the scope of the project would be an addition to the existing structure. The current scope consists of complete demolition of the site and construction of a new building. It is my opinion that the findings and recommendations presented in the project geotechnical report are consistent with the new scope which includes demolition.

Please note the following:

1. All site grading, foundation excavations, backfill, and geotechnical construction should be performed in accordance with the recommendations set forth in the project geotechnical report prepared by H. Allen Gruen, Geotechnical Engineer, Oakland, CA, (510) 455-0321, dated April 28, 2018. The contractor should coordinate all such work with the Geotechnical Engineer so that the necessary tests and on-site construction reviews can be made. H. Allen Gruen, Geotechnical Engineer should be notified at least 48 hours prior to required site observations of foundation excavations and geotechnical-related construction.

I appreciate the opportunity to be of continued service to you on this project. If you have any questions, please call me at (510) 455-0321.

Sincerely,

H. Allen Gruen

H. Allen Gruen, C.E., G.E.
Geotechnical Engineer

REPORT
GEOTECHNICAL INVESTIGATION
Planned Improvements At
66 Mountain Springs Avenue
San Francisco, California

Prepared for:

Mr. Leo Cassidy
Transatlantic Construction Company
1189 Tennessee Street, #102
San Francisco, CA 94102

Prepared by:

H. Allen Gruen
Geotechnical Engineer
360 Grand Avenue, # 262
Oakland, California 94610
(510) 839-0765

Project Number: 18-4788

H. Allen Gruen

H. Allen Gruen, C.E., G.E.
Registered Geotechnical Engineer 2147

REGISTERED PROFESSIONAL ENGINEER
H. ALLEN GRUEN
GE2147
Exp. 12-31-2018
GEOTECHNICAL
STATE OF CALIFORNIA

April 28, 2018

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INTRODUCTION

Purpose

A geotechnical investigation has been completed for the proposed improvements at 66 Mountain Springs Avenue in San Francisco, California. The purposes of this study have been to gather information on the nature, distribution, and characteristics of the earth materials at the site, assess geologic hazards, and to provide geotechnical design criteria for the planned improvements.

Scope

The scope of our services was outlined in our Proposal and Professional Service Agreement dated March 5, 2018. Our investigation included a reconnaissance of the site and surrounding vicinity; sampling and logging one test boring to practical refusal at a depth of 10 feet below the ground surface; a review of published geotechnical and geologic data pertinent to the project area; geotechnical interpretation and engineering analyses; and preparation of this report.

This report contains the results of our investigation, including findings regarding site, soil, geologic, and groundwater conditions; conclusions pertaining to geotechnical considerations such as weak soils, settlement, and construction considerations; conclusions regarding exposure to geologic hazards, including faulting, ground shaking, liquefaction, lateral spreading, and slope stability; and geotechnical recommendations for design of the proposed project including site preparation and grading, foundations, retaining walls, slabs on grade, and geotechnical drainage.

Pertinent exhibits appear in Appendix A. The location of the test boring is depicted relative to site features on Plate 1, Boring Location Map. The log of the test boring is displayed on Plate 2. Explanations of the symbols and other codes used on the log are presented on Plate 3, Soil Classification Chart and Key to Test Data.

References consulted during the course of this investigation are listed in Appendix B. Details regarding the field exploration program appear in Appendix C.

Proposed Development

It is my understanding that the project will consist of the design and construction of improvements of to an existing residence. No other project details are known at this time.

FINDINGS

Site Description

The project site is located north of Mountain Spring Avenue, west of the intersection of Glenbrook and Mountain Spring Avenues, in San Francisco, California. The topography in the vicinity of the site slopes downward toward the north. At the time of our investigation, the subject site was occupied by a single family residence with appurtenant flatwork and yard areas.

Geologic Conditions

The site is within the Coast Ranges Geomorphic Province, which includes the San Francisco Bay and the northwest-trending mountains that parallel the coast of California. Tectonic forces resulting in extensive folding and faulting of the area formed these features. The oldest rocks in the area include sedimentary, volcanic, and metamorphic rocks of the Franciscan Complex. This unit is Jurassic to Cretaceous in age and forms the basement rocks in the region.

Locally, the site lies within the USGS San Francisco North Quadrangle. Schlocker (1958) has mapped the area of the site as being underlain by slope debris ravine fill. The area to the north west is mapped as being underlying by sandstone.

Earth Materials

Our boring at the subject site encountered firm to very stiff, lean clay with varying amounts of sand from the ground surface to the maximum depth explored of 10 feet. Detailed descriptions of the materials encountered as well as test results are shown on the Boring Log, Plate 2.

Groundwater

Free groundwater was not encountered in our boring to the maximum depth explored of 10 feet. It is our opinion that the free groundwater table will be below the planned site excavations. We anticipate that the depth to the free water table will vary with time and that zones of seepage may be encountered near the ground surface following rain or irrigation upslope of the subject site.

CONCLUSIONS

General

On the basis of my site reconnaissance, field exploration program, and literature review, I conclude that the site is suitable for support of the proposed improvements. The primary geotechnical concerns are founding improvements in competent earth materials, support of temporary slopes and adjacent improvements, and seismic shaking and related effects during earthquakes. These items are addressed below.

Foundation Support

It is my opinion that the planned improvements may be supported on a conventional spread footing foundation bearing in competent earth materials. If the spread footings would cover a substantial portion of the building area, a mat foundation may be used as an alternative to reduce forming and steel bending costs. The Structural Engineer may also choose to use drilled piers to support improvements, or for shoring and underpinning, if required. Detailed foundation design criteria are presented later in this report.

I estimate that improvements supported on foundations designed and constructed in accordance with my recommendations will experience post-construction total settlements from static loading of less than 1 inch with differential settlements of less than ½ inch over a 50-foot span.

Temporary Slopes and Undermining of Existing Structures

Temporary slopes will be necessary during the planned site excavations. In order to safely develop the site, temporary slopes will need to be laid back in conformance with OSHA standards at safe inclinations, or temporary shoring will have to be installed. The contractor may choose to excavate test pits to evaluate site soils and the need for temporary shoring.

If excavations undermine or remove support from the existing or adjacent structures, it may be necessary to underpin those structures. Care should be taken to provide adequate shoring or underpinning to support the affected improvements as a result of the loss of support.

Temporary slopes and support of structures during construction are the responsibility of the contractor. I am available to provide geotechnical consultation regarding stability of excavations and support of improvements.

Faulting

The property does not lie within an Alquist-Priolo Earthquake Fault Zone as defined by the California Division of Mines and Geology. The closest mapped active fault in the vicinity of the site is the San Andreas Fault, located about 5 miles southwest of the site (CDMG, 1998). No active faults are shown crossing the site on reviewed published maps, nor did we observe evidence of active faulting during our investigation. Therefore we conclude that the potential risk for damage to improvements at the site due to surface rupture from faults to be low.

Earthquake Shaking

Earthquake shaking results from the sudden release of seismic energy during displacement along a fault. During an earthquake, the intensity of ground shaking at a particular location will depend on a number of factors including the earthquake magnitude, the distance to the zone of energy release, and local geologic conditions. We expect that the site will be exposed to strong earthquake shaking during the life of the improvements. The recommendations contained in the applicable Building Code should be followed for reducing potential damage to the improvements from earthquake shaking.

Liquefaction

Liquefaction results in a loss of shear strength and potential volume reduction in saturated granular soils below the groundwater level from earthquake shaking. The occurrence of this phenomenon is dependent on many factors, including the intensity and duration of ground shaking, soil density and particle size distribution, and position of the groundwater table (Seed and Idriss, 1982). The site does not lie within a liquefaction potential zone as mapped by the California Division of Mines and Geology for the City and County of San Francisco (CDMG, 2000). In addition, the earth materials encountered in our boring were not subject to liquefaction. Therefore, it is our opinion that there is a low potential for damage to the planned improvements from liquefaction.

Lateral Spreading

Lateral spreading or lurching is generally caused by liquefaction of marginally stable soils underlying gentle slopes. In these cases, the surficial soils move toward an unsupported face, such as an incised channel, river, or body of water. Because the site has a low potential for liquefaction, we judge that there is a low risk for damage of the improvements from seismically-induced lateral spreading.

Densification

Densification can occur in clean, loose granular soils during earthquake shaking, resulting in seismic settlement and differential compaction. It is our opinion that earth materials subject to seismic densification do not exist beneath the site in sufficient thickness to adversely impact the planned improvements.

Landsliding

The site is mapped within an area of potential landslide hazard by URS/John A. Blume & Associates (1974). Qualifying projects may be subject to the Slope Protection Act (San Francisco Building Code 106A.4.1.4). The San Francisco Building Code (106A.4.1.4.3) states construction work that is subject to these requirements includes the construction of new buildings or structures having over 1000 square feet of new projected roof area and horizontal or vertical additions having over 1000 square feet of new projected roof area. In addition, these requirements apply to the following activity or activities, if, in the opinion of the Director, the proposed work may have a substantial impact on the slope stability of any property: shoring, underpinning, excavation or retaining wall work; grading, including excavation or fill, of over 50 cubic yards of earth materials; or any other construction activity.

The geologic map of the site vicinity reviewed for this study (Schlocker, 1958) did not show landslides at the subject site. In addition, a map prepared by the California Division of Mines and Geology for the City and County of San Francisco (CDMG, 2000) indicates that the subject site does not lie within an area of potential earthquake-induced landsliding. During his site reconnaissance, my field engineer did not observe evidence of active slope instability at the subject site. Therefore, it is my opinion that the potential for damage to the improvements from slope instability at the site is low provided the recommendations presented in this report are incorporated into the design and construction of the project.

RECOMMENDATIONS

Site Preparation and Grading

General

I assume that the planned improvements will be constructed at or below existing site grades. If site grades are raised by filling more than about 1 foot, I should be retained to calculate the impact of filling on slope stability, site settlements, and foundations.

Clearing

Following removal of existing improvements to be demolished, areas to be graded should be cleared of debris, deleterious materials, and vegetation, and then stripped of the upper soils containing root growth and organic matter. I anticipate that the required depth of stripping will generally be less than about 2 inches. Deeper stripping may be required to remove localized concentrations of organic matter, such as tree roots. The cleared materials should be removed from the site; strippings may be stockpiled for reuse as topsoil in landscaping areas or should be hauled off site.

Overexcavation

Loose, porous soils and topsoil, if encountered, should be overexcavated in areas designated for placement of future engineered fill or support of improvements. Difficulty in achieving the recommended minimum degree of compaction described below should be used as a field criterion by the geotechnical engineer to identify areas of weak soils that should be removed and replaced as engineered fill. The depth and extent of excavation should be approved in the field by the geotechnical engineer prior to placement of fill or improvements.

Subgrade Preparation

Exposed soils designated to receive engineered fill should be cut to form a level bench, scarified to a minimum depth of 6 inches, brought to at least optimum moisture content, and compacted to at least 90 percent relative compaction, in accordance with ASTM test designation D 1557.

Material for Fill

It is anticipated that the on-site soil will be suitable for reuse as fill provided that lumps greater than 6 inches in largest dimension and perishable materials are removed, and that the fill materials are approved by the geotechnical engineer prior to use.

Fill materials brought onto the site should be free of vegetative mater and deleterious debris, and should be primarily granular. The geotechnical engineer should approve fill material prior to trucking it to the site.

Compaction of Fill

Fill should be placed in level lifts not exceeding 8 inches in loose thickness. Each lift should be brought to at least the optimum moisture content and compacted to at least 90 percent relative compaction, in accordance with ASTM test designation D 1557.

Underpinning

During excavations adjacent to improvements, care should be taken to adequately support the existing improvements. When excavating below the level of foundations supporting existing structures, some form of underpinning may be required where excavations extend below an imaginary plane sloping at 1H:1V downward and outward from the edge of the existing footings. All temporary underpinning design and construction are the responsibility of the contractor. H. Allen Gruen, Geotechnical Engineer is available to provide consultation regarding underpinning adjacent improvements.

Temporary Slopes

Temporary slopes will be necessary during the planned site excavations. In order to safely develop the site, temporary slopes will need to be laid back in conformance with OSHA standards at safe inclinations, or temporary shoring will have to be installed. All temporary slopes and shoring design are the responsibility of the contractor. H. Allen Gruen, Geotechnical Engineer is available to provide consultation regarding stability and support of temporary slopes during construction.

Finished Slopes

In general, finished cut and fill slopes should be constructed at an inclination not exceeding 2:1 (horizontal:vertical). Routine maintenance of slopes should be anticipated. The tops of cut slopes should be rounded and compacted to reduce the risk of erosion. Fill and cut slopes should be planted with vegetation to resist erosion, or protected from erosion by other measures, upon completion of grading. Surface water runoff should be intercepted and diverted away from the tops and toes of cut and fill slopes by using berms or ditches.

Seismic Design

If the improvements are designed using the 2013 California Building Code, the following parameters apply using 2010 ASCE 7 with July 2013 errata:

Site Class C
Risk Category I/II/III
$S_s = 1.664$, $S_1 = 0.766$
Fa = 1.0, Fv = 1.3
$S_{Ms} = 1.664$, $S_{M1} = 0.996$
$S_{Ds} = 1.109$, $S_{D1} = 0.664$

Foundations

General

It is my opinion that the planned improvements may be supported on a conventional spread footing foundation bearing in competent earth materials. If the spread footings would cover a substantial portion of the building area, a mat foundation may be used as an alternative to reduce forming and steel bending costs. The Structural Engineer may also choose to use drilled piers to support improvements, or for shoring and underpinning, if required. Design criteria for each foundation type are presented below.

Spread Footings

New spread footings should be at least 12 inches wide and extend at least 24 inches below lowest adjacent grade. If soft or unstable soil areas are encountered at the bottom of the footings, localized deepening of the footing excavation will be necessary. Footings should be stepped to produce level tops and bottoms and should be deepened as necessary to provide at least 7 feet of horizontal clearance between the portions of footings designed to impose passive pressures and the face of the nearest slope or retaining wall. Spread footings can be designed to impose dead plus code live load bearing pressures and total design load bearing pressures of 2,000 and 3,000 psf, respectively.

Resistance to lateral pressures can be obtained from passive earth pressures against the face of the footings and soil friction along the base of footings. I recommend that an allowable passive equivalent fluid pressure of 250 pcf and a friction factor of 0.3 times the net vertical dead load be used for design. Passive pressures should be disregarded in areas with less than 7 feet of horizontal soil confinement and for the uppermost 1-foot of foundation depth unless confined by concrete slabs or pavements.

Mat Foundation

A mat foundation may be used to support the planned improvements. The mat can be designed for an average bearing pressure over the entire mat of 2,000 psf for combined dead plus sustained live loads, and 3,000 psf for total loads including wind or seismic forces. The weight of the mat extending below current site grade may be neglected in computing bearing loads. Localized increases in bearing pressures of up to 4,000 psf may be utilized. For elastic design, a modulus of subgrade reaction of 50 kips per cubic foot may be used.

A passive equivalent fluid pressure of 250 pounds per cubic foot and a friction factor of 0.3 may be used to resist lateral forces and sliding. Passive pressures should be disregarded in areas with less than 7 feet of horizontal soil confinement and for the uppermost 1-foot of foundation depth unless confined by concrete slabs or pavements.

Drilled Piers

Drilled, cast-in-place, reinforced concrete piers may be used to support improvements, or shoring excavation walls and underpinning adjacent improvements. Piers should be designed for a maximum allowable skin friction of 500 psf for combined dead plus sustained live loads. The above values may be increased by one-third for total loads, including the effect of seismic or wind forces. The weight of the foundation concrete extending below grade may be disregarded.

Resistance to lateral displacement of individual piers will be generated primarily by passive earth pressures acting against two pier diameters. Passive pressures should be assumed equivalent to those generated by a fluid weighing 250 pcf. Passive pressures should be disregarded in areas with less than 7 feet of horizontal soil confinement and for the uppermost 1-foot of foundation depth unless confined by concrete slabs or pavements.

Where groundwater is encountered during pier shaft drilling, it should be removed by pumping, or the concrete must be placed by the tremie method. If the pier shafts will not stand open, temporary casing may be necessary to support the sides of the pier shafts until concrete is placed. Concrete should not be allowed to free fall more than 5 feet to avoid segregation of the aggregate.

Retaining Walls

Unless clean, free draining sand is encountered throughout the depth of the retaining wall, retaining walls should be fully backdrained. The backdrains should consist of at least a 3-inch-diameter, rigid perforated pipe, or equivalent such as a "high profile collector drain", surrounded by a drainage blanket. The pipe should be sloped to drain by gravity to appropriate outlets. Accessible subdrain cleanouts should be provided and maintained on a routine basis. The drainage blanket should consist of clean, free-draining crushed rock or gravel, wrapped in a filter fabric such as Mirafi 140N. Alternatively, the drainage blanket could consist of Caltrans Class 2 "Permeable Material" or a prefabricated drainage structure such as Mirafi Miradrain. The bottom of the collector drain should be at least 12 inches below lowest adjacent grade. Aggregate drainage blankets should be at least 1 foot in width and extend to within 1 foot of the surface. The uppermost 1-foot should be backfilled with compacted native soil to exclude surface water.

Vertical retaining walls that are free to rotate at the top should be designed to resist active lateral soil pressures equivalent to those exerted by a fluid weighing 40 pcf where the backslope is level, and 60 pcf for backfill at a 2:1 (horizontal:vertical) slope. For intermediate slopes, interpolate between these values. I should be consulted to calculate lateral pressures on retaining walls that are tied-back or braced.

In addition to lateral earth pressures, retaining walls must be designed to resist horizontal pressures that may be generated by surcharge foundation loads applied at or near the ground surface. If a footing surcharge is located above a retaining wall within a horizontal distance of 0.4•H, where H is the height of soil retained by the wall, then a horizontal lateral resultant force equal to $0.55 \bullet Q_L$ should be applied to the retaining wall at a height above the base of the wall equal to 0.6•H. Q_L equals the equivalent resultant footing line load. This footing surcharge load applies equally to walls that are fixed or free to rotate. As an example, a retaining wall supporting 10 feet of soil has a footing 2 feet away from the top of the wall carrying a line load of 1,000 pounds per lineal foot. This footing is within 0.4•H =4 feet of the retaining wall. The resultant horizontal force on the retaining wall from the footing surcharge load would be 0.55x1,000=550 pounds acting 0.6•H =6 feet above the base of the retaining wall.

In addition to lateral earth pressures and adjacent footing loads, retaining walls must be designed to resist horizontal pressures that may be generated by surcharge loads applied at or near the ground surface. Where an imaginary 1:1 (H:V) plane projected downward from the outermost edge of a surcharge load intersects a retaining wall, that portion of the wall below the intersection should be designed for an additional horizontal thrust from a uniform pressure equivalent to one-third the maximum anticipated surcharge pressure. In some cases, this value yields a conservative estimate of the actual lateral pressure imposed. I should be contacted if a more precise estimate of lateral loading on the retaining wall from surcharge pressures is desired.

Rigid retaining walls constrained against such movement could be subjected to "at-rest" lateral earth pressures equivalent to those exerted by the fluid pressures listed above plus a uniform load of 6•H pounds per square foot, where H is the height of the backfill above footing level. Where an imaginary 1:1 (H:V) plane projected downward from the outermost edge of a surcharge load intersects a lower retaining wall, that portion of the constrained wall below the intersection should be designed for an additional horizontal thrust from a uniform pressure equivalent to one-half the maximum anticipated surcharge pressure. In some cases, this value yields a conservative estimate of the actual lateral pressure imposed. I should be contacted if a more precise estimate of lateral loading on the retaining wall from surcharge pressures is desired.

If retaining walls are designed using the 2013 California Building Code, a seismic pressure increment equivalent to a rectangular pressure distribution of 10•H pounds per square foot may be used, where H is the height of the soil retained in feet. The seismic pressure increment does not need to be applied to constrained walls where at-rest lateral earth pressure is applied.

Wall backfill should consist of soil that is spread in level lifts not exceeding 8 inches in thickness. Each lift should be brought to at least optimum moisture content and compacted to not less than 90 percent relative compaction, per ASTM test designation D 1557. Retaining walls may yield slightly during backfilling. Therefore, walls should be properly braced during the backfilling operations.

Where migration of moisture through retaining walls would be detrimental or undesirable, retaining walls should be waterproofed as specified by the project architect or structural engineer.

Retaining walls should be supported on footings designed in accordance with the recommendations presented above. A minimum factor of safety of 1.5 against overturning and sliding should be used in the design of retaining walls.

Slab-on-Grade Floors

The subgrade soil in slab and flatwork areas should be proof rolled to provide a firm, non-yielding surface. If moisture penetration through the slab would be objectionable, slabs should be underlain by a capillary moisture break consisting of at least 4 inches of clean, free-draining crushed rock or gravel graded such that 100 percent will pass the 1-inch sieve and less than 5 percent will pass the No. 4 sieve. Further protection against slab moisture penetration can be provided by means of a moisture vapor retarder membrane, placed between the drain rock and the slab. The membrane may be covered with 2 inches of damp, clean sand to protect it during construction.

Additional protection against moisture infiltration into finished basement areas may be provided by installing a slab underdrain system. Retaining wall back drains should be separated from under slab drains. If selected, the slab underdrain system would consist of trenches, which are at least 12 inches deep and 6 inches wide, spaced no further than 10 feet apart beneath the floor slab. The bottoms of the trenches should slope to drain to a low-point by gravity. A 3-inch diameter, rigid perforated pipe should be placed near the bottom of the trench which is fully encapsulated in drain rock. The drainrock should be fully encapsulated in an approved filter fabric. The perforated pipes should be tied to closed conduits which outlet at appropriate discharge points.

Site Drainage

Positive drainage should be provided away from the improvements. Roof downspouts should discharge into closed conduits that drain into the site storm drain system. Surface drainage facilities (roof downspouts and drainage inlets) should be maintained entirely separate from subsurface drains (retaining wall backdrains and under slab drains). In addition, retaining wall back drains should be separated from under slab drains. Drains should be checked periodically, and cleaned and maintained as necessary to provide unimpeded flow.

Supplemental Services

H. Allen Gruen, Geotechnical Engineer recommends that he be retained to review the project plans and specifications to determine if they are consistent with his recommendations. In addition, he should be retained to observe geotechnical construction, particularly site excavations, placement of retaining wall backdrains, fill compaction, and excavation of foundations, as well as to perform appropriate field observations and laboratory tests.

If, during construction, subsurface conditions different from those described in this report are observed, or appear to be present beneath excavations, I should be advised at once so that these conditions may be reviewed and my recommendations reconsidered. The recommendations made in this report are contingent upon my notification and review of the changed conditions.

If more than 18 months have elapsed between the submission of this report and the start of work at the site, or if conditions have changed because of natural causes or construction operations at or adjacent to the site, the recommendations of this report may no longer be valid or appropriate. In such case, I recommend that I review this report to determine the applicability of the conclusions and recommendations considering the time elapsed or changed conditions. The recommendations made in this report are contingent upon such a review.

These services are performed on an as-requested basis and are in addition to this geotechnical investigation. I cannot accept responsibility for conditions, situations or stages of construction that I am not notified to observe.

LIMITATIONS

This report has been prepared for the exclusive use of Leo Cassidy and his consultants for the proposed project described in this report.

My services consist of professional opinions and conclusions developed in accordance with generally-accepted geotechnical engineering principles and practices. I provide no other warranty, either expressed or implied. My conclusions and recommendations are based on the information provided regarding the proposed construction, my site reconnaissance and investigation, review of published data, and professional judgment. Verification of my conclusions and recommendations is subject to my review of the project plans and specifications, and my observation of construction.

The test boring log represents subsurface conditions at the location and on the date indicated. It is not warranted that it is representative of such conditions elsewhere or at other times. Site conditions and cultural features described in the text of this report are those existing at the time of my field exploration, conducted on March 27, 2018, and may not necessarily be the same or comparable at other times.

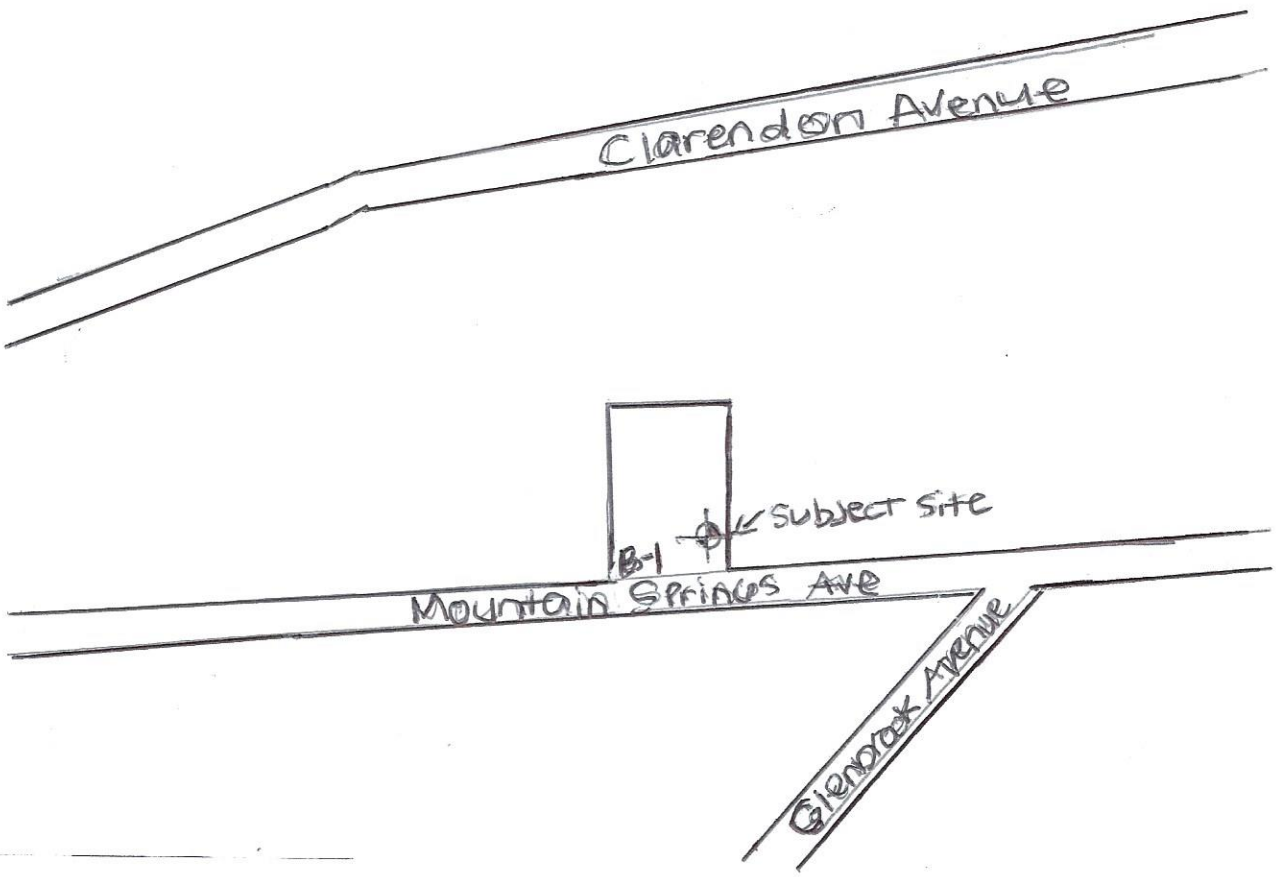
The location of the test boring was established in the field by reference to existing features and should be considered approximate only.

The scope of my services 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, groundwater or air, on or below, or around the site, nor did it include an evaluation or investigation of the presence or absence of wetlands.

APPENDIX A

List of Plates

Plate 1	-	Boring Location Map
Plate 2	-	Log of Boring 1
Plate 3	-	Soil Classification Chart and Key to Test Data



LEGEND

B-1 Boring Location and Number

NOT TO SCALE

H. Allen Gruen Geotechnical Engineer	Job. No: 18-4788 Appr: AG Drwn: VP Date: 3-28-18	BORING LOCATION MAP 66 Mountain Springs Road San Francisco, California	PLATE 1

Location of Boring:

Project: 66 Mountain Springs RD	Boring No.: 1
	Total Depth: 10FT
Job No.: 18-4788	Logged By: AG
Proj. Mgr.: AG	Date: 3-27-18
Drilling Contractor: Access Drilling	
Hammer Wt.: 140lb	Drop: 30in
Water Depth (ft.):	
Time:	
Date:	
Backfilled, Time:	Date: By:
Surface Elev.:	Datum:
Conditions:	

Sample Depth	Sampler Type	Blows/Foot	Inches Driven	Inches Recovered	Sample Condition	Pocket Penetrometer Shear Strength (KSF)	Moisture Content (%)	Dry Density (PSF)	% Passing #200 Sieve	Depth in Feet	Graphic Log	
	STH	5								1		Brown Sandy lean CLAY (CL)
	STH	6								2		Firm, moist (Fill)
										3		
										4		
	2in	5								5		Brown lean CLAY (CL)
	2in									6		Firm, moist to wet
		19								7		
	SPT									8		Brown Sandy lean CLAY (CL)
		14								9		With Gravel, very stiff, moist
										10		
										11		Bottom of Boring = 10FT
										12		No Free Ground water Encountered
										13		
										14		
										15		
										16		
										17		
										18		
										19		
										20		

H. Allen Gruen
Geotechnical Engineer

Job No: 18-4788
Appr: AG
Date: 3-28-18

LOG OF BORING 1
66 Mountain Springs Road
San Francisco, California

PLATE 2

MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS More than Half > #200 sieve	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW	WELL GRADED GRAVELS, GRAVEL-SAND
			GP	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES
		GRAVELS WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL-SAND-SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL-SAND-CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE OR NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POOORLY GRADED SAND-SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND-CLAY MIXTURES
FINE GRAINED SOILS More than Half < #200 sieve	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			Pt	PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION SYSTEM

			Shear Strength, psf / Confining Pressure, psf	
Consol	Consolidation	Tx	2630 (240)	Unconsolidated Undrained Triaxial
LL	Liquid Limit (in %)	Tx sat	2100 (575)	Unconsolidated Undrained Triaxial, saturated prior to test
PL	Plastic Limit (in %)	DS	3740 (960)	Unconsolidated Undrained Direct Shear
PI	Plasticity Index	TV	1320	Torvane Shear
Gs	Specific Gravity	UC	4200	Unconfined Compression
SA	Sieve Analysis	LVS	500	Laboratory Vane Shear
■	Undisturbed Sample (2.5-inch ID)	FS	Free Swell	
◪	2-inch-ID Sample	EI	Expansion Index	
◧	Standard Penetration Test	Perm	Permeability	
⊠	Bulk Sample	SE	Sand Equivalent	

KEY TO TEST DATA

H. Allen Gruen
Geotechnical Engineer

Appr: AG

Date: 3-28-18

SOIL CLASSIFICATION CHART AND KEY TO TEST DATA

66 Mountain Springs Road

San Francisco, California

PLATE 3

APPENDIX B

List of References

1. California Department of Conservation, Division of Mines and Geology, 1998, *Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada.*

2. CDMG, 2000, State of California Seismic Hazards Zones, City and County of San Francisco, California Division of Mines and Geology, released November 17, 2000.

3. Schlocker, J., 1958, Geology of the San Francisco North Quadrangle, California, United States Geological Survey Professional Paper 782, scale 1:24,000.

4. Seed, H. B., and Idriss, E., 1982, *Ground Motion and Soil Liquefaction During Earthquakes*, Earthquake Engineering Research Institute Monograph.

5. United States Geological Survey, 1993, San Francisco North Quadrangle, 7.5 Minute Series, Scale 1:24,000.

APPENDIX C

Field Exploration

Our field exploration consisted of a geologic reconnaissance and subsurface exploration by means of one test boring logged by our Engineer on March 27, 2018. The test boring was drilled with hand-carried equipment utilizing continuous flight, 4-inch-diameter augers. The boring was drilled at the approximate location shown on Plate 1.

The log of the test boring is displayed on Plate 2. Representative undisturbed samples of the earth materials were obtained from the test boring at selected depth intervals with a 1.4-inch inside diameter, split-barrel Standard Penetration Test (SPT) sampler, a 2-inch inside diameter, split-barrel sampler, and a 2.5-inch inside diameter, modified California sampler.

Penetration resistance blow counts were obtained by dropping a 140-pound hammer through a 30-inch free fall. The sampler was driven 24 inches or less and the number of blows was recorded for each 6 inches of penetration. The blows per foot recorded on the Boring Log represent the accumulated number of blows that were required to drive the sampler the last 12 inches or fraction thereof.

The soil classifications are shown on the Boring Log and referenced on Plate 3.

APPENDIX D

Distribution

Mr. Leo Cassidy
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(4 wet signed and stamped originals)

66 MOUNTAIN SPRING

GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN COMPLETE COMPLIANCE WITH ALL APPLICABLE CODES, LAWS, ORDINANCES AND REGULATIONS OF ALL AUTHORITIES HAVING JURISDICTION OVER THE WORK. ALL CONTRACTORS SHALL HOLD HARMLESS THE ARCHITECT/ENGINEER AND THE OWNER FROM ALL DAMAGES AND/OR PENALTY ARISING OUT OF VIOLATION THEREOF.

2. ALL ATTACHMENTS, CONNECTIONS OR FASTENING OF ANY NATURE ARE TO BE PROPERLY AND PERMANENTLY SECURED IN CONFORMANCE WITH THE BEST PRACTICE OF THE BUILDING INDUSTRY. DRAWINGS SHOWS ONLY SPECIAL REQUIREMENTS TO ASSIST THE CONTRACTOR AND DO NOT ILLUSTRATE EVERY DETAIL.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL CONDITIONS DIMENSIONS, AND MEASUREMENTS IN THE FIELD BEFORE BEGINNING WORK. ANY AND ALL DISCREPANCIES, UNUSUAL CIRCUMSTANCES, ERRORS OMISSIONS AND/OR CONFLICTS FUNDS SHALL BE REPORTED TO THE ARCHITECT/ENGINEER'S AND THE OWNER ATTENTION IMMEDIATELY BEFORE PROCEEDING WITH THE WORK.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN ARCHITECTURAL, STRUCTURAL, FIRE PROTECTION, MECHANICAL, PLUMBING, AND ELECTRICAL. THIS INCLUDES REVIEWING REQUIREMENTS OF INDIVIDUAL SYSTEMS BEFORE ORDERING AND INSTALLATION OF ANY WORK, VERIFY ALL ARCHITECTURAL DETAILS AND ALL FINISH CONDITIONS (WHETHER DEPICTED IN DRAWINGS OR NOT) WITH THE SAME DISCIPLINES.

5. UNLESS OTHERWISE NOTED, ALL ANGLES SHALL BE RIGHT ANGLES, ALL LINES WHICH APPEAR PARALLEL SHALL BE PARALLEL, AND ALL ITEMS WHICH APPEAR CENTERED SHALL BE CENTERED. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL LINES TRUE LEVEL, PLUMB AND SQUARE.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SHORING AND PROTECTION DURING CONSTRUCTION. ALL EXISTING IMPROVEMENTS TO REMAIN SHALL BE PROTECTED. ALL MATERIALS DELIVERED TO THE SITE SHALL BE PROPERLY STORED AND PROTECTED UNTIL INSTALLATION. ALL LUMBER SHALL BE PROTECTED FROM MOISTURE AND STORED ABOVE GROUND.

7. DETAILED AND/OR LARGER SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL AND SMALLER SCALE DRAWINGS. FIGURED DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS. ALL SCALED DIMENSIONS SHALL BE VERIFIED.

8. ALL WORK SHALL BE DONE UNDER PERMIT. PLANS AND CALCULATIONS, IF REQUIRED, SHALL BE SUBMITTED TO AND APPROVED BY THE BUILDING DEPARTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS.

9. NOTE THAT MECHANICAL, ELECTRICAL, FIRE PROTECTION, PLUMBING AND COMMUNICATIONS ARE DESIGN BUILD ITEMS. ARCHITECTURAL DRAWINGS SHOW DESIGN INTENT, CONTRACTOR TO CONFIRM ALL SYSTEM REQUIREMENTS WITH BUILDING OWNER AND ARCHITECT PRIOR TO INSTALLATION. CONTRACTOR/SUBCONTRACTOR SHALL SUBMIT PLANS FOR THEIR RESPECTIVE WORK TO THE BUILDING DEPARTMENT AS REQUIRED FOR PLAN CHECK AND PERMIT ISSUANCE, INCLUDING PAYING FOR ALL PLAN CHECK AND PERMIT FEES.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING AND OBTAINING ALL REQUIRED INSPECTIONS TO CONFORM WITH LOCAL BUILDING AND FIRE CODES.

11. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN.

12. DETAILS SHOWN ARE TYPICAL, SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.

13. VERIFY CLEARANCES FOR VENTS, CHASES, SOFFITS, FIXTURES BEFORE ANY CONSTRUCTION, ORDERING OF , OR INSTALLATION OF ANY ITEM OF WORK.

14. UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL PROVIDE SOLID BLOCKING AND BACKING AS REQ'D FOR ALL NAILING OF INTERIOR TRIM AND FINISHES, AND SHALL COORDINATE AND PROVIDE ALL FRAMING, BACKING AND BRACING AS NECESSARY FOR INSTALLATION OF EQUIPMENT INDICATED ON THE DRAWINGS, PROVIDE BACKING PLATES AT ALL BATH ACCESSORIES, HANDRAILS, CABINETS, TOWEL BARS, WALL MOUNTED FIXTURES AND ANY OTHER ITEMS ATTACHED TO WALLS.

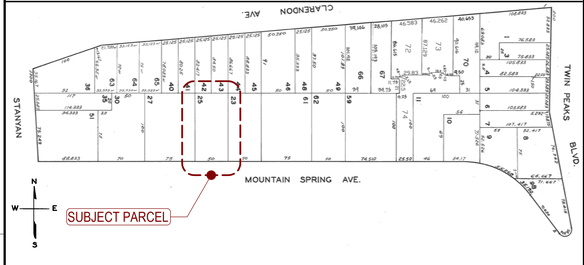
15. INSTALL ALL FIXTURES, EQUIPMENT, AND MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND CODE REQUIREMENTS. ALL APPLIANCES, FIXTURES, AND EQUIPMENT ASSOCIATED WITH PLUMBING, ELECTRICAL, MECHANICAL SYSTEMS SHALL BE LISTED BY A NATIONALLY RECOGNIZED AND APPROVED AGENCY.

16. THERMAL AND SOUND INSULATING INSULATION SHALL COMPLY WITH CBC SEC. 719.

17. ALL WALL AND CEILING FINISHES SHALL COMPLY WITH CBC CHAPTER 8.

18. ALL NEW SMOKE DETECTORS TO E HARD WIRED.

ASSESSOR'S MAP



NOTE: WATERPROOFING OF BUILDING ENVELOPE IS NOT UNDER THE SCOPE OF THIS PERMIT. OWNER IS TO HIRE A WATERPROOFING EXPERT TO PROVIDE WATERPROOFING DETAILS

ABBREVIATION

#	POUND OR NUMBER	GYP	GYPSUM
&	AND	H.C.	HANDICAPPED
@	AT	HR	HOUR
ABV	ABOVE	HVAC	HEATING, VENTILATING, AND AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR		
ALUM	ALUMINUM	INSUL	INSULATED
APPROX	APPROXIMATE	INT	INTERIOR
BD	BOARD	MAX	MAXIMUM
BLDG	BUILDING	MECH	MECHANICAL
BLKG	BLOCKING	MIN	MINIMUM
BYND	BEYOND	MTL	METAL
CLO	CLOSET	(N)	NEW
CLR	CLEAR	N.T.S.	NOT TO SCALE
CNTR	COUNTER	P.L.	PROPERTY LINE
COL	COLUMN	PLUMB	PLUMBING
CONC	CONCRETE	PLYD	PLYWOOD
CORR	CORRIDOR	RD	ROOF DRAIN
CTR	CENTER	RDWD	REDWOOD
DBL	DOUBLE	REQD	REQUIRED
DEMO	DEMOLISH	RM	ROOM
DET	DETAIL	S.F.	SQUARE FOOT
DIMS	DIMENSIONS	SSTL	STAINLESS STEEL
DN	DOWN	STC	SOUND TRANSMISSION COEFFICIENT
DR	DOOR		
DWG	DRAWING	STD	STANDARD
(E)	EXISTING	STL	STEEL
EA	EACH	STRUCT	STRUCTURAL
EL	ELEVATION	SQ.	SQUARE
ELEC	ELECTRICAL	TC	TOP OF CURB
ELEV	ELEVATOR/ELEVATION	TYP	TYPICAL
EQ	EQUAL	U.N.O.	UNLESS NOTED OTHERWISE
EXCL	EXCLUDE	V.I.F.	VERIFY IN FIELD
EXT	EXTERIOR	W/	WITH
F.D.	FLOOR DRAIN	WD	WOOD
FLR	FLOOR	W.H.	WATER HEATER
FND	FOUNDATION		

APPLICABLE CODES

2016 CALIFORNIA BUILDING CODE & SAN FRANCISCO AMENDMENTS
2016 CALIFORNIA ELECTRICAL CODE & SAN FRANCISCO AMENDMENTS
2016 CALIFORNIA MECHANICAL CODE & SAN FRANCISCO AMENDMENTS
2016 CALIFORNIA PLUMBING CODE & SAN FRANCISCO AMENDMENTS
2016 CALIFORNIA FIRE CODE & SAN FRANCISCO AMENDMENTS
2016 CALIFORNIA ENERGY CODE
NFPA 13 SPRINKLERS
NFPA 720 CARBON MONOXIDE SYSTEM (ALSO CBC 420.6)

PROJECT DATA

PLANNING DATA:

ADDRESS:	66 MOUNTAIN SPRING AVE.
BLOCK / LOT:	2706 / 025
LOT AREA:	5,000 ± S.F.
ZONING:	RH-1 (D)
# OF UNITS:	1
ALLOWABLE HEIGHT:	40-X
BUILDING HEIGHT:	21'-0" ±
SETBACKS:	
FRONT SETBACK PROVIDED:	15'-0"
BOTH SIDES SETBACK PROVIDED:	5'-0"
# OF COVERED CAR PARKING:	
PROVIDED:	2
BICYCLE PARKING:	
PROVIDED:	1

GROSS FLOOR AREA:

FIRST FLOOR:	1,720 ± S.F.
SECOND FLOOR (EXCL GARAGE):	1,707 ± S.F.
THIRD FLOOR:	2,027 ± S.F.
TOTAL GROSS AREA (EXCL. GARAGE):	**5,454 ± S.F.**
GARAGE:	**415 ± S.F.**

BUILDING DATA:

NUMBER OF STORIES:	3
CONSTRUCTION TYPE:	TYPE "V-B"
OCCUPANCY GROUP:	R-3

SCOPE OF WORK

PROPOSED NEW CONSTRUCTION OF A THREE-STORY SINGLE FAMILY HOME.

NOTE:
BLDG. TO BE FULLY SPRINLLERED PER NFPA 13-D, UNDER SEPARATE PERMIT.

DRAWING INDEX

ARCHITECTURAL

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SHEET TITLE
Cover Sheet

05/17/2018	PLANS SUBMITTED
08/08/2018	REVISION
04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
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JOB NO.	18-1792
SHEET NO.	A-0.1

GENERAL NOTES:

1. SMOKE DETECTORS SHALL BE IN ALL BEDROOMS AND AREAS LEADING TO THEM.

2. CARBON MONOXIDE ALARM IN EACH OCCUPIED LEVEL

3. ENVIRONMENTAL AIR DUCT EXHAUST W/ BACK DRAFT DAMPER SHALL TERMINATE 3 FEET MIN. FROM PROPERTY LINE & BUILDING OPENING.

4. VENTING SYSTEMS SHALL TERMINATE NOT LESS THAN 4 FEET BELOW OR 4 FEET HORIZONTALLY FROM, & NOT LESS THAN ONE FOOT ABOVE A DOOR, AN OPENABLE WINDOW OR A GRAVITY AIR INLET INTO A BUILDING. VENTING SYSTEMS SHALL TERMINATE AT LEAST 3 FEET ABOVE AN OUTSIDE - OR MAKE UP - AIR INLET LOCATED WITHIN 10 FEET & AT LEAST 4 FEET FROM A PROPERTY LING, EXCEPT A PUBLIC WAY.

5. A PLAN HAS BEEN DEVELOPED AND WILL BE IMPLEMENTED TO MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION.

6. PROVIDE STAIRWAY IDENTIFICATION SIGNS AS PER CBC 1003.3.313

7. AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF WATER, DUST OR DEBRIS, WHICH MAY ENTER THE SYSTEM .

8. PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS.

9. AEROSOL PAINTS AND COATINGS SHALL MEET THE PRODUCT-WEIGHTED MIR LIMITS FOR ROC AND OTHER REQUIRMENTS.

10. DOCUMENTATION WILL BE PROVIDED AT THE REQUEST OF THE BUILDING DIVISION, TO VERIFY COMPLIANCE WITH VOC FINISH MATERIALS.

11. CARPET SYSTEM INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS.

12. WHERE RESILIENT FLOORING IS INSTALLED, AT LEAST 80% OF THE FLOOR AREA RECEIVING RESILIENT FLOORING WILL COMPLY WITH THE REQUIREMENTS.

13. HARDWOOD PLYWOOD, PARTICLEBOARD, AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR AND EXTERIOR OF THE BUILDING SHALL COMPLY WITH THE LOW FORMALDEHYDE EMISSION STANDARDS.

14. A CAPILLARY BREAK SHALL BE INSTALLED IF A SLAB ON GRADE FOUNDATION SYSTEM IS USED. THE USE OF A 4" THICK BASE OF 1/2" OR LARGER CLEAN AGGREGATE UNDER A 6 MIL VAPOR RETARDER WITH JOINT LAPPED NOT LESS THAN 6" WILL BE PROVIDED.

15. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19% MOISTURE CONTENT. MOISTURE CONTENT SHALL BE CHECKED PRIOR TO FINISH MATERIAL BEING APPLIED.

16. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS AND EQUIPMENT BY A RECOGNIZE TRAINING OR CERTIFICATION.

17. COMPLIANCE DOCUMENTATION. UPON REQUEST, VERIFICATION OF COMPLIANCE WITH THIS CODE MAY INCLUDE CONSTRUCTION DOCUMENTS, PLANS SPECIFICATIONS, BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE BUILDING DEPARTMENT WHICH WILL SHOW SUBSTANTIAL CONFORMANCE.

18. CLEARNOUT SHALL BE LOCATED 18 TO 24 INCHES FROM THE BUILDING FOUNDATION.

19. PENDING PLAN REVIEW BY THE FIRE DEPARTMENT, A FIRE FLOW MAY BE REQUIRED TO PROPERLY SIZE THE FIRE SPRINKLER SYSTEM. ALL COSTS ASSOCIATED WITH THE FIRE FLOW SHALL BE BORNE BY THE APPLICANT.

20. CONTRACTOR SHALL COMPLETE THE WASTE MANAGEMENT PLAN-FINAL SUMMARY STATEMENT AND PROVIDE TO THE BUILDING INSPECTOR PRIOR TO FINAL INSPECTION.

BEDROOM NOTES:

ARC FAULT CIRCUIT INTERRUPTER ("AFCI") PROTECTION FOR ALL RECEPTACLES, LIGHTING CIRCUITS, SWITCHES, AND HARD-WIRED SMOKE DETECTORS INSTALL IN ALL BEDROOMS, THE "AFCI" SHALL BE LISTED TO PROTECT THE ENTIRE BRANCH CIRCUIT.

MOISTURE RESISTANT UNDERLAYMENT (e.g. WATER RESISTANT GYP. BD.) TO A HEIGHT OF 70 INCHES ABOVE THE DRAIN INLET U.B.C. 8067.1.3.

DOOR / WINDOW NOTES:

1. ALL ESCAPE OR RESCUE DOORS & WINDOWS FROM SLEEPING ROOMS SHALL COMPLY WITH SEC. 1029:
   - NET CLEAR HEIGHT: 24" MIN.
   - NET CLEAR WIDTH: 20" MIN.
   - NET OPENING: 5.7 SQ. FT. MIN.
   - FINISHED SILL HEIGHT: 44" MAX. ABOVE THE FINISHED FLOOR
2. VERIFY IN FIELD FOR EXACT DOORS & WINDOWS SIZE PRIOR TO PURCHASE
3. VERIFY ALL ROUGH OPENINGS DIMENSIONS IN FIELD PRIOR TO INSTALLATION OF WIDOWS
4. U-FACTOR OF GLAZING SHALL BE 0.55, UNLESS SPECIFIED ON PLANS OR ENERGY COMPLIANCE REPORT.
5. NFRC LABELS ON NEW DOOR / WINDOWS SHALL NOT BE REMOVED UNTIL AFTER FINAL INSPECTION
6. COORDINATE INSTALLATION OF ALL FLASHINGS AND WINDOWS WITH INSTALLATION INSTRUCTIONS OF WINDOW MANUFACTURER. OBTAIN APPROVAL OF INSTALLATION METHODOLOGY FROM WINDOW MANUFACTURER PRIOR TO COMMENCING INSTALLATION.
7. UTILIZE PRIMERS AND / OR ADHESIVES COMPATIBLE WITH ALL MATERIALS AND AS RECOMMENDED BY MANUFACTURER OF SELF-ADHERED MEMBRANE TO ACHIEVE TENACIOUS BOND OF MEMBRANE TO ALL SUBSTRATES.
8. UTILIZE SEALANTS COMPATIBLE WITH ALL MATERIALS AND AS RECOMMENDED BY WINDOW AND SELF-ADHERED MEMBRANE MANUFACTURERS.
9. **BEDROOM WINDOWS** MIN. OPENABLE AREA TO BE 5.7 S.F., MIN WIDTH: 20" MIN HEIGHT: 24" & MAX SILL HT: 44"
10. THE WIDTH OF THE LEVEL AREA ON THE SIDE TO WHICH THE DOOR SWINGS SHALL EXTEND 24 INCHES PAST THE STRIKE EDGE OF THE DOOR FOR EXTERIOR DOORS AND 18 INCHES PAST THE STRIKE EDGE FOR INTERIOR DOORS.
11. ALL ENTRANCES AND EXTERIOR GROUND-FLOOR EXIT DOORS TO BUILDINGS AND FACILITIES SHALL BE MADE ACCESSIBLE TO PERSONS WITH DISABILITIES. DOORWAYS SHALL HAVE A MINIMUM CLEAR OPENING OF 32 INCHES (813 MM) WITH THE DOOR OPEN 90 DEGREES, MEASURED BETWEEN THE FACE OF THE DOOR AND THE OPPOSITE STOP.
12. THE BOTTOM 10 INCHES (254 MM) OF ALL DOORS EXCEPT AUTOMATIC AND SLIDING SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE TO ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION. WHERE NARROW FRAME DOORS ARE USED, A 10-INCH (254 MM) HEIGHT SMOOTH PANEL SHALL BE INSTALLED ON THE PUSH SIDE OF THE DOOR, WHICH WILL ALLOW THE DOOR TO BE OPENED BY A WHEELCHAIR FOOTREST WITHOUT CREATING A TRAP OR HAZARDOUS CONDITION.
13. THERE SHALL BE A FLOOR LANDING ON EACH SIDE OF A DOOR. THE FLOOR OR LANDING SHALL NOT BE MORE THAN 1/2-INCH (12.7 MM) LOWER THAN THE THRESHOLD OF THE DOORWAY. CHANGES IN LEVEL BETWEEN 1/4 AND 1/2 INCH SHALL BE LEVELED WITH A SLOPE NO GRATER THAN 1 UNIT VERTICAL IN 2 UNITS HORIZONTAL.
14. ALL EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT.
15. MOUNT LEVER HARDWARE AT +34" A.F.F.
16. MAXIMUM PUSH / PULL FORCE FOR DOORS:
    - 8.5# FOR EXTERIOR DOORS
    - 5# FOR INTERIOR DOORS
    - 15# FOR FIRE DOORS

KITCHEN NOTES:

BRANCH CIRCUITS: MIN. TWO 20A SMALL APPLIANCE BRANCH CIRCUITS ARE REQUIRED FOR THE KICHEN & ARE LIMITED TO SUPPLYING WALL & COUNTER SPACE RECEP. OUTLETS FOR THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, & SIMILAR AREAS. THESE CIRCUITS CANNOT SERVE OUTSIDE PLUGS, RANGE HOOD, DISPOSALS, DISHWASHERS OR MICROWAVES, ONLY THE REQUIRED COUNTERTOP/WALL OUTLEST INCLUDING THE REFRIGERATOR.

LIGHTING: 50% OR MORE OF THE KITCHEN LIGHTING WATTAGE MUST BE FLUORESCENT. INCANDESCENT LIGHTING MUST BE SWITCHED SEPARATELY.

RECEPTACLE OUTLETS: PROVIDE AT LEAST ONE RECEPTACLE OUTLET FOR EACH COUNTER SPACE 12" OR WIDER, KITCHEN COUNTER OUTLETS SHALL BE SPACED SO THAT NO POINT ALONG THE WALL IS GREATER THAN 24" FROM AN OUTLET. AT LEAST ONE GFCI RECEPTACLE FOR THE PENINSULA COUNTER SPACE (CEC 210.52 (C) (3) & 210.8 (A) (6)

BATHROOM NOTES:

EXHAUST FANS ARE CAPABLE OF PROVIDING FIVE AIR CHANGES PER HOUR.

EXHAUST FANS, WTHICH ARE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING, SHALL BE PROVIDED IN EVERY BATHROOM.

BRANCH CIRCUITS: A 20A CIRCUIT IS REUIRED TO SERVE THE REQUIRED BATHROOM OUTLETS. THIS CIRCUIT CANNOT SUPPLY ANY OTHER RECEP. LIGHTS, FANS, ETC.

SHOWERS AND TUB/SHOWER COMBINATIONS SHALL BE PROVIDED W/ INDIVIDUAL CONTROL VALVES OF THE THERMOSTATIC MIXING OR PRESSURE BALANCE TYPE, (CPC 418.0)

WHIRLPOOL TUB: LIGHT FIXTURES INSTALLED ABV. AND WITHIN 5' FROM THE INSIDE WALLS OF THE WHIRLPOOL TUB SHALL BE AT LEAST 7'-6" ABV THE MAX. WATER LEVEL AND GFCI PROTECTED. FIXTURES MAY BE INSTALL LESS THAN 7'-6" PROVIDED THEY ARE LISTED FOR USE IN DAMPED LOCATIONS AND GFCI PROTECTED. CEC ARTICLE 680-43(B)(1a-c)

ELECTRICAL NOTES:

THE INSTALLATION OF SMOKE ALARMS IN ALL OF THE FOLLOWING AREAS SHALL BE PROVIDED: (CRC R314.3)
A. ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BEDROOMS.
B. IN EACH ROOM USED FOR SLEEPING PURPOSES.

THE INSTALLATION OF CARBON MONOXIDE ALARMS IN THE FOLLOWING AREAS SHALL BE PROVIDED: (CRC R315.1)
A. APPROVED CARBON MONOXIDE ALARMS SHALL BE INSTALLED OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS & ON EVERY LEVEL INCLUDING BASEMENTS IN DWELLING UNITS THAT HAVE FUEL-FIRED APPLIANCES OR ATTACHED GARAGES.

A MIN. OF TWO 20 AMP SMALL APPLIANCE BRANCH CIRCUITS SHALL BE PROVIDED FOR ALL RECEPTACLE OUTLETS IN THE KITCHEN, DINING ROOM, PANTRY, OR OTHER SIMILAR AREAS. (CEC 210.11(C)(1))

AT LEAST ONE 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTACLE OUTLETS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. (CEC 210.11(C)(3))

IN EVERY DWELLING UNIT, FIXED APPLIANCES SUCH AS FOOD WASTE GRINDERS, DISHWASHERS, WASHING MACHINES, DRYERS, LAUNDRY TRAY LOCATIONS, BUILT-IN REFRIGERATORS OR FREEZERS, FURNACES, AC UNITS, BUILT-IN HEATERS OR ANY OTHER FIXED APPLIANCE WITH A MOTOR OF ¼ H.P. OR LARGER SHALL BE ON A SEPARATE 20 AMP. BRANCH CIRCUIT.

ALL RECEPTACLES IN BATHROOMS, GARAGES, ACCESSORY BUILDINGS, OUTDOORS, CRAWL SPACES, UNFINISHED BASEMENTS, KITCHENS (WHERE RECEPTACLES SERVE COUNTER TOP SURFACES), LAUNDRY, UTILITY, WET BAR SINKS (WITHIN 6 FEET OF THE EDGE OF THE SINK), SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER (GFCI) PROTECTION. (CEC 210.8(A))

IN ALL AREAS SPECIFIED IN 210.52, ALL NON-LOCKING TYPE 125-VOLT, 15- AND 20- AMP RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. (CEC 406.12)

ALL RECEPTACLE OUTLETS IN BATHROOMS, ABOVE KITCHEN COUNTERTOP, CRAWL SPACES, GARAGE, ROOFTOPS, OUTDOOR OUTLETS, WITHIN 6' OF WETBAR SINK/LAUNDRY SINK TO BE PROTECTED BY GROUND FAULT CIRCUIT INTERRUPTER (GFCI). (CEC 210.8)

ALL RECEPTACLE OUTLETS ARE REQUIRED TO BE LISTED TAMPER RESISTANT. (CEC 406.12 & 210.52)

COMBINATION TYPE AFCI CIRCUIT BREAKERS ARE REQUIRED FOR ALL 120 VOLT SINGLE PHASE 15/20 AMP BRANCH CIRCUITS. EXCEPT FOR BATHROOMS, KITCHENS, GARAGES, OUTDOORS, AND LAUNDRY ROOMS. (CEC 210.12(B))

AT A MIN, ONE DEDICATED 20 AMP CIRCUIT IS REQUIRED FOR A BATHROOM.(CEC 210.11(C)(3))

A GFCI PROTECTED RECEPTACLE IS REQ. WITHIN 3 FEET OF THE EDGE OF EACH SINK IN A BATHROOM. (CEC 210.52(D))

RECEPTACLE OUTLETS ARE NOT ALLOWED WITHIN OR OVER A BATHTUB OR SHOWER STALL. (CEC 406.9 (C))

SUBPANELS ARE NOT ALLOWED TO BE LOCATED IN BATHROOMS OR CLOTHES CLOSETS. (CEC 240.24(D) & 240.25(E))

CIRCUITS SHARING A GROUNDED CONDUCTOR (NEUTRAL) WITH TWO UNGROUNDED(HOT) CONDUCTORS MUST USE A TWO POLE CIRCUIT BREAKER OR AN IDENTIFIED HANDLE TIE.(CEC 210.4(B)) GROUP NON-CABLE CIRCUITS IN PANEL (CEC 210.4(D))

THE RECEPTACLE OUTLETS THAT SERVE KITCHEN COUNTER TOPS, DINING ROOM, BREAKFAST AREA, & PANTRY, MUST HAVE A MIN OF 2 DEDICATED 20 AMP CIRCUITS.(CEC 210.52 (B)(1)

KITCHEN COUNTER TOPS 12 INCHES OR WIDER MUST HAVE A RECEPTACLE OUTLET.(CEC 210.52(C))

KITCHEN COUNTER TOPS MUST HAVE RECEPTACLE OUTLETS SO NO POINT ALONG THE COUNTER WALLS IS MORE THAN 24 INCHES FROM A RECEPTACLE. (CEC 210.52 (C))

ISLAND AND PENINSULAR COUNTER TOPS MUST HAVE AT LEAST ONE RECEPTACLE. (CEC 210.52(C)(1) & (2))

THE SPACING FOR GENERAL RECEPTACLE OUTLETS MUST BE LOCATED SO THAT NO POINT ON ANY WALL, FIXED GLASS, OR CABINETS IS OVER 6 FEET FROM A RECEPTACLE OUTLET. (CEC 210.52(A))

HALLWAYS 10 FEET OR MORE MUST HAVE AT LEAST ONE RECEPTACLE OUTLET.

LAUNDRY ROOMS MUST HAVE AT LEAST ONE DEDICATED 20 AMP RECEPTACLE CIRCUIT. (CEC 210.11(2)) PROVIDE 120V RECEPTACLE WITHIN 3 FEET OF WATER HEATER. CAL ENERGY CODE 150.0 (N)

PROVIDE GROUNDING ELECTRODE SHALL BE NONFERROUS (COPPER), NOT BE LESS THAN ½" IN DIAMETER. THE ELECTRODE SHALL BE INSTALLED SUCH THAT AT LEAST 8' OF LENGTH IS IN CONTRACT WITH THE SOIL. THE UPPER END OF THE ELECTRODE SHALL BE FLUSH WITH OR BELOW GROUND LEVEL UNLESS THE ABOVE-GROUND END AND THE GROUNDING ELECTRODE CONDUCTOR ATTACHMENT IS PROTECTED AGAINST PHYSICAL DAMAGE. [CEC 250.52 (A)(5) AND 250.53 (D)]

ALL ELECTRICAL CONDUCTOR MATERIAL SHALL BE COPPER

ALL 15 AND 20 AMPERE RECEPTACLES INSTALLED WITHIN THE NEW CONSTRUCTION AND ALTERATION SHALL BE TAMPER-RESISTANT RECEPTACLES (CEC 406.12).

RECEPTACLE OUTLETS IN PROPOSED ROOMS SPACED NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FEET, FROM A RECEPTACLE OUTLET IN THAT SPACE, INCLUDING ANY WALL SPACE 2 FEET OR MORE IN WIDETH (CEC 210.52(A)A91)&(2)).

PLUMBING AND MECHANICAL NOTES:

WATER CLOSETS SHALL HAVE AN AVERAGE WATER CONSUMPTION OF NOT MORE THAN 1.28 GALLONS PER FLUSH. (CPC 403.2)

SHOWER HEADS SHALL HAVE A WATER FLOW NOT TO EXCEED 2.0 GALLONS PER MINUTE @ 80 PSI. (CPC 408.2)

FAUCETS IN KITCHENS, WET BARS, LAUNDRY SINKS, ETC SHALL HAVE A WATER FLOW NOT TO EXCEED 1.8 GALLONS PER MINUTE @ 60 PSI. (CPC 403.6)

FAUCETS IN LAVATORIES SHALL HAVE A WATER FLOW NOT TO EXCEED 1.2 GALLONS PER MINUTE @ 60 PSI. (CPC 403.6)

SHOWER STALLS SHALL HAVE A CLEAR INTERIOR FINISH AREA OF 7.1 SQ. FT. AND BE ABLE TO ACCOMMODATE A MINIMUM 30 INCH CIRCLE AT THE THRESHOLD LEVEL. THESE CLEARANCES SHALL BE MAINTAINED UP TO A HEIGHT OF 70 INCHES ABOVE SHOWER DRAIN. (CPC 408.6)

SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A SMOOTH, NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 72 INCHES (6 FT). (CRC R307.2)

THE MAXIMUM HOT WATER TEMPERATURE DISCHARGING FROM THE BATHTUB, SHOWER AND WHIRLPOOL BATHTUB FILLER SHALL BE LIMITED TO 120 DEGREES FAHRENHEIT. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL FOR MEETING THIS PROVISION. (CPC 409.4 & 408.3)

A 30-INCH CLEAR WIDTH FOR WATER CLOSET COMPARTMENT AND 24 INCH CLEARANCE IN FRONT OF WATER CLOSET. (CPC 402.5)

PLASTIC PLUMBING PIPE SHALL NOT BE USED FOR THE DOMESTIC WATER SUPPLY OR SANITARY WASTE SYSTEM WITHIN THE BUILDING (DCMC 15.20.120)

PROVIDE INSULATION ON ALL NEW DOMESTIC HOT WATER PIPING IN NEW ACCESSORY UNITS, ROOMS, DOWN, ADDITION AND NEW BUILDING. THE INSULATION SHALL BE THE SAME THICKNESS OF THE WATER PIPING UP TO 2" WATER PIPING SIZE (CPC 609.11.1&2)

WATER HEATING REQUIRMENTS: 1INCH INSULATION SHALL BE INSTALLED FOR ALL HOT WATER PIPES < 2 INCHES IN DIAMETER FROM THE WATER HEATER TO THE KITCHEN FIXTURES IN NEW RESIDENTIAL BUILDINGS AND NEW SECONDARY UNITS (CENC 150 (j)(2))

WATER HEATER INSTALLED IN THE GARAGE AREA SHALL BE RAISED 18 INCHES ABOVE THE GARAGE DLOOR (CPC 507.14 & DCMC 15.20.150)

SEISMICALLY STRAP THE WATER HEATER WITH TWO STRAPS (ONE 1/3 DOWN FROM THE TOP OF THE TANK AND ONE STRAP 4" ABOVE THE CONTROLS). CPC 507.2

PROVIDE LOCATION FOR DRAINAGE PIPE CLEANOUT AT THE GARAGE AREA. HORIZONTAL DRAINAGE PIPE SHALL BE PROVIDED WITH A CLEARNOUT AT ITS UPPER TERMINAL, AND EACH RUN OF PIPING, WHICH IS MORE THAN 50 FEET IN TOTAL DEVELOPED LENGTH (DCMC 15.20.220)

ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR FIXTURES SHALL BE PROVIDED WITH AN EXHAUST FAN WITH A MINIMUM CAPACITY OF 50 CFM DUCTED TO TERMINATE OUTSIDE THE BUILDING. (CRC R303.3, CG 4.506.1, CBC 1203.4.3.2.1, CMC 403.7)

AUTOMATIC IRRIGATION SYSTEM CONTROLLER FOR LANDSCAPING PROVIDED BY THE BUILDER AND INSTALLED AT THE TIME OF FINAL INSPECTION SHALL COMPLY WITH SECTION 4.304

THE CLOTHES DRYER VENT SHALL NOT EXCEED 14 FT IN OVERALL LENGTH WITH MAXIMUM TWO 90 DEGREE ELBOWS. (CMC 504.3.1)

ENVIRONMENTAL AIR DUCTS SHALL TERMINATE MIN 3 FEET FROM PROPERTY LINE OR OPENINGS INTO BUILDING. (CMC 504.5)

MECHANICAL EQUIPMENT SHALL BE INSTALLED PER THE MANUFACTURE'S INSTALLATION INSTRUCTIONS.(CMC 303.1)

DOMESTIC RANGE VENTS TO BE SMOOTH METALLIC INTERIOR SURFACE. (CMC 504.2)

SUPPLY AND RETURN AIR DUCTS TO BE INSULATED AT A MIN OF R-6. CAL ENERGY CODE TABLE 150-1-A

WALL COVERING OF SHOWERS OR TUBS WITH SHOWERS SHALL BE OF CEMENT PLASTER, TILE, OR APPROVED EQUAL, TO A HEIGHT OF NOT LESS THAN 72 INCHES ABOVE DRAIN INLET. BACKING FOR TILE SHALL BE CEMENT BOARD OR CEMENT PLASTER. (CRC R307.2, CBC 1210.2.3)

SAFETY GLAZING SHALL BE PROVIDED AT THE FOLLOWING HAZARDOUS LOCATIONS: (CRC R308.4, CBC 2406.4)

A. SWINGING, BI-FOLD, AND SLIDING DOORS
B. WHEN LOCATED WITHIN 60 INCHES ABOVE THE FLOOR OF WET SURFACES SUCH AS TUBS, SHOWERS, SAUNAS, STEAM ROOMS, OR OUTDOOR SWIMMING POOL.
C. WITHIN A 24 INCH ARC OF EITHER VERTICAL EDGE OF DOORS AND WITHIN 60 INCHES OF WALKING SURFACE
D. WHERE GLAZING AREA IS MORE THAN 9 SQ. FT. IN AREA, WITH THE BOTTOM EDGE LESS THAN 18 INCHES ABOVE THE FLOOR, TOP EDGE MORE THAN 36 INCHES ABOVE FLOOR, AND WITHIN 36 INCHES OF A WALKING SURFACE, MEASURED HORIZONTALLY.

WATER CLOSETS WITH A FLOW RATE IN EXCESS OF 1.6 GPF WILL NEED TO BE REPLACED WITH WATER CLOSETS WITH MAXIMUM FLOW RATE OF 1.28 GPF.

SHOWER HEADS WITH A FLOW RATE GREATER THAN 2.5 GPM WILL NEED TO BE REPLACED WITH A MAXIMUM 2.0 GPM SHOWER HEAD.

LAVATORY AND KITCHEN FAUCETS WITH A FLOW RATE GREATER THAN 2.2 GPM WILL NEED TO BE REPLACED WITH A FAUCET WITH MAXIMUM FLOW RATE OF 1.2 GPM (1.8 GPM KITCHEN FAUCETS).

ENERGY NOTES:

ALL NEWLY INSTALLED INTERIOR LIGHTING SHALL BE HIGH EFFICACY.

ALL PERMANENTLY INSTALLED HIGH EFFICACY LUMINAIRES SHALL BE CONTROLLED BY A MANUAL ON AND OFF AWITCH.

PERMANENTLY INSTALLED LIGHTING IN KITCHENS SHALL BE HIGH EFFICACY LUMINAIRES. UP TO 50% OF THE WATTAGE OF PERMANENTLY INSTALLED LIGHTING IN KITCHENS MAY BE IN LIGHTS THAT ARE NOT HIGH EFFICACY. (150(K)(8))

PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS & UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES OR ARE CONTROLLED BY AN OCCUPANT SENSOR(S) CERTIFIED TO COMPLY WITH SECTION 119 THAT DOES NOT TURN ON AUTOMATICALLY OR HAVE AN ALWAYS ON OPTION. (150(K)(10))

LIGHTING FIXTURES RECESSED INTO INSULATED CEILINGS MUST BE APPROVED FOR ZERO-CLEARANCE INSULATION COVER (I.C.) BY UNDERWRITERS LABORATORIES OR OTHER APPROVED LABORATORIES.

ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE/BUOTTOM PLATES AT EXTERIOR WALLS SHALL BE RODENT PROOFED BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY, OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

A MINIMUM OF 65% OF THE NON-HAZZARDOUS CONSTRUCTION AND DEMOLITION WASTE GENERATED AT THE SITE SHALL BE DIVERTED TO AN OFFSITE RECYCLE, DIVERSION, OR SALVATE FACILITY.

AN OPERATION AND MAINTENANCE MANUAL WILL BE PROVIDED TO THE BUILDING OCCUPANT OR OWNER

FIREPLACES, DECORATIVE GAS APPLIANCES AND GAS LOGS:
INSTALLATION OF FACTORY-BUILT AND MASONRY FIREPLACES SHALL INCLUDE:
(A) CLOSABLE METAL OR GLASS DOORS.
(B) COMBUSTION AIR INTAKE (6 SQ. IN. MINIMUM) TO DRAW AIR FROM OUTSIDE OF THE BUILDING DIRECTLY INTO FIRE BOX. THE COMBUSTION AIR INTAKE MUST BE EQUIPPED WITH A READILY ACCESSIBLE, OPERABLE AND LIGHT-FITTING DAMPER OR COMBUSTION AIR CONTROL DEVICE. EXCEPTION: AN OUTSIDE COMBUSTION AIR INTAKE IS NOT REQUIRED IF THE FIREPLACE IS INSTALLED OVER CONCRETE SLAB FLOORING AND THE FIREPLACE IS NOT LOCATED ON AN EXTERIOR WALL.
(C) A FLUE DAMPER WITH AN READILY ACCESSIBLE CONTROL. EXCEPTION: WHEN A GAS LOG, LOG LIGHTER, OR DECORATIVE GAS APPLIANCE IS INSTALLED IN A FIREPLACE, THE FLUE DAMPER SHALL BE BLOCKED OPEN IF REQUIRED BY THE MANUFACTURER'S INSTALLATION INSTRUCTIONS OR THE STATE MECHANICAL CODE.
ANY GAS FIREPLACES SHALL BE A DIRECT-VENT SEALED-COMBUSTIBLE TYPE.
ANY WOOD STOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA PHASE II EMISSION LIMITS.

HEATING AND AIR-CONDITIONING SYSTEM SHALL BE SIZED, DESIGNED AND HAVE THEIR EQUIPMENT SELECTED USING THE FOLLOWING METHODS:
1. HEAT LOSS/HEAT GAIN VALUES IN ACCORDANCE WITH ANSI/ACCA 2 MANUAL J-2004 OR EQUIVALENT;
2. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSI/ACCA1, MANUAL D-2009 OR EQUIVALENT;
3. SELECT HEATING AND COOLING EQUIPMENT IN ACCODANCE WITH ANSI/ACCA3, MANUAL S-2004 OR EQUIVALENT.

WALL INSULATION:
1. 2X4 INCH WOOD-FRAMED WALL ABOVE GRADE SHALL HAVE AT LEAST R-13 INSULATION INSTALLED IN CAVITIES BETWEEN WOOD FRAMING MEMBERS (CMC150.0(c)1)
2. 2X6 INCH WOOD-FRAMED WALL ABOVE GRADE SHALL HAVE AT LEAST R-19 INSULATION INSTALLED IN CAVITIES BETWEEN WOOD FRAMING MEMBERS(CENC150.0(c)2)

NEW OR REPLACEMENT WINDOWS, WINDOW U-FACTOR OF 0.32(CENC TABLE 150.1-A)

A SETBACK THERMOSTAT FOR THE NEW OR REPLACEMENT FURNACE SHALL BE INSTALLED UNLESS ALREADY COMPLYING (CENC 150(i))

R-6.0 DUCK INSULATION SHALL BE INSTALLED IF 40 FEET OR LESS OF NEW DUCTS ARE INSTALLED IN UNCONDITIONED SPACE (CENC TABLE 150.2-A)

1 INCH INSULATION SHALL BE INSTALLED ON FIRST 5 FEET OF HOT AND COLD WATER PIPES AT THE WATER HEATER (CENC 150(j)2).

PROVIDE 2 COPIES OF A COMPLETED PRESCRIPTIVE ADDITIONS FORM 2016-CF-2R-ADD-02-E AT "FINAL INSPECTION" PREPARED BY CONTRACTOR-CERTIFYING THE INSTALLATION ALL MANDATORY BUILDING COMPONENTS ARE IN CONFORMANCE WITH CALIFORNIA ENERGY REGULATION (CENC 10-103(b))

PROJECT NAME

66 Mountain Spring Av.
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SHEET TITLE

General Notes

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-0.2

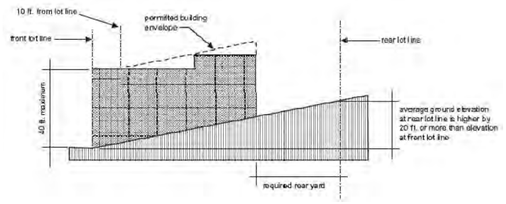
SEC. 261. ADDITIONAL HEIGHT LIMITS APPLICABLE TO CERTAIN RH DISTRICTS.

(a) **General.** Notwithstanding any other height limit established by this Article 2.5 to the contrary, the height of dwellings in certain use districts established by Article 2 of this Code shall be further limited by this Section 261. The measurement of such height shall be as prescribed by Section 260.

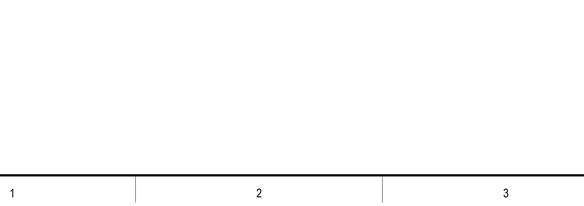
(b) **Height Limits Applicable to the Entire Property.**

(1) No portion of a dwelling in any RH-1(D), RH-1 or RH-1(S) District shall exceed a height of 35 feet, except that:

(A) The permitted Height of a Building, as defined in Section 102, shall be increased to 40 feet, as measured at curb per Section 260, where the average ground elevation at the rear line of the lot is higher by 20 or more feet than at the front line thereof;



(B) The permitted height shall be reduced to 30 feet where the average ground elevation at the rear line of the lot is lower by 20 or more feet than at the front line thereof; and



Building Height Analysis

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San Francisco, CA 94114

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SHEET TITLE

Planning Code Analysis

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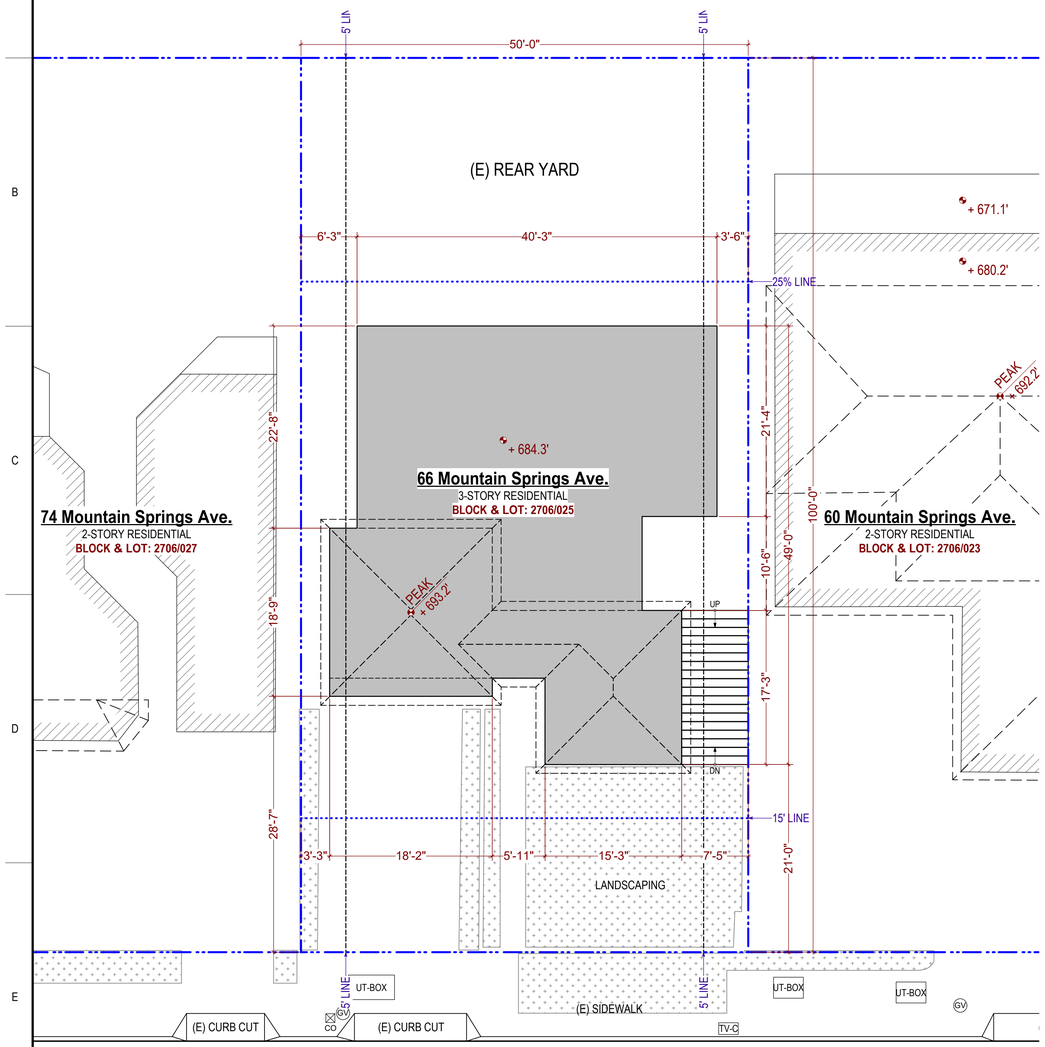
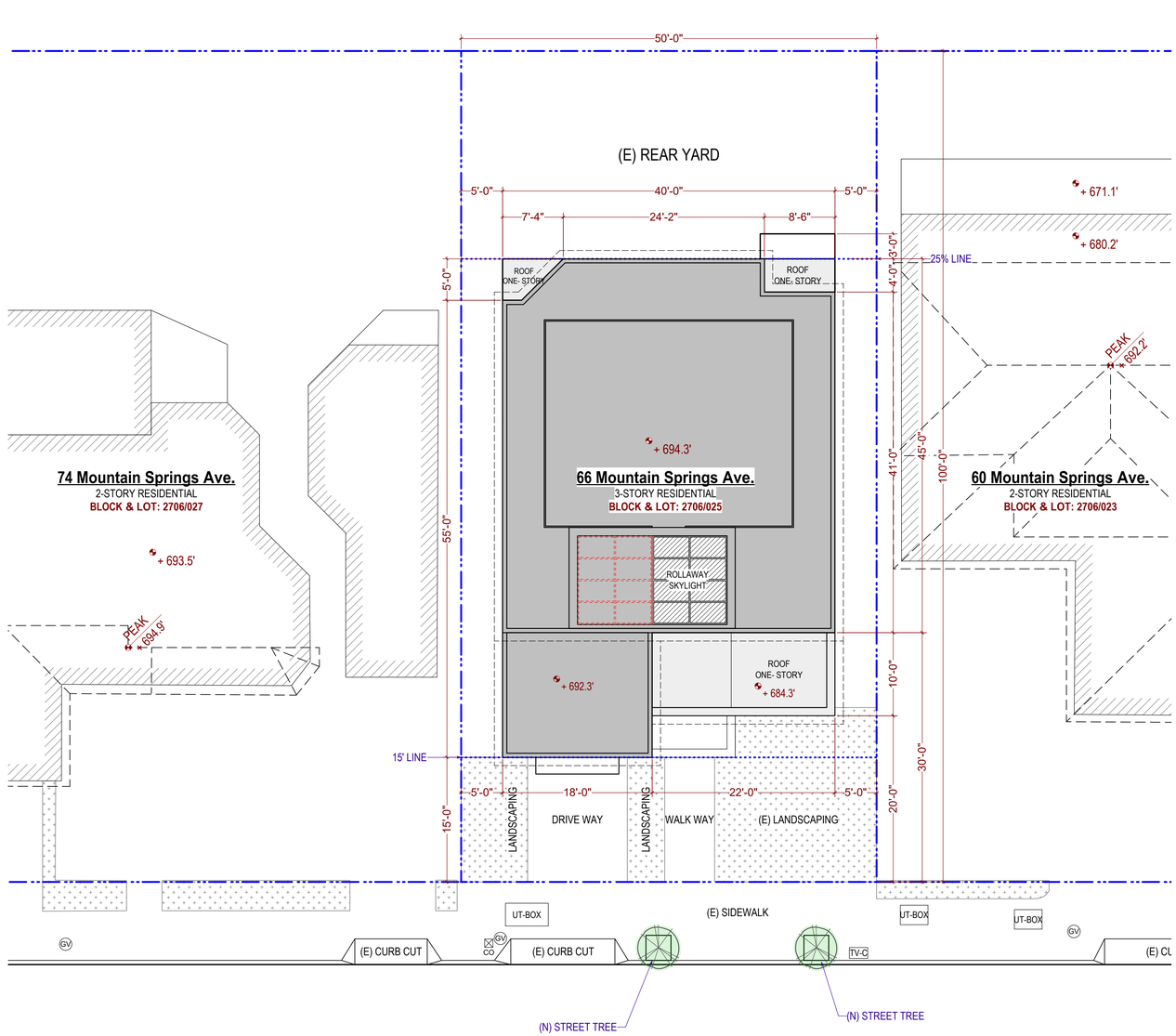
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-0.3



MOUNTAIN SPRINGS AVE. (50' WIDE)

Existing Site Plan

1/8" = 1'-0"



MOUNTAIN SPRINGS AVE. (50' WIDE)

Proposed Site Plan

1/8" = 1'-0"

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SHEET TITLE

Site Plans

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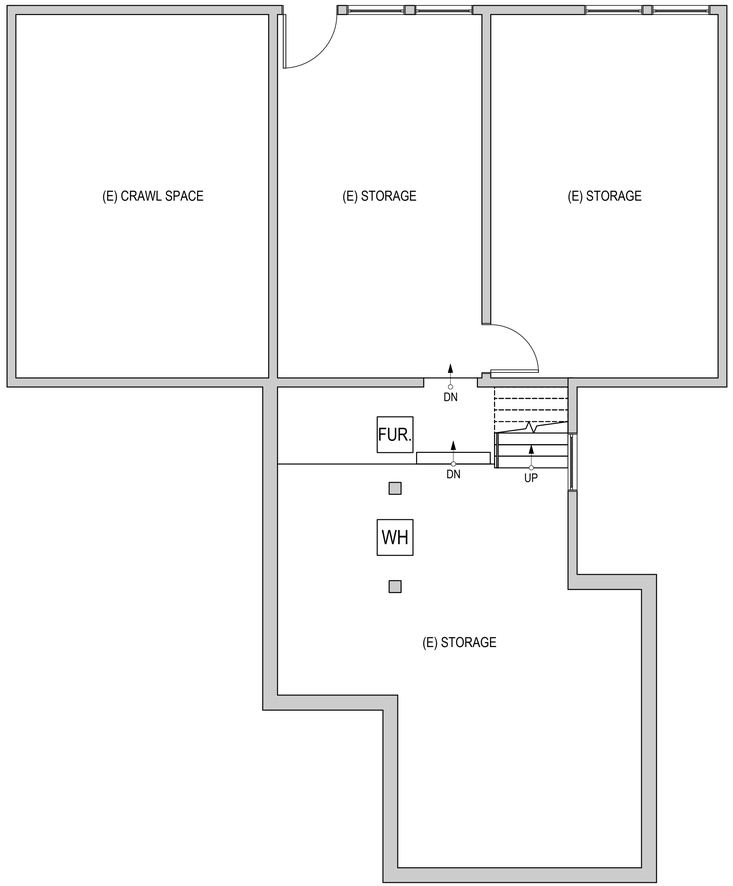
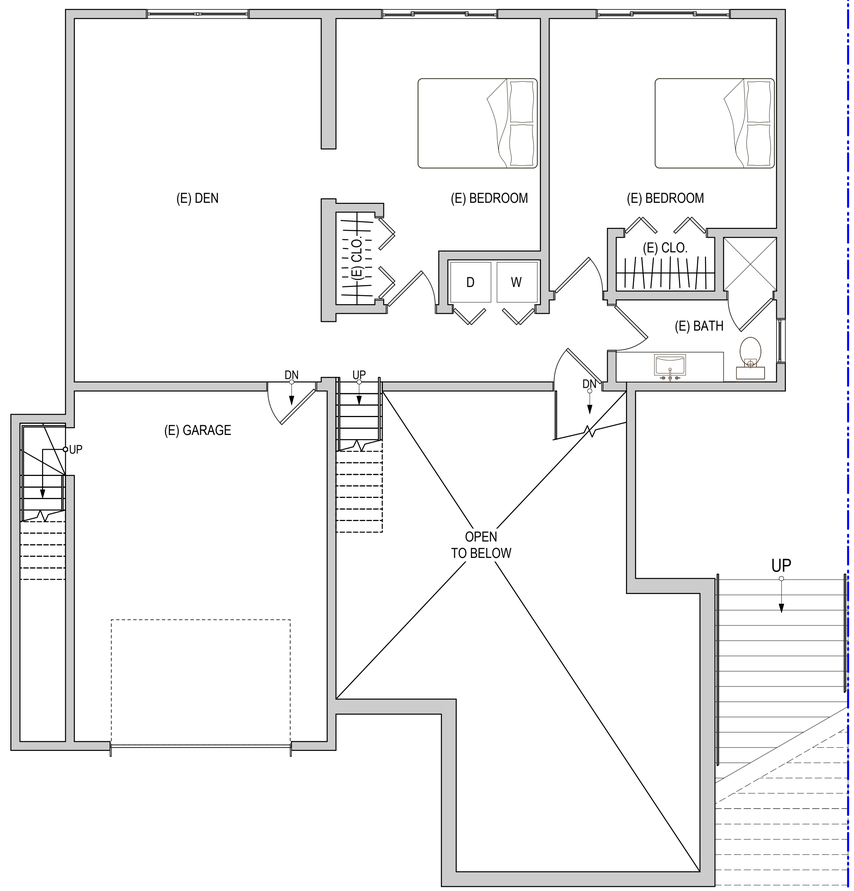
08/08/2018	REVISION
04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-1.1



Existing First Floor Plan

1/4" = 1'-0"



Existing Second Floor Plan

1/4" = 1'-0"

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SHEET TITLE

Existing Floor Plans (Demo)

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DRAWN BY	R.L.
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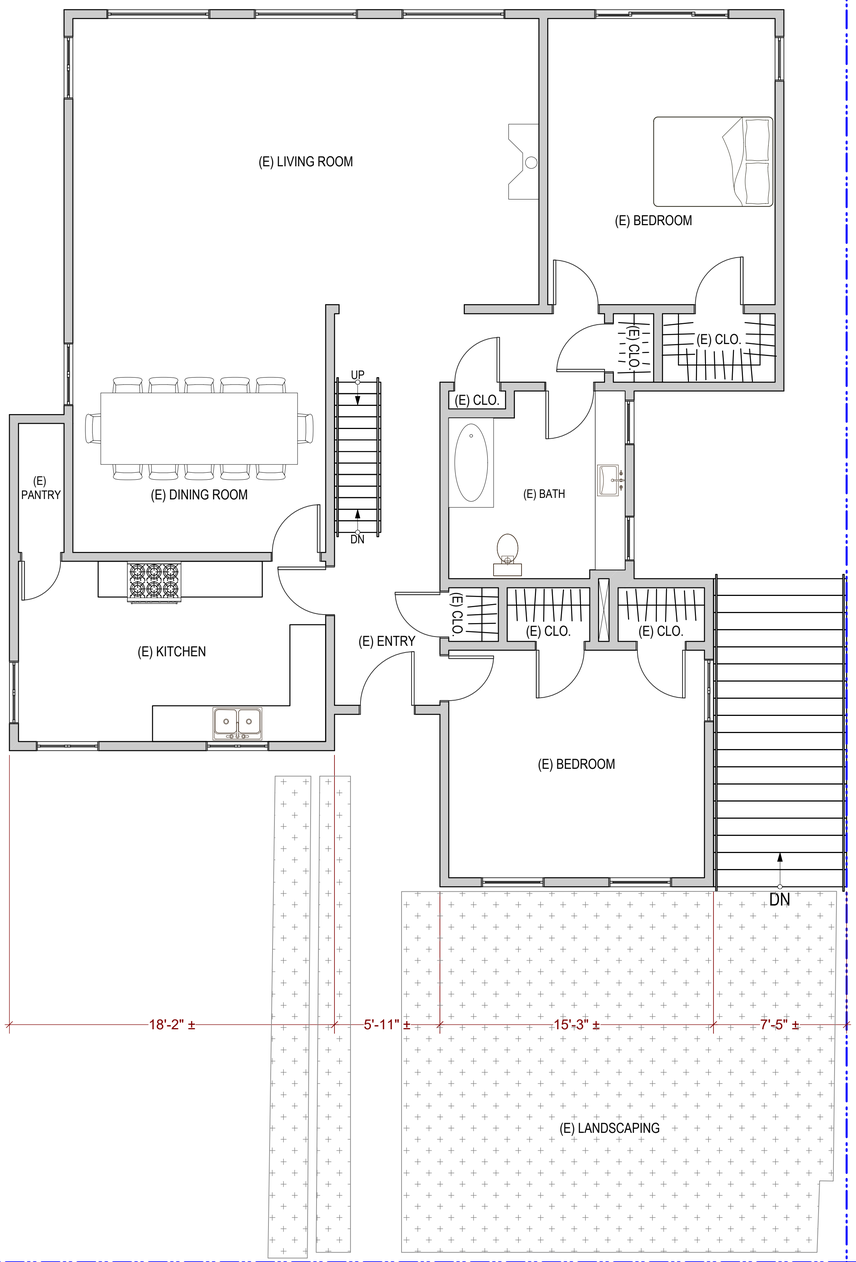
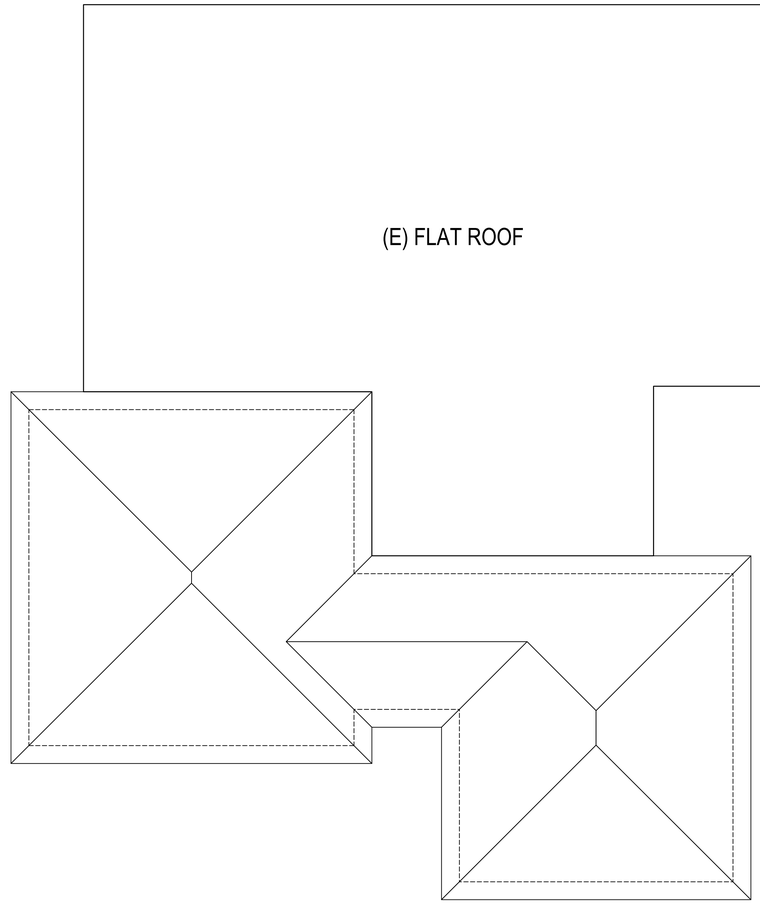


Existing Third Floor Plan (Street Level)

1/4" = 1'-0"



Existing Roof Plan

1/4" = 1'-0"

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Existing Floor Plans (Demo)

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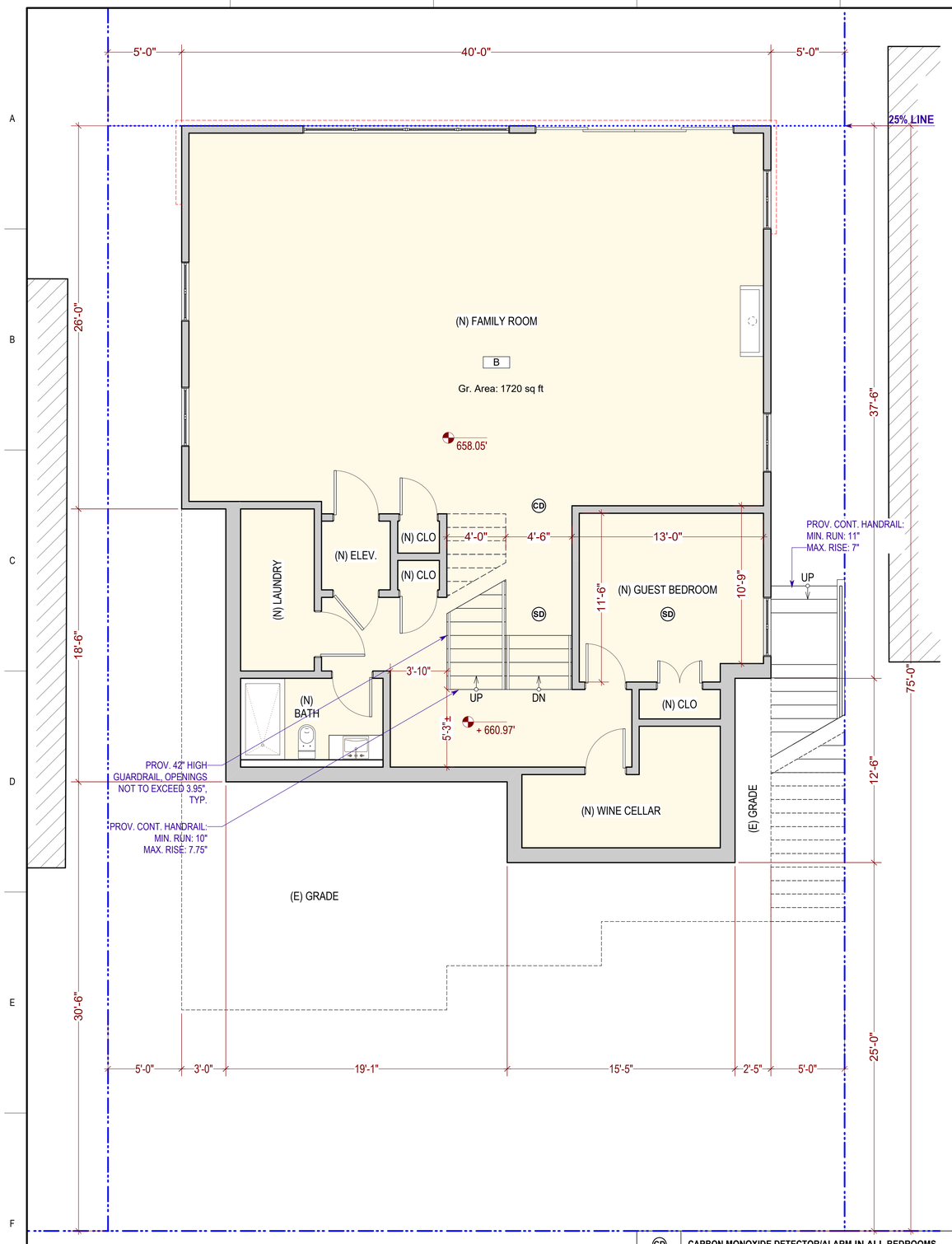

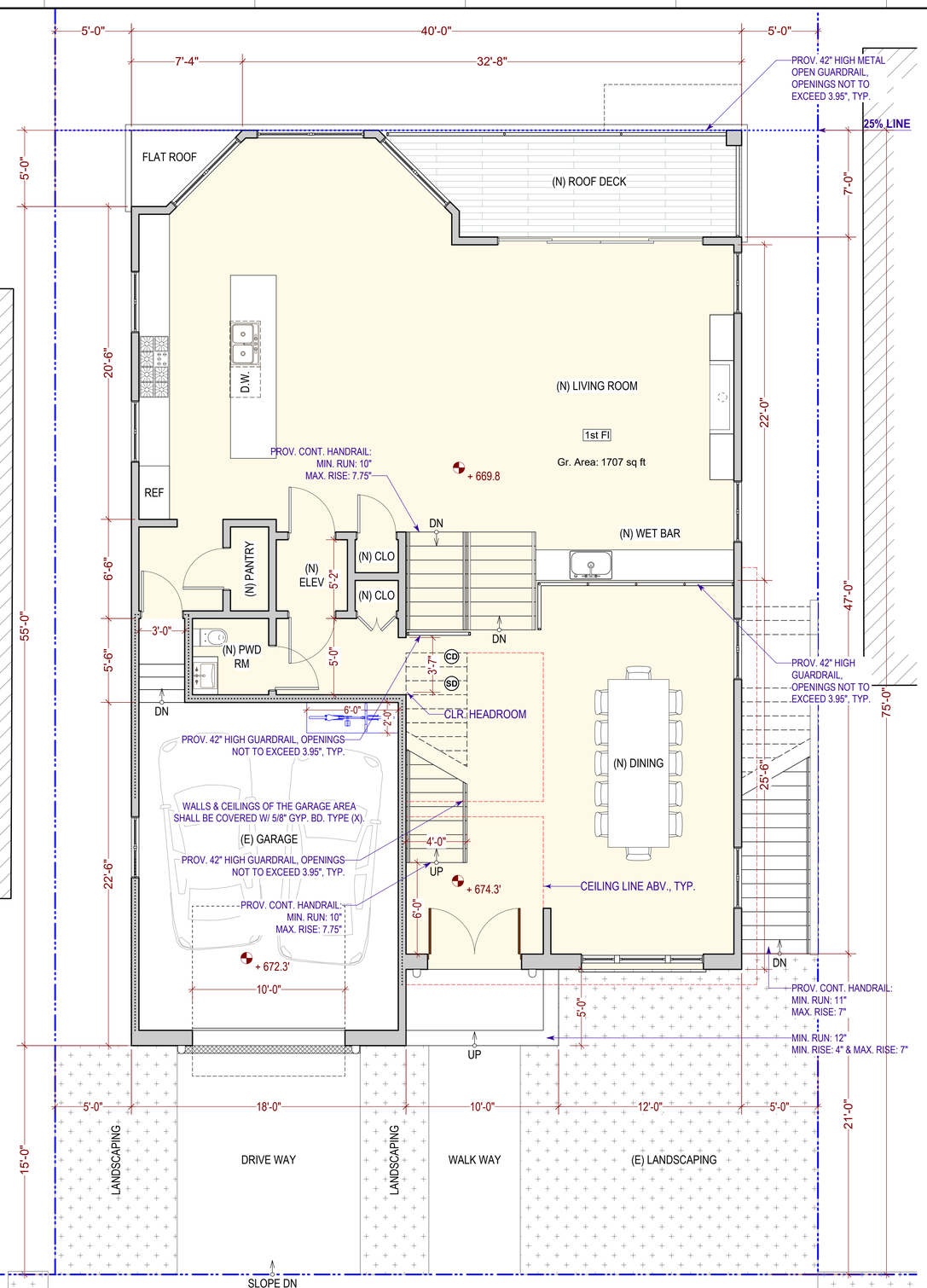

CD	CARBON MONOXIDE DETECTOR/ALARM IN ALL BEDROOMS
SD	SMOKE DETECTOR, 110-V INTERCONNECTED WITH BATTERY BACKUP
	PROPERTY LINE
	WOOD FRAME WALL

Proposed First Floor Plan

1/4" = 1'-0"

Proposed Second Floor Plan (Street Level)

1/4" = 1'-0"

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SHEET TITLE

Proposed Floor Plans

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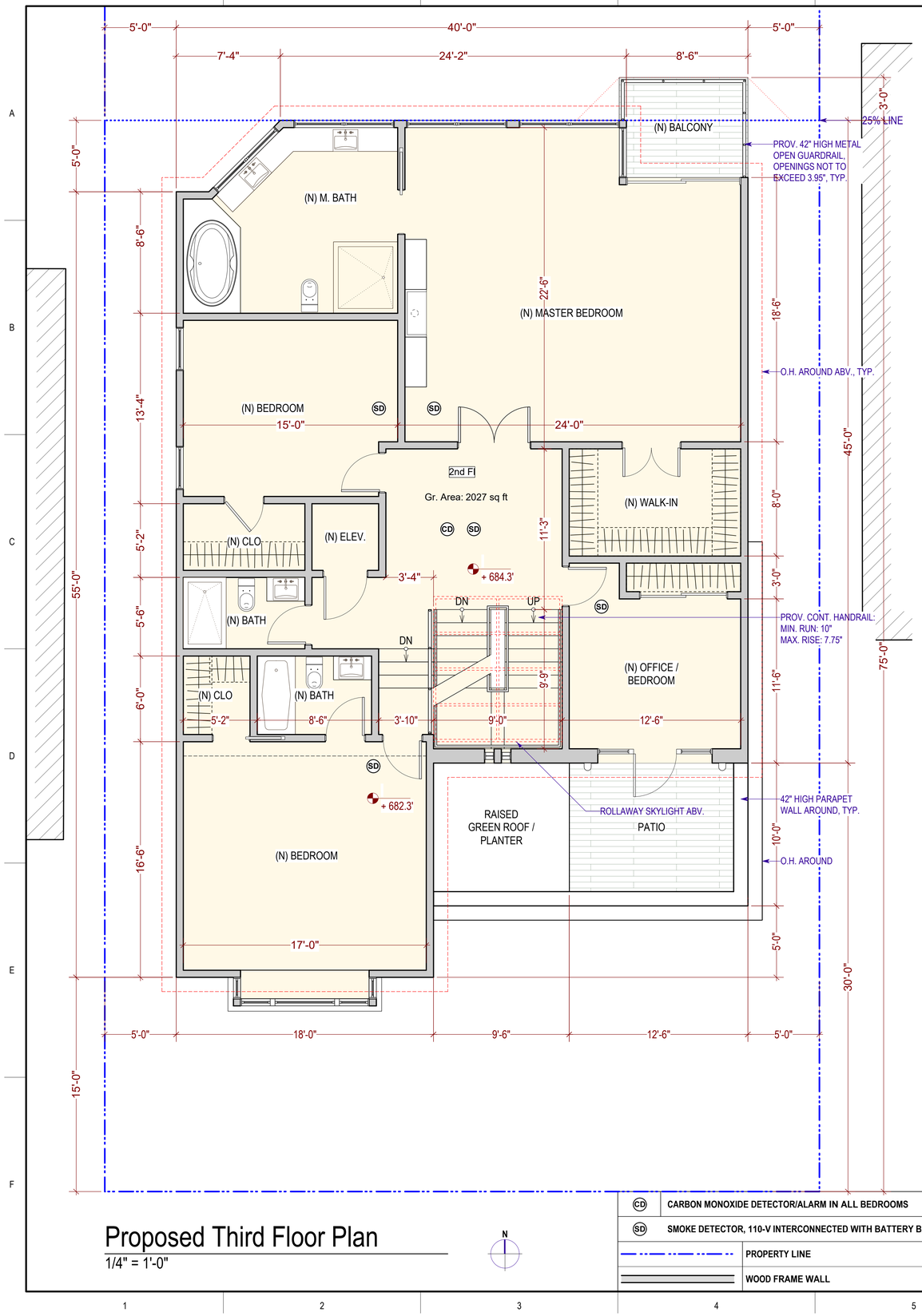
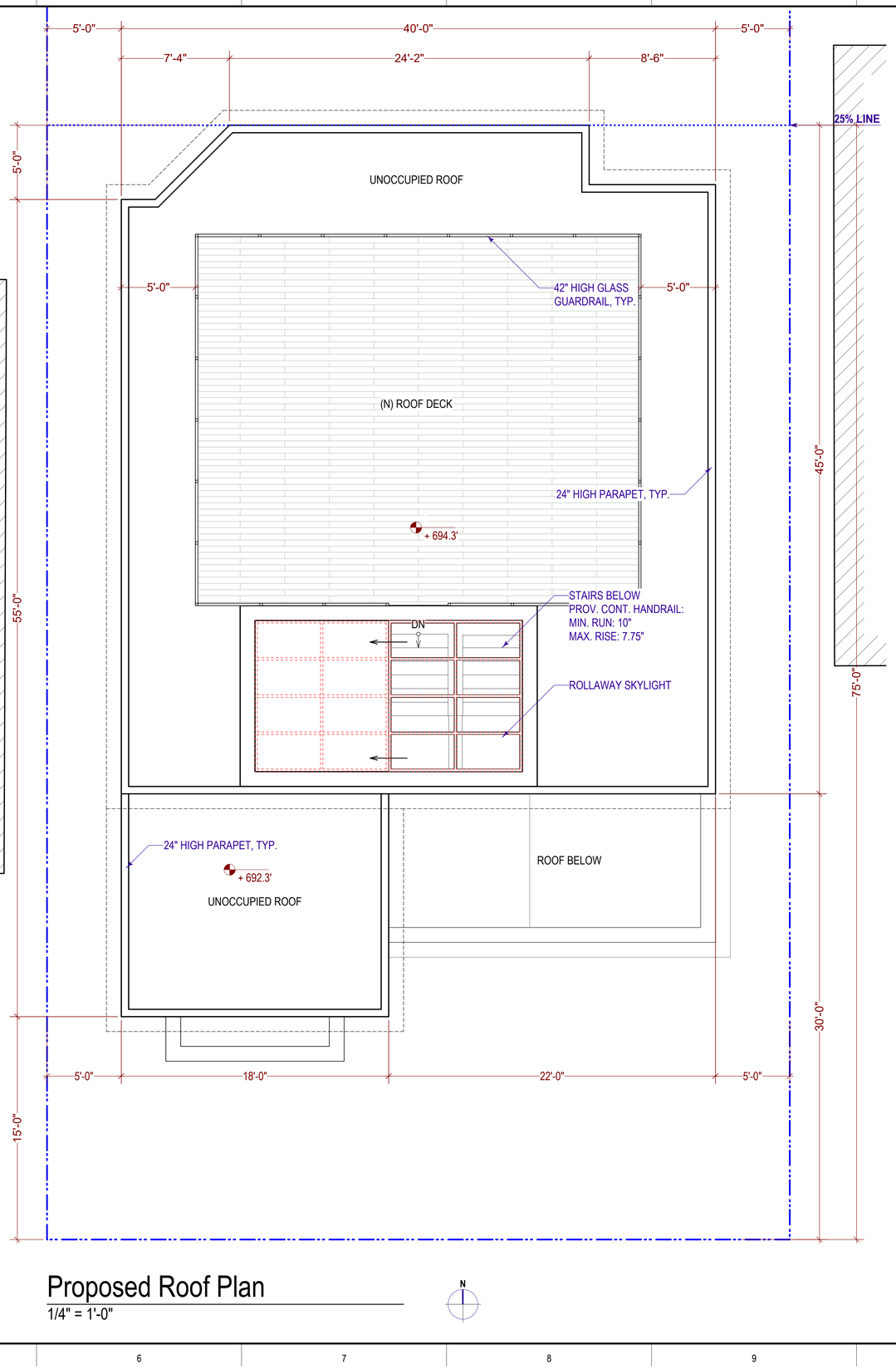
SHEET NO.	A-2.3



Proposed Third Floor Plan

1/4" = 1'-0"

CD	CARBON MONOXIDE DETECTOR/ALARM IN ALL BEDROOMS
SD	SMOKE DETECTOR, 110-V INTERCONNECTED WITH BATTERY BACKUP
	PROPERTY LINE
	WOOD FRAME WALL



Proposed Roof Plan

1/4" = 1'-0"

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Proposed Floor Plans

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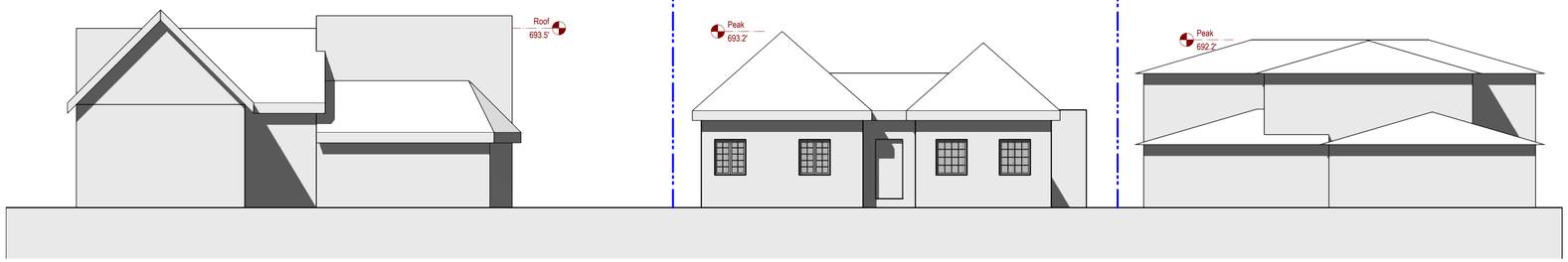
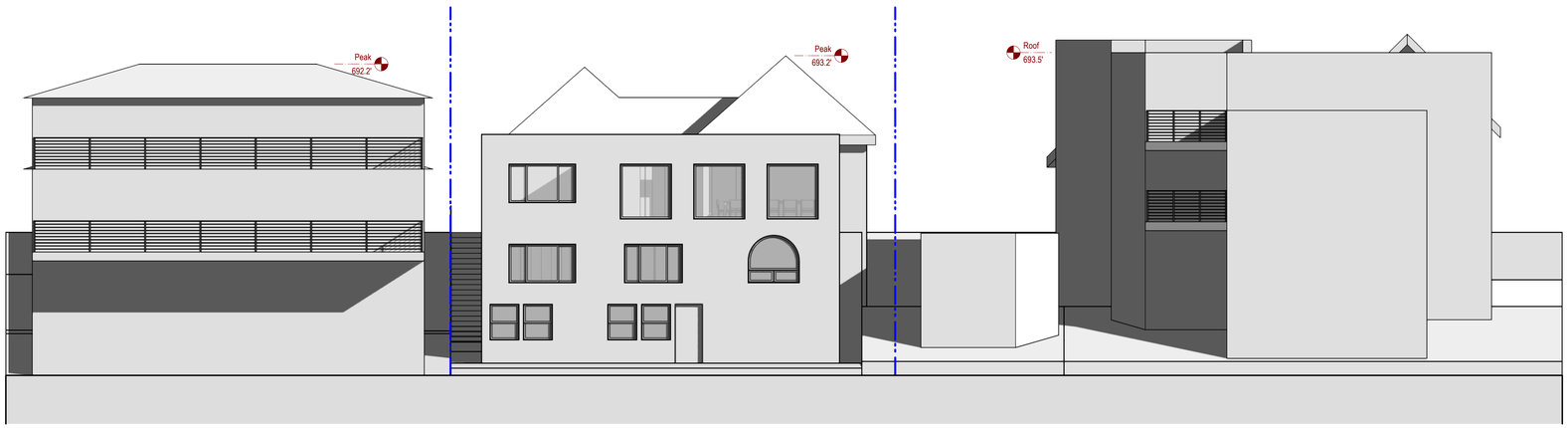
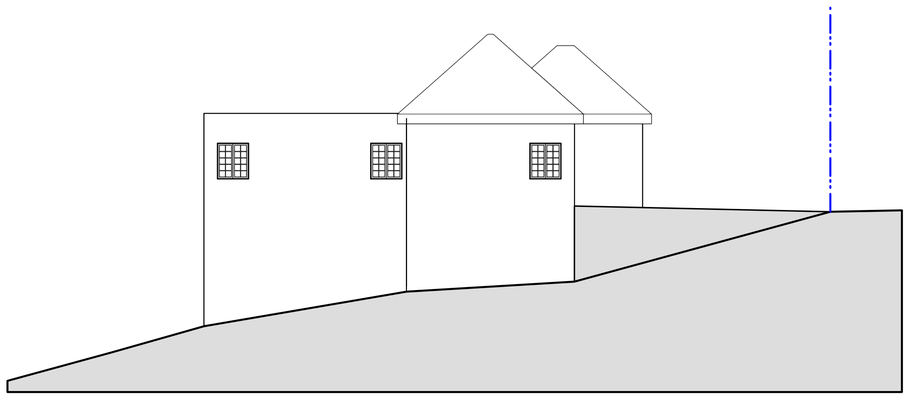
SHEET NO.	A-2.4



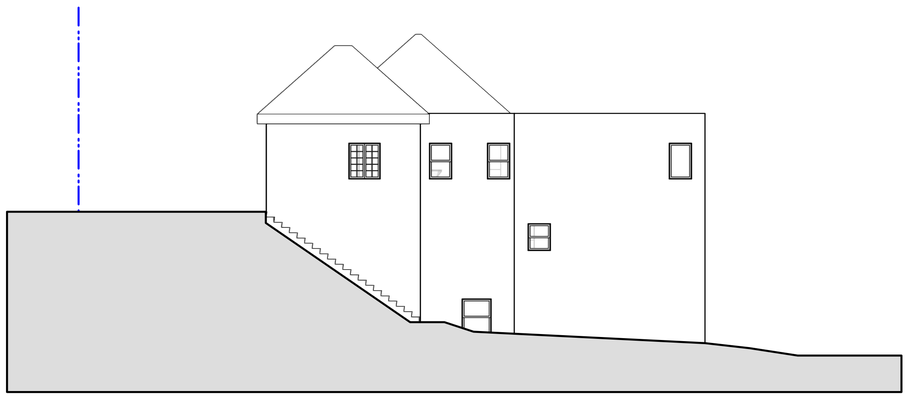
Existing Front Elevation (South)
1/8" = 1'-0"



Existing Rear Elevation (North)
1/8" = 1'-0"



Existing Left Elevation (West)
1/8" = 1'-0"



Existing Right Elevation (East)
1/8" = 1'-0"

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SHEET TITLE

Existing Building Elevations (Demo)

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-3.1

Front Elevation (South)

1/4" = 1'-0"

Rear Elevation (North)

1/4" = 1'-0"

FACADE MATERIALS KEY NOTES:

01	HIGH QUALITY SMOOTH PLASTER, TYP.
02	WOOD CAP, TYP.
03	WOOD TRIM, TYP.
04	PAINTED METAL RAILINGS, 42" HIGH MIN., TYP.
05	SOLID WOOD ENTRY DOOR
06	WOOD OVERHEAD GARAGE DOOR
07	ALUMINUM WINDOW, W/ WOOD CLAD & LOW E CLR. GLASS, TYP.
08	ALUMINUM PATIO DOOR W/ WOOD CLAD & CLR. GLASS, TYP.

PROJECT NAME

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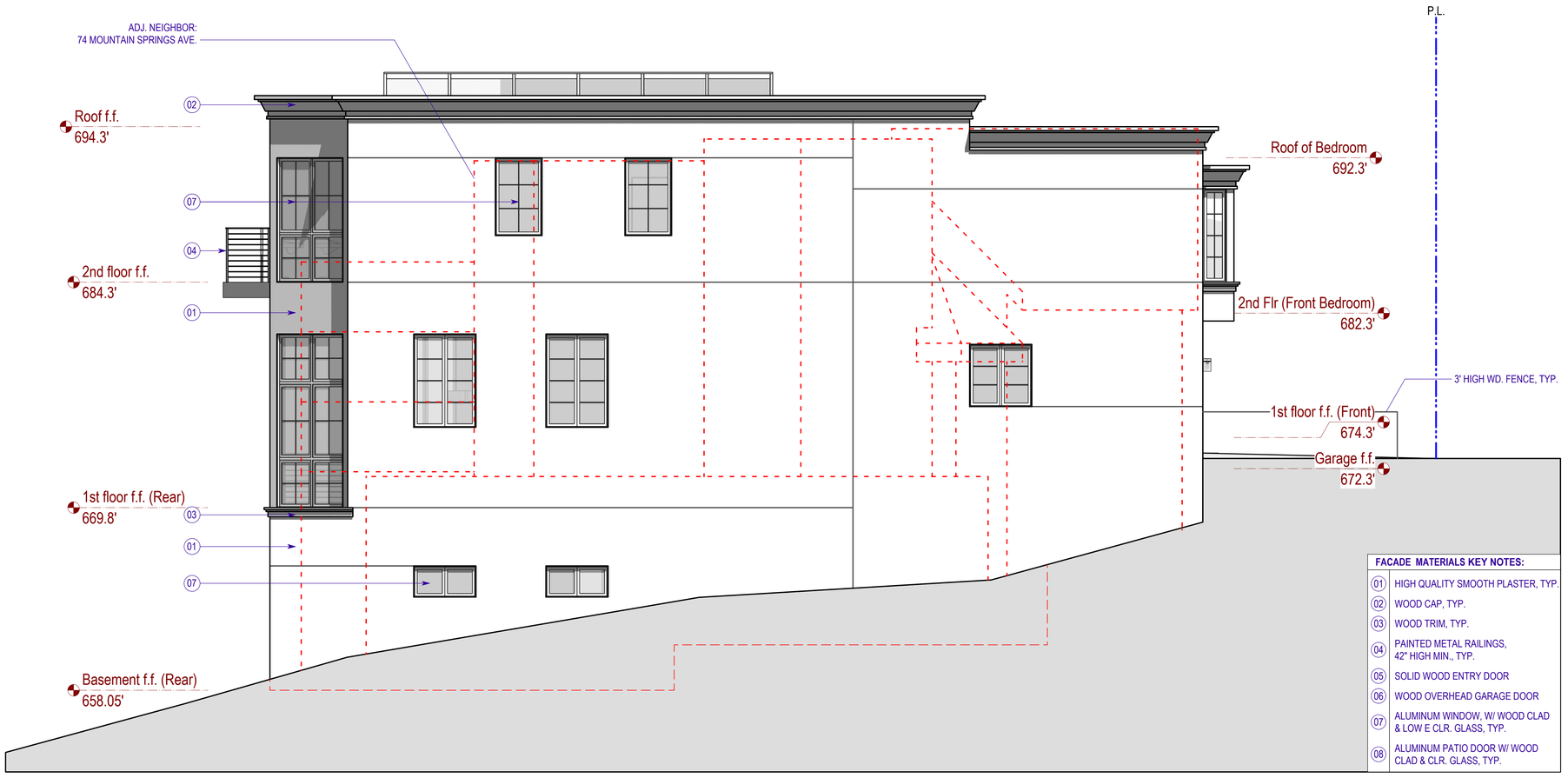
SHEET TITLE

Building Elevations (South & North)

05/17/2018	PLANS SUBMITTED
08/08/2018	REVISION
04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-3.2



FACADE MATERIALS KEY NOTES:	
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07	ALUMINUM WINDOW, W/ WOOD CLAD & LOW E CLR. GLASS, TYP.
08	ALUMINUM PATIO DOOR W/ WOOD CLAD & CLR. GLASS, TYP.

Left Elevation (West)

1/4" = 1'-0"

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SHEET TITLE

Building Elevation (West)

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
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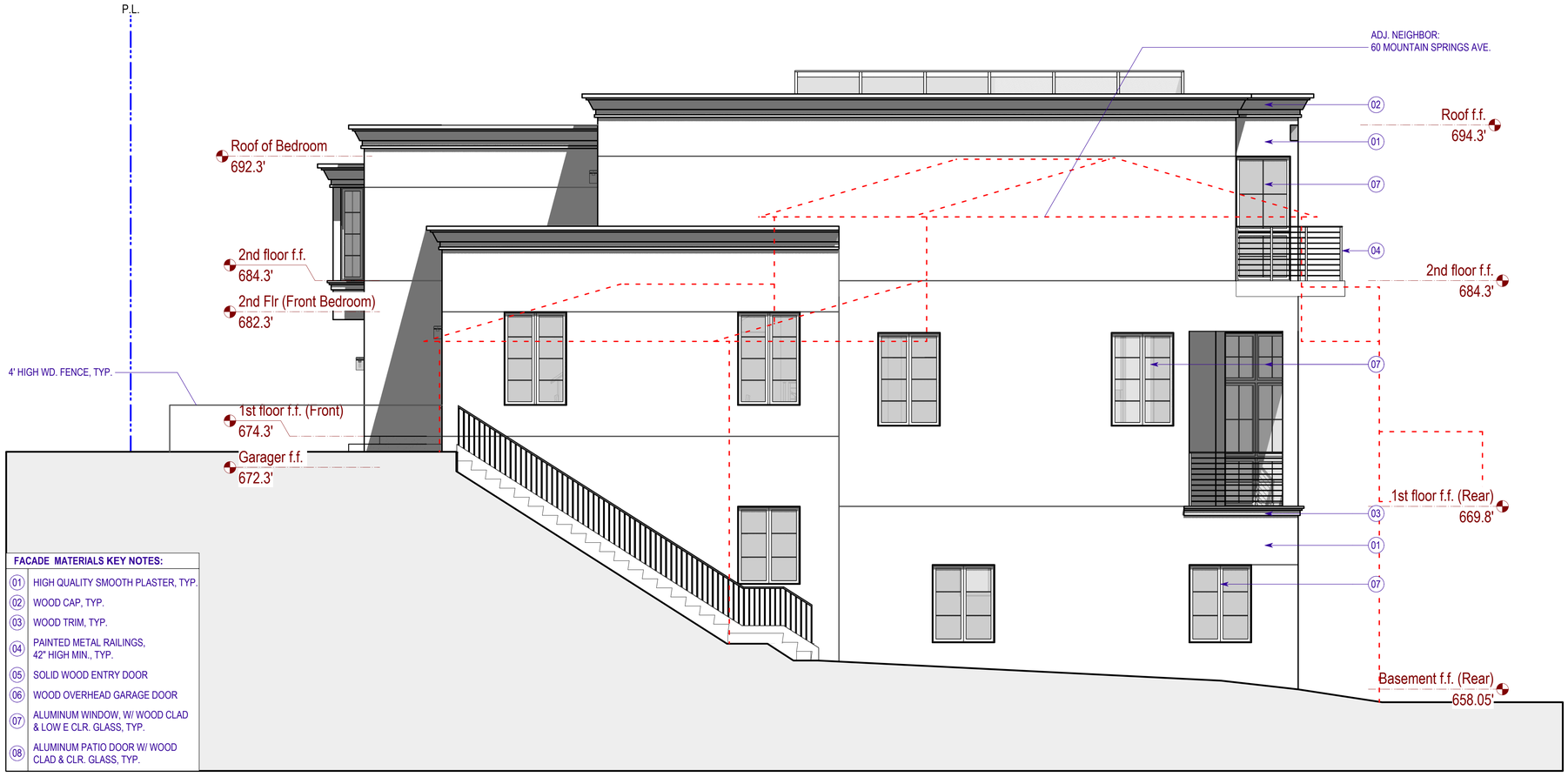

FACADE MATERIALS KEY NOTES:

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02	WOOD CAP, TYP.
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08	ALUMINUM PATIO DOOR W/ WOOD CLAD & CLR. GLASS, TYP.

Right Elevation (East)

1/4" = 1'-0"

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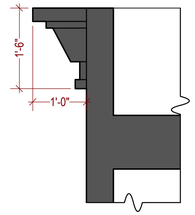
SHEET TITLE

Building Elevation (East)

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-3.4

Section A-A
1/4" = 1'-0"



Cornice Detail
3/4" = 1'-0"

PROJECT NAME

66 Mountain Spring Av.
San Francisco, CA 94114

SIA consulting
SIA CONSULTING CORPORATION
1256 HOWARD STREET
SAN FRANCISCO CA 94103
TEL: (415) 741.1292 / FAX: (415) 849.1252

SHEET TITLE

Building Section

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-4.1

W-1 EXTERIOR WALLS, WOOD-FRAMED

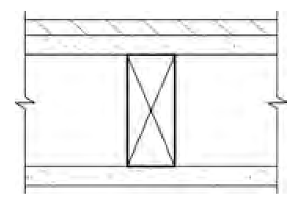
SYSTEM DESCRIPTION | **SKETCH AND DESIGN DATA**

GA FILE NO. WP 8105 — **GENERIC** — **1 HOUR FIRE**

GYPSUM WALLBOARD, GYPSUM SHEATHING, WOOD STUDS

EXTERIOR SIDE: One layer 48" wide 5/8" type X gypsum sheathing applied parallel to 2 x 4 wood studs 24" o.c. with 1 3/4" galvanized roofing nails 4" o.c. at vertical joints and 7" o.c. at intermediate studs and top and bottom plates. Joints of gypsum sheathing may be left untreated. Exterior cladding to be attached through sheathing to studs.

INTERIOR SIDE: One layer 5/8" type X gypsum wallboard, water-resistant gypsum backing board, or gypsum veneer base applied parallel or at right angles to studs with 6d coated nails, 1 7/8" long, 0.0915" shank, 1/4" heads, 7" o.c. **(LOAD-BEARING)**



Thickness:	Varies
Approx. Weight:	7 psf
Fire Test:	See WP 3510 (UL R3501-47, -48, 9-17-65, UL Design U309; UL R1319-129, 7-22-70, UL Design U314)

W-2 WALLS & INTERIOR PARTITIONS, WOOD-FRAMED

SYSTEM DESCRIPTION | **SKETCH AND DESIGN DATA**

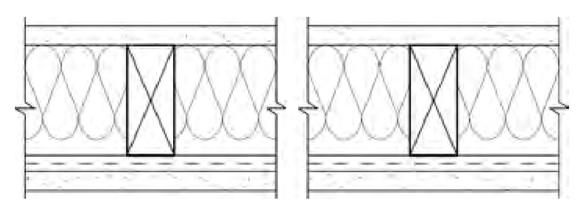
GA FILE NO. WP 3243 — **GENERIC** — **1 HOUR FIRE** — **50 to 54 STC SOUND**

GYPSUM WALLBOARD, RESILIENT CHANNELS, MINERAL OR GLASS FIBER INSULATION, WOOD STUDS

Resilient channels 24" o.c. attached at right angles to ONE SIDE of 2 x 4 wood studs 24" o.c. with 1 1/4" Type S drywall screws. One layer 5/8" type X gypsum wallboard or gypsum veneer base applied at right angles to channels with 1" Type S drywall screws 8" o.c. with vertical joints located midway between studs. 3" mineral or glass fiber insulation in stud space.

OPPOSITE SIDE: One layer 5/8" type X gypsum wallboard or gypsum veneer base applied parallel or at right angles to studs with 6d cement coated nails, 1 7/8" long, 0.0915" shank, 15/64" heads, 7" o.c.

Vertical joints staggered 24" on opposite sides. **(LOAD-BEARING)**



Thickness:	5 3/8"
Approx. Weight:	7 psf
Fire Test:	Based on UL R14196, 05NK05371, 2-15-05, UL Design U309
Sound Test:	NRCC TL-93-103, IRC-IR-761, 3/98

C-3 TJI: FLOOR-CEILING / ROOF-CEILING, WOOD FRAME

SYSTEM DESCRIPTION | **SKETCH AND DESIGN DATA**

GA FILE NO. FC 5011 — **PROPRIETARY*** — **1 HOUR FIRE** — **60 to 64 STC SOUND**

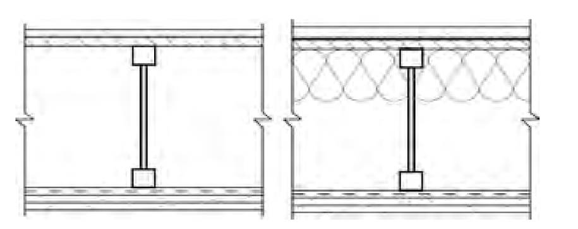
WOOD I-JOISTS, WOOD STRUCTURAL PANELS, GYPSUM FLOOR TOPPING, RESILIENT CHANNELS, GLASS FIBER BATT OR LOOSE FILL INSULATION, GYPSUM WALLBOARD

Base layer 1/2" proprietary type X gypsum wallboard or gypsum veneer base applied at right angles to resilient furring channels 24" o.c. (16" o.c. when insulation is used) with 1" Type S drywall screws 16" o.c. Gypsum board end joints located midway between continuous channels and attached with screws 8" to additional pieces of channel 60" long located 3" back on either side of end joint. Resilient channels applied at right angles to minimum 10" deep wood I joists spaced a maximum of 19" o.c. with 1 1/4" Type S drywall screws. **Face** layer 1/2" proprietary type X gypsum wallboard or gypsum veneer base applied at right angles to resilient furring channels 1 5/8" Type S drywall screws 8" o.c. and 1 1/2" Type G screws 8" o.c. at the butt joints located mid-span between the resilient channels. Glass fiber insulation secured to subfloor or loose fill insulation applied directly over gypsum board. Wood I joists supporting 19/32" wood structural panel subfloor applied at right angles to joists with construction adhesive and 6d ring shank nails 12" o.c. Minimum 1/2" proprietary gypsum floor topping applied over subfloor.

STC rated with I joists spaced 24" o.c., 3 1/2" glass fiber insulation in joist spaces, 3/4" proprietary gypsum floor topping poured over 1/4" proprietary sound reduction mat, and with finish flooring of sheet vinyl, engineered wood laminate, and ceramic tile. (STC 64 when sheet vinyl or engineered wood laminate is applied to floor; STC 66 when tested with ceramic tile applied to floor.)

PROPRIETARY GYPSUM COMPONENTS

United States Gypsum Company
- 1/2" SHEETROCK® Brand FIRECODE® C Core Gypsum Panels
- LEVELROCK® Brand Floor Underlayment



Approx. Ceiling Weight:	3 psf
Fire Test:	UL R1319, 05NK04589, 2-4-05; UL R1319, 05NK09496, 3-31-05; UL Design L570
Sound Test:	RAL OT03-05, 4-22-03; RAL OT03-07, 4-29-03; RAL OT03-09, 6-18-03
IIC & Test:	(58 sheet vinyl), RAL OT03-06, 4-22-03; (62 engineered wood laminate) RAL OT03-08, 4-29-03; (54 ceramic tile) RAL OT03-10, 6-18-03

Built-in Controls with Motion Sensor
FV-08VKM3 80/0 CFM 4" Duct
FV-13VKM3 130/0 CFM 6" Duct

Built-in Controls
FV-08VKS3 80/0 CFM 4" Duct
FV-13VKS3 130/0 CFM 6" Duct

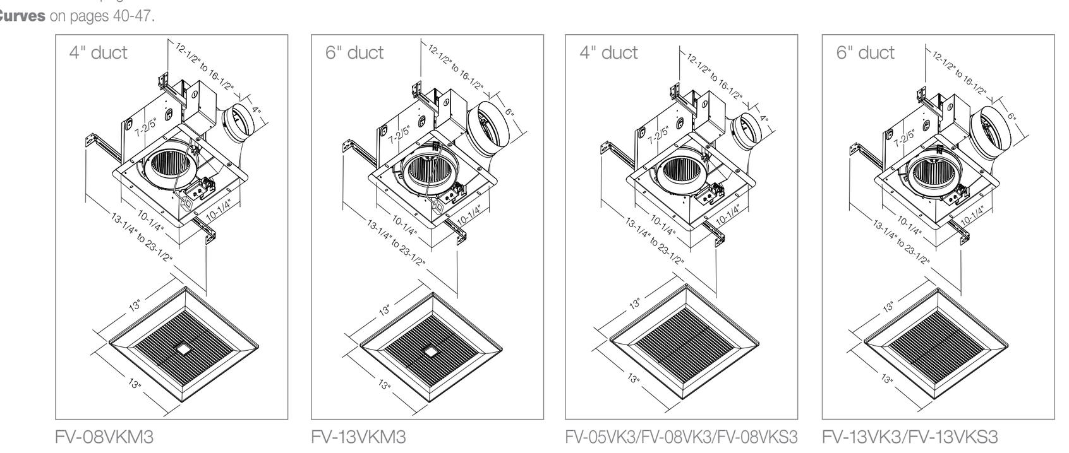
Single Speed
FV-05VK3 50 CFM 4" Duct
FV-08VK3 80 CFM 4" Duct
FV-13VK3 130 CFM 6" Duct

- Superior performance and quiet operation at .25" w.g.
- Super energy efficient DC motor
- SmartFlow™ technology for constant CFM output
- CustomVent™ variable speed control with high/low delay timer (Built-in controls models only)
- SmartAction® motion sensor (FV-08VKM3 & FV-13VKM3)

— ENERGY STAR® qualified fan
— Totally enclosed DC motor for long life—rated for 60,000 hours continuous run
— Easy installation (double hanger bar system)
— Rustproof paint treatment on galvanized housing
— Built-in damper to prevent backdraft
— Fits in 2 x 8 construction
— UL listed for tub/shower enclosure when used with a GFCI branch circuit wire
— Thermal fuse protection
— ASHRAE 62.2, LEED for Homes, ENERGY STAR IAP, CA Title 24, EarthCraft and WA Ventilation Code compliant
— 6 year warranty on DC motor and 3 year warranty on parts
— Optional designer grille and radiation damper available (See pages 36-37 for applicable models)

WhisperGreen Gen 3 — Characteristics (HVI tested data for 0.1" S.P.); Advanced Features; Approved Code/Standard Regulation [illegible]

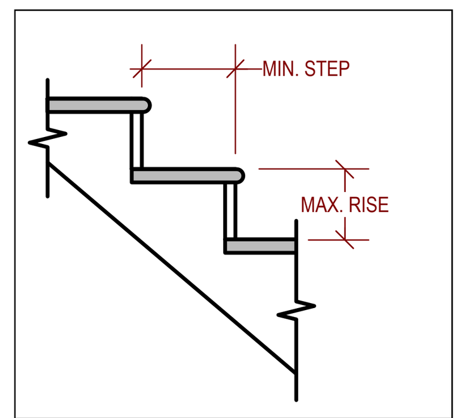
N/A=not applicable
w.g.=water gauge
S.P.=static pressure



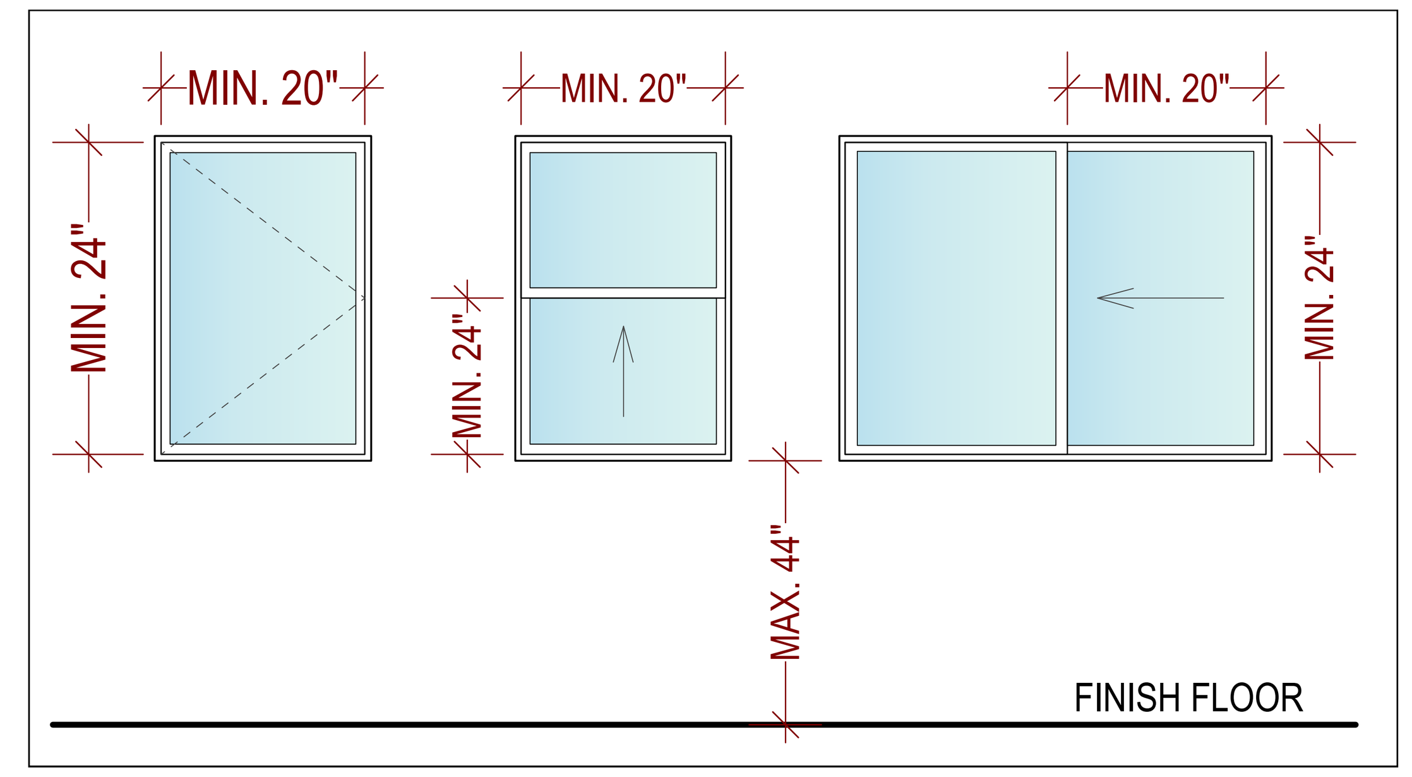
*Panasonic ventilation fans may qualify for an energy saving rebate. Rebate programs are often provided by local utility companies and based on **ENERGY STAR** guidelines. Check with your local utility company for details.*

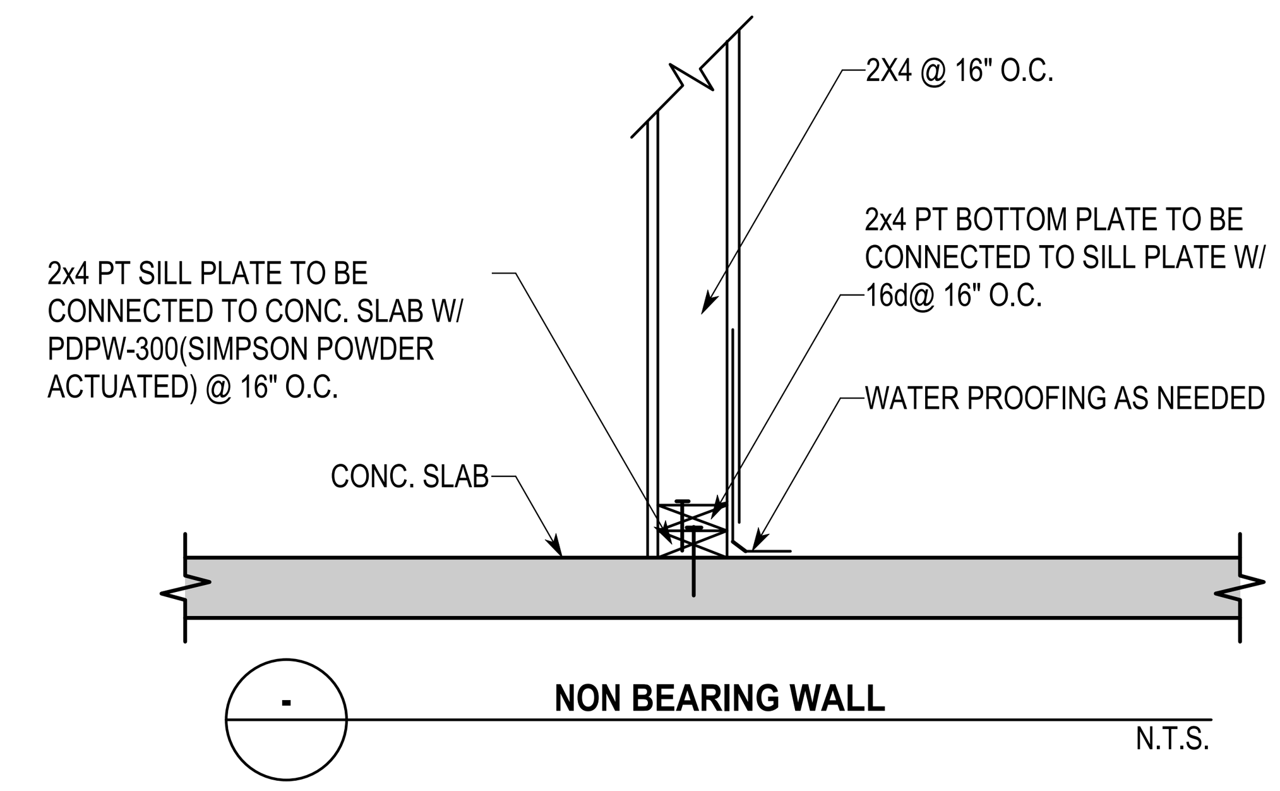
WHOLE HOUSE VENTILATION CALCULATION. (ASHRAE 62.2):

5,405 S.F. X 0.01 + (5+1) X 7.5 = 99.05 — **PROVIDED: 110 CFM**



STAIRS DETAIL
N.T.S.





NON BEARING WALL
N.T.S.

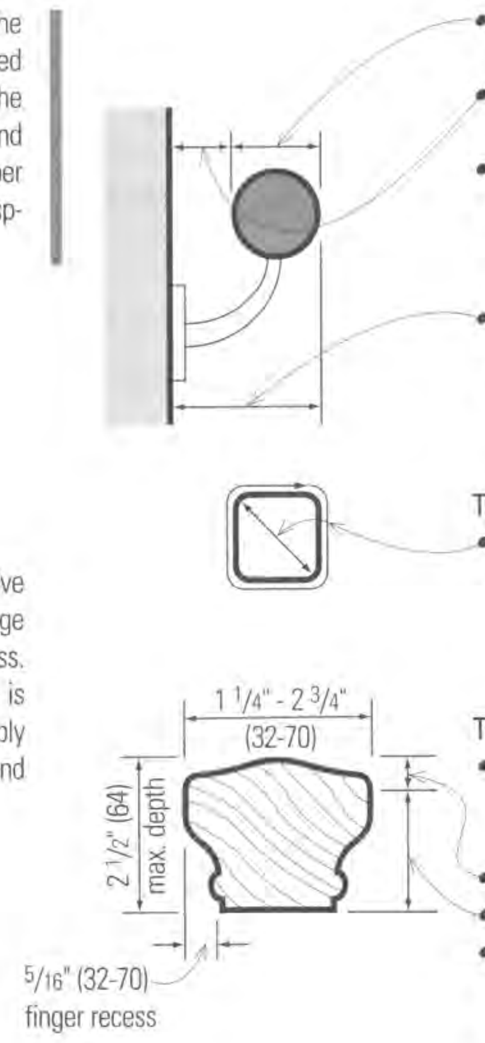
Handrails

Per § 1012.3 all handrails are to comply with the requirements for Type I handrails as described in § 1012.2.3.1 except at R-3 occupancies, the inside of dwelling units in R-2 occupancies, and in U occupancies, where Type II handrails per § 1012.2.3.2 or handrails with equivalent graspability may be used.

Guards

§ 1013 requires that railings or similar protective elements be provided where any grade change of 30" (762) or more occurs in a means of egress. This also applies when a means of egress is adjacent to glazing elements that do not comply with the strength requirements for railings and guards per § 1607.7.

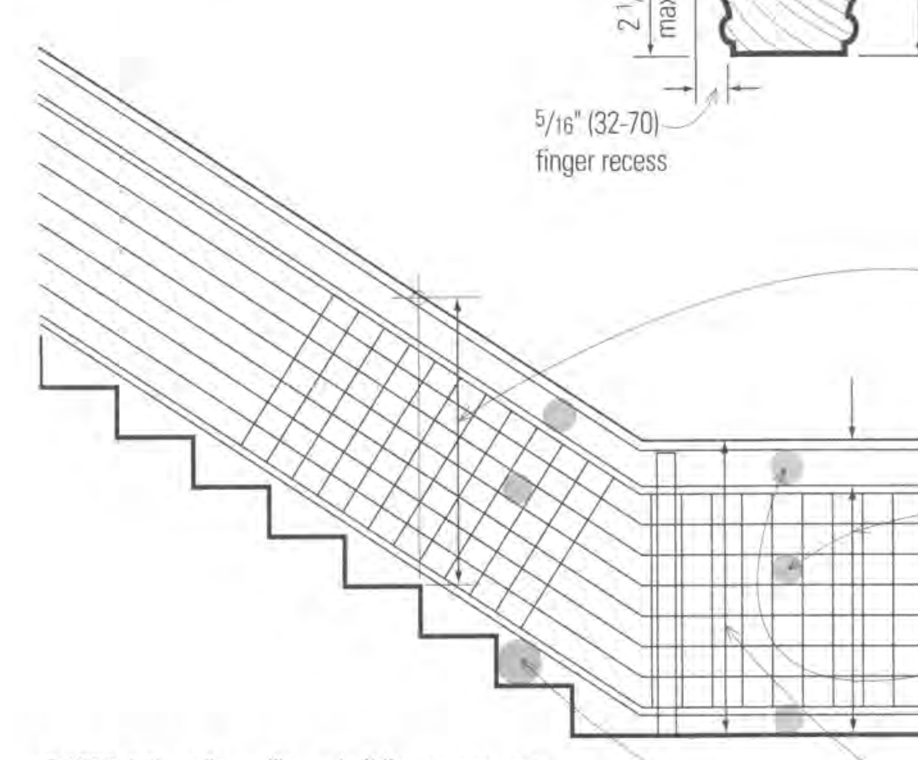
§ 1002 defines "guard" as a building component located at or near the sides of an elevated walkway that minimizes the possibility of a fall to a lower level. The intent of these requirements is that any building occupant moving through the means of egress will be protected from falling from the edges of the means of egress. Such guards are not required when they would impede the intended use of parts of occupancies, such as in areas where the audience is viewing a stage, or at service pits and loading docks.



Type I Circular Rail
- *Circular handrails are to have a minimum diameter of 1 1/4" (32) and a maximum diameter of 2" (51).*
- *Handrails require a minimum clearance from the wall of 1 1/2" (38) to allow for grasping.*
- *There are to be no sharp or abrasive elements to interfere with the ability of the stair user to grasp the handrail. Edges must have a minimum radius of 0.125" (3.2 mm).*
- *Projections, such as stringers and baseboards, are allowed at each handrail, but they cannot project more than a total of 4 1/2" (114) into the required width of the stairway.*

Type I Non-Circular Handrail
- *Railings that do not have a circular profile shall have a perimeter dimension of at least 4" (102) but no greater than 6 1/4" (159) and a maximum cross-sectional dimension of 2 1/4" (57).*

Type II Non-Circular Handrail
- *Type II handrails with a perimeter greater than 6 1/4" (159) shall provide a 5/16" (8) graspable finger recess on both sides of the profile.*
- *3/4" (19) maximum crown.*
- *1 3/4" (44) maximum extent of finger recess.*
- *Other shapes of equivalent graspability are acceptable. Note that the definition of graspability is subject to interpretation by the building official.*



- *Height of guards is measured from the leading edge of treads on a stairway.*
- *Guards are typically 42" (1067) high except in residences, where they may range from 34" to 38" (864 to 965) in height when located along the side(s) of an open stair and also serve as a handrail.*
- *Guards are to be designed with a pattern from the floor up to 34" (864) such that a sphere 4" (102) in diameter cannot pass through. [Openings in R-2 and R-3 sleeping units may allow passage of a 4.375" (111) sphere.]*
- *From a height of 34" to 42" (864 to 1067), the pattern may be more open, allowing a sphere up to 4 1/2" (114) in diameter to pass.*
- *42" (1067) high minimum above walking surfaces*
- *The triangular space between the tread, riser and rail may allow a sphere no more than 6" (152) in diameter to pass.*
- *In industrial occupancies where public access does not occur, railings may have spacing up to 21" (533). Such guards must be provided at rooftop mechanical equipment or roof access openings located closer than 10' (3048) from the roof edge.*

GENERAL EGRESS REQUIREMENTS
N.T.S.

DOOR/WINDOW FLASHING NOTES:

SECTION 1707(B), UNIFORM BUILDING CODE, CALLS FOR FLASHING OF ALL EXTERIOR OPENINGS EXPOSED TO WEATHER TO MAKE THEM WEATHERPROOF. SINCE UBC DOES NOT OUTLINE PROCEDURES FOR WINDOW FLASHING, TECHNIQUES SHOWN HERE ARE RECOMMENDED.

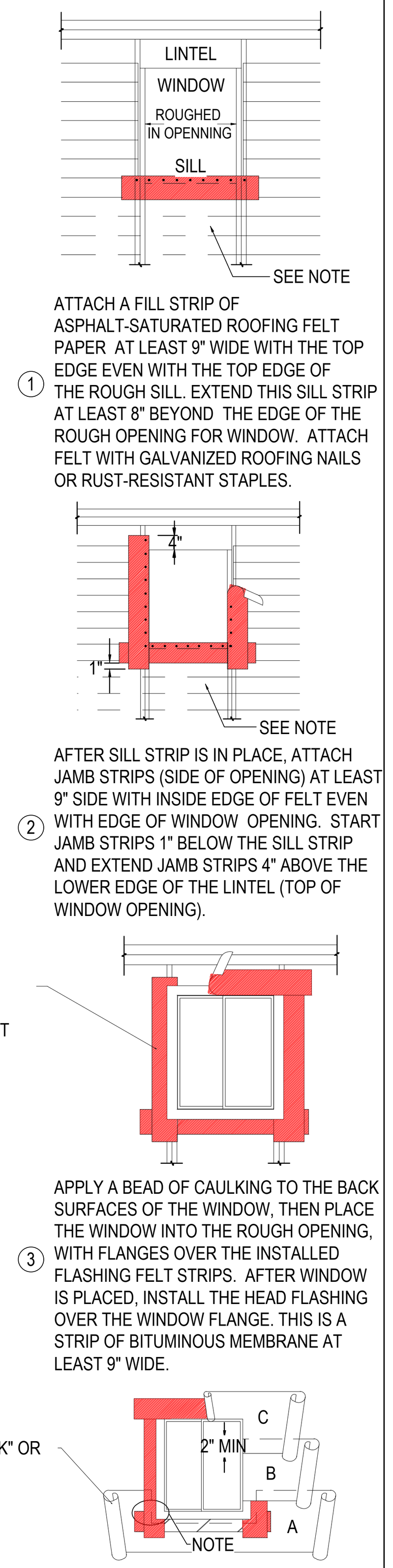
-FOR FLASHING MATERIAL USE 15LB. ASPHALT SATURATED FELT, SELF HEALING BITUTHENE MEMBRANE, OR DUPONT "FLEXWRAP"

-FOR MOISTURE BARRIER USE "TYVEK" OR EQUIVALENT HOUSEWRAP

-CAULK BACK OF WINDOW FRAMES BEFORE SETTING. USE WINDOWS THAT ARE WATERTIGHT.

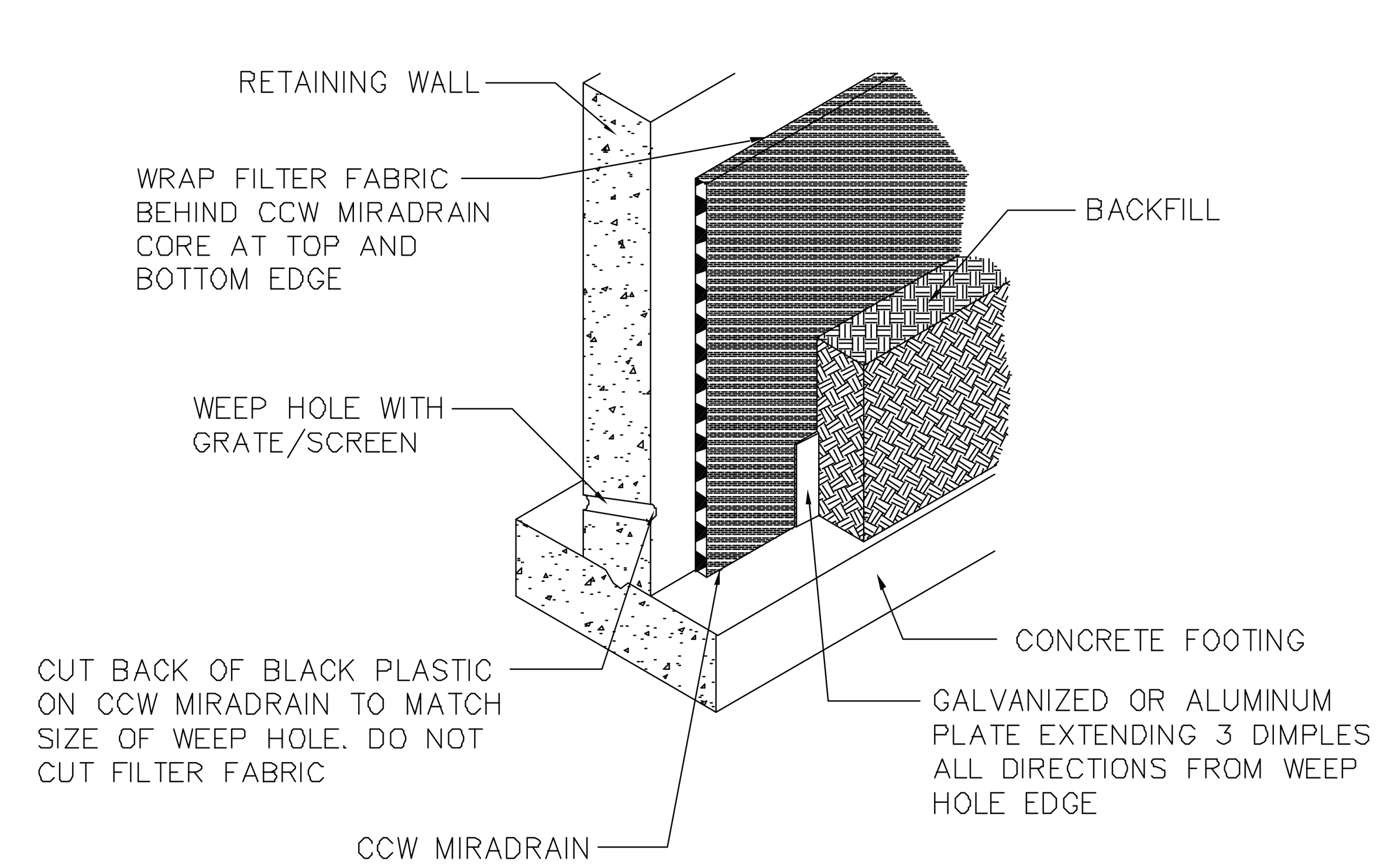
FLASHING TO BE 15LB. ASPHALT SATURATED FELT, SELF HEALING BITUTHENE MEMBRANE, OR DUPONT "FLEXWRAP" - TYP.

FOR MOISTURE BARRIER USE "TYVEK" OR EQUIVALENT HOUSEWRAP



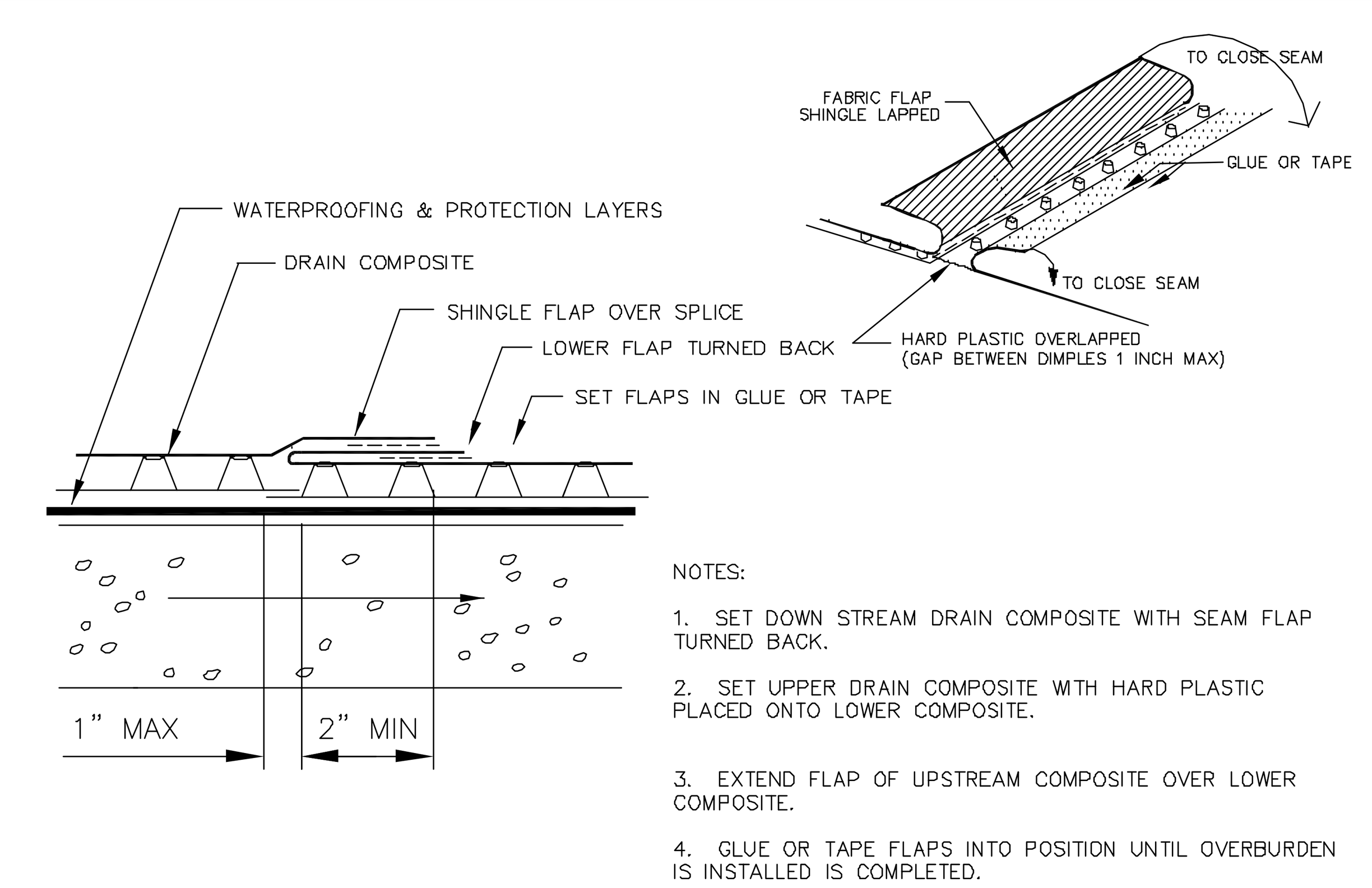
1. ATTACH A FILL STRIP OF ASPHALT-SATURATED ROOFING FELT PAPER AT LEAST 9" WIDE WITH THE TOP EDGE EVEN WITH THE TOP EDGE OF THE ROUGH SILL. EXTEND THIS SILL STRIP AT LEAST 8" BEYOND THE EDGE OF THE ROUGH OPENING FOR WINDOW. ATTACH FELT WITH GALVANIZED ROOFING NAILS OR RUST-RESISTANT STAPLES.
2. AFTER SILL STRIP IS IN PLACE, ATTACH JAMB STRIPS (SIDE OF OPENING) AT LEAST 9" SIDE WITH INSIDE EDGE OF FELT EVEN WITH EDGE OF WINDOW OPENING. START JAMB STRIPS 1" BELOW THE SILL STRIP AND EXTEND JAMB STRIPS 4" ABOVE THE LOWER EDGE OF THE LINTEL (TOP OF WINDOW OPENING).
3. APPLY A BEAD OF CAULKING TO THE BACK SURFACES OF THE WINDOW, THEN PLACE THE WINDOW INTO THE ROUGH OPENING, WITH FLANGES OVER THE INSTALLED FLASHING FELT STRIPS. AFTER WINDOW IS PLACED, INSTALL THE HEAD FLASHING OVER THE WINDOW FLANGE. THIS IS A STRIP OF BITUMINOUS MEMBRANE AT LEAST 9" WIDE.
4. STARTING AT THE BOTTOM OF THE WALL (SILL PLATE), LAY WATER - RESISTANT PAPER UNDER THE SILL STRIP. CUT ANY EXCESS WATER - RESISTANT PAPER THAT MAY EXTEND ABOVE THE SILL FLANGE ON EACH SIDE OF THE OPENING. (SHOWN IN DIAGRAM AS SHORT DASHED LINES). INSTALL SUCCEEDING COURSES OF WATER-RESISTANT PAPER (B, C. ETC.) OVER JAMB AND HEAD FLANGES IN SHINGLE-BOARD FASHION.

DOOR/WINDOW WATER PROOFING / INSTALLATION DETAILS



RETAINING WALL
WRAP FILTER FABRIC BEHIND CCW MIRADRAIN CORE AT TOP AND BOTTOM EDGE
BACKFILL
WEEP HOLE WITH GRATE/SCREEN
CONCRETE FOOTING
CUT BACK OF BLACK PLASTIC ON CCW MIRADRAIN TO MATCH SIZE OF WEEP HOLE. DO NOT CUT FILTER FABRIC
GALVANIZED OR ALUMINUM PLATE EXTENDING 3 DIMPLES ALL DIRECTIONS FROM WEEP HOLE EDGE
CCW MIRADRAIN

MD-1 — RETAINING WALL DETAIL — CARLISLE



TO CLOSE SEAM
FABRIC FLAP SHINGLE LAPPED
GLUE OR TAPE
WATERPROOFING & PROTECTION LAYERS
DRAIN COMPOSITE
TO CLOSE SEAM
SHINGLE FLAP OVER SPLICE
LOWER FLAP TURNED BACK
HARD PLASTIC OVERLAPPED (GAP BETWEEN DIMPLES 1 INCH MAX)
SET FLAPS IN GLUE OR TAPE
1" MAX
2" MIN

NOTES:
1. SET DOWN STREAM DRAIN COMPOSITE WITH SEAM FLAP TURNED BACK.
2. SET UPPER DRAIN COMPOSITE WITH HARD PLASTIC PLACED ONTO LOWER COMPOSITE.
3. EXTEND FLAP OF UPSTREAM COMPOSITE OVER LOWER COMPOSITE.
4. GLUE OR TAPE FLAPS INTO POSITION UNTIL OVERBURDEN IS INSTALLED IS COMPLETED.

MD-10A — MIRADRAIN SPLICE — CARLISLE

PROJECT NAME

66 Mountain Spring Av.
San Francisco, CA 94114

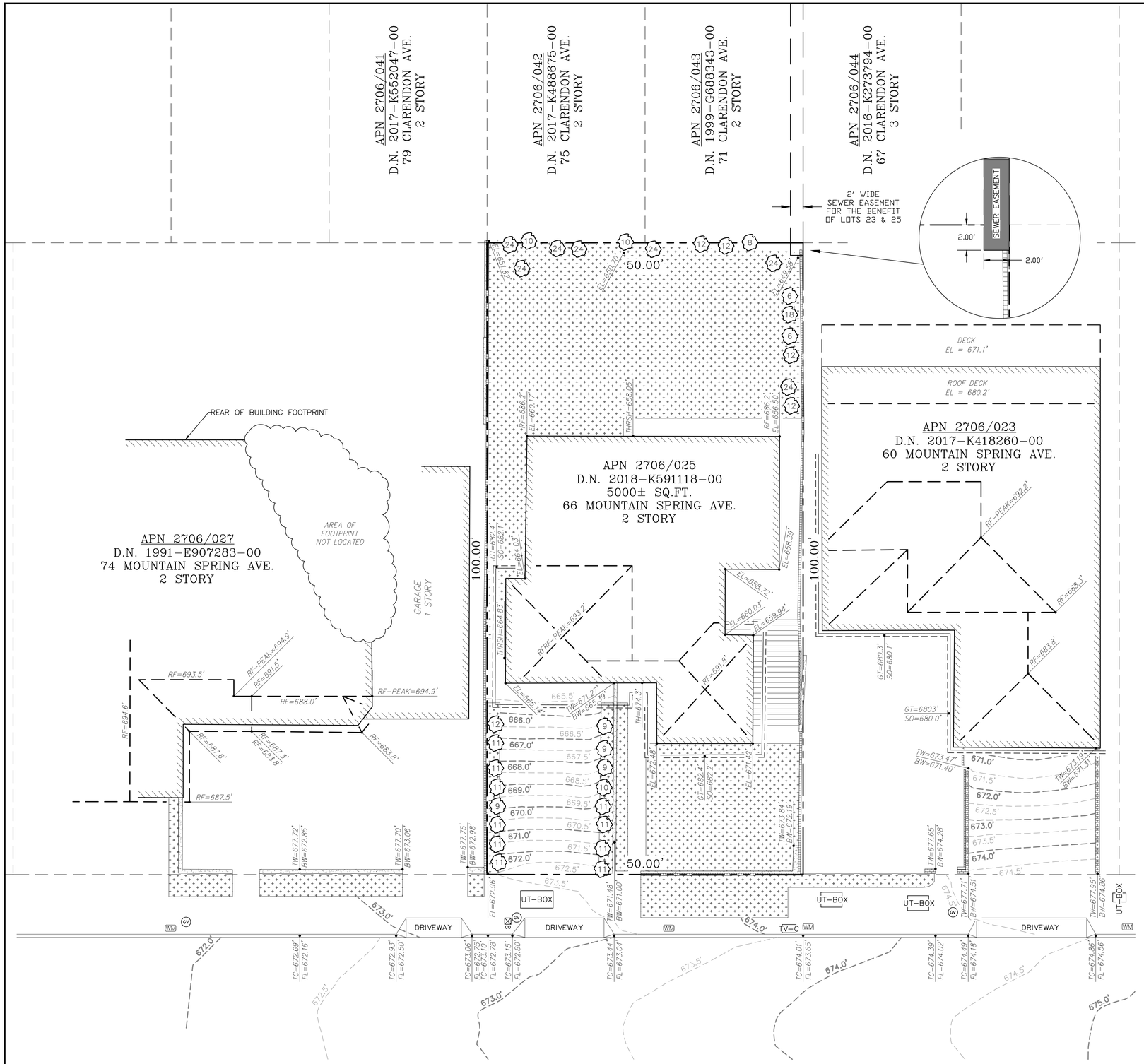
SIA consulting
SIA CONSULTING CORPORATION
1256 HOWARD STREET
SAN FRANCISCO CA 94103
TEL: (415) 741.1292 / FAX: (415) 849.1252

SHEET TITLE

Typical Details

05/17/2018	PLANS SUBMITTED
08/08/2018	REVISION
04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	A-5.1



GRAPHIC SCALE

8 0 4 8 16 32

(IN FEET)
1 inch = 8 ft.

LEGEND

WM	WATER METER	TC	TOP OF CURB
GV	GAS VALVE	FL	FLOW LINE
CO	SEWER CLEANOUT		FENCE
TW	TOP OF WALL		TRAFFIC SIGN
BW	BOTTOM OF WALL	APN	ASSESSOR'S PARCEL NUMBER
	BUILDING FOOTPRINT	D.N.	DOCUMENT NUMBER
TV-C	TV-CABLE	RF	ROOF ELEVATION
UT-BOX	UTILITY BOX	RF-PEAK	ROOF PEAK ELEVATION
	ROOF LINE		CONCRETE/STUCCO WALL
12	TREE WITH DIA.		BRICK WALL
	GUTTER LINE	EL	GROUND ELEVATION
	SOFFIT LINE	GT	GUTTER
	PLANTED AREA	SO	SOFFIT
		TH	THRESHOLD ELEVATION

GENERAL NOTES:

1. ALL DISTANCES ARE IN DECIMAL FEET UNLESS OTHERWISE NOTED.
2. ALL ANGLES ARE AT 90° UNLESS OTHERWISE NOTED.
3. THIS MAP REPRESENTS THE SITE CONDITIONS ON DATE OF FIELD SURVEY. MARCH 28, 2018.
4. ELEVATIONS ARE BASED ON THE CITY AND COUNTY OF SAN FRANCISCO (OLD) DATUM, DETERMINED BY "SURVEY MONUMENT" AT THE INTERSECTION OF MOUNTAIN SPRING AVENUE AND GLENBROOK AVENUE. ELEVATION=675.814'
5. THE PROPERTY LINES SHOWN ON THIS MAP ARE BASED ON RECORD INFORMATION FROM THE CURRENT DEED.

SURVEYOR'S STATEMENT
This map correctly represents a survey made by me at the request of Leo Cassidy/Transatlantic Construction in March of 2018.

Daniel J. Westover, P.L.S 7779

Date: 04/26/2018

336 CLAREMONT BLVD. STE 1
SAN FRANCISCO, CA 94127
(415) 242-5400
www.westoversurveying.com
WS WESTOVER SURVEYING

NO.	DATE	COMMENTS
1	04/26/2018	ADDED ADJACENT FOOTPRINT

JOB NO. 18012

DRAWN BY: MA
CHECKED BY: DJW
DATE: 04/26/2018
SCALE: 1"=8'

SITE SURVEY

66 MOUNTAIN SPRING AVENUE
LOT 025 OF ASSESSORS BLOCK 2706
CITY AND COUNTY OF SAN FRANCISCO, CALIFORNIA

~SHEET~ 1 C-1 1

Green Building: Site Permit Checklist

Instructions:

under San Francisco Building Code Chapter 13C, California Title 24 Part 11, and related local codes. Attachment C3, C4, or C5 will be due with the applicable addendum. To use the form:

(a) Provide basic information about the project in the box at left. This info determines which green building requirements apply.

AND

(b)
number of points the project must meet or exceed. A LEED or GreenPoint checklist is not required to be submitted with the site permit application, but such tools are strongly recommended to be used .

Solid circles in the column indicate mandatory measures required by state and local codes. For projects applying LEED or GreenPoint Rated, prerequisites of those systems are mandatory. This form is a summary; see San Francisco Building Code Chapter 13C for details.

BASIC INFORMATION:
These facts, plus the primary occupancy, determine which requirements apply. For details, see AB 093 Attachment A Table 1.

Project Name	Block/Lot	Address
66 Mountain Springs Ave	2706 / 025	66 Mountain Springs Ave
Gross Building Area	**Primary Occupancy**	**Design Professional/Applicant: Sign & Date**
5,405 S.F. ±	R-3	Bahman Ghassemzadeh
# of Dwelling Units		
1	21'-0"	3

ALL PROJECTS, AS APPLICABLE

Construction activity stormwater pollution prevention and site runoff controls - Provide a construction site Stormwater Pollution Prevention Plan and implement SFPUC Best Management Practices.	●
Stormwater Control Plan: Projects disturbing ≥5,000 square feet must implement a Stormwater Control Plan meeting SFPUC Stormwater Design Guidelines	●
W Projects that include ≥ comply with the SFPUC W Ordinance.	●
Construction Waste Management – Comply with the San Francisco Construction & Demolition Debris Ordinance	●
Recycling by Occupants: Provide adequate space and equal access for storage, collection and loading of compostable, recyclable and landfill materials. See Administrative Bulletin 088 for details.	●

GREENPOINT RATED PROJECTS

Proposing a GreenPoint Rated Project (Indicate at right by checking the box.)	
Base number of required Greenpoints:	75
Adjustment for retention / demolition of historic features / building:	
Final number of required points (base number +/- adjustment)	
GreenPoint Rated (i.e. meets all prerequisites)	●
Demonstrate a 15% energy use reduction compared to 2008 California Energy Code, Title 24, Part 6.	●
Meet all California Green Building Standards Code requirements (CalGreen measures for residential projects have been integrated into the GreenPoint Rated system.)	●

LEED PROJECTS

	New Large Commercial	New Residential Mid-Rise[1]	New Residential High-Rise[1]	Commerical Interior	Commercial Alteration	Residential Alteration
Type of Project Proposed (Indicate at right)						
Overall Requirements:						
(includes prerequisites):	GOLD	SILVER	SILVER	GOLD	GOLD	GOLD
Base number of required points:	60	[2]	50	60	60	60
Adjustment for retention / demolition of historic features / building:				n/a		
Final number of required points (base number +/- adjustment)				50		
(n/r indicates a measure is not required)						
Construction Waste Management – 75% Diversion AND comply with San Francisco Construction & Demolition Debris Ordinance LEED MR 2, 2 points	●	●	●	●	Meet C&D ordinance only	●
15% Energy Reduction Compared to Title-24 2008 (or ASHRAE 90.1-2007) LEED EA 1, 3 points	●	●	●	●	LEED prerequisite only	
Effective 1/1/2012: Generate renewable energy on-site ≥1% of total annual energy cost (LEED EAc2), OR Demonstrate an additional 10% energy use reduction (total of 25% compared to Title 24 Part 6 2008), OR total electricity use (LEED EAc6).	●	n/r	n/r	n/r	n/r	n/r
Enhanced Commissioning of Building Energy Systems LEED EA 3	●	Meet LEED prerequisites				
Water Use - 30% Reduction LEED WE 3, 2 points	●	n/r	●	Meet LEED prerequisites		
Enhanced Refrigerant Management LEED EA 4	●	n/r	n/r	n/r	n/r	n/r
Indoor Air Quality Management Plan LEED IEQ 3.1	●	n/r	n/r	n/r	n/r	n/r
Low-Emitting Materials LEED IEQ 4.1, 4.2, 4.3, and 4.4	●	n/r	●	●	●	●
Bicycle parking: Provide short-term and long-term bicycle parking for 5% of total motorized parking capacity each, or meet San Francisco Planning Code Sec 155, whichever is greater, or meet LEED credit SSc4.2. (13C.5.106.4)	●	n/r See San Francisco Planning Code 155		●	n/r	n/r
Designated parking: Mark 8% of total parking stalls (13C.5.106.5)	●			●	n/r	n/r
Water Meters: Provide submeters for spaces projected to consume more than 1,000 gal/day, or more than 100 gal/day if in building over 50,000 sq. ft. (13C.5.303.1)	●	n/r	n/r	n/r	n/r	n/r
Air Filtration: Provide at least MERV occupied spaces of mechanically ventilated buildings (or LEED credit IEQ 5). (13C.5.504.5.3)	●	n/r	n/r	●	n/r	n/r
Air Filtration: Provide MERV air-quality hot-spots (or LEED credit IEQ 5). (SF Health Code Article 38 and SF Building Code 1203.5)	n/r	●	●	n/r	n/r	n/r
Acoustical Control: Wall and roof-ceilings STC 50, exterior 7.4)	●	See CBC 1207		●	n/r	n/r

OTHER APPLICABLE NON-RESIDENTIAL PROJECTS

Requirements below only apply when the measure is applicable to the project. Code references below are applicable to New Non-Residential buildings. Corresponding requirements for additions and alterations can be found in Title 24 Part 11, Division 5.7. Requirements for additions or alterations apply to applications received July 1, 2012 or after.[3]	Other New Non-Residential	Addition >2,000 sq ft OR Alteration >$500,000[3]
Type of Project Proposed (Check box if applicable)		
Demonstrate a 15% energy use reduction compared to 2008 California Energy Code, Title 24, Part 6. (13C.5.201.1.1)	●	n/r
Bicycle parking: Provide short-term and long-term bicycle parking for 5% of total motorized parking capacity each, or meet San Francisco Planning Code Sec 155, whichever is greater (or LEED credit SSc4.2). (13C.5.106.4)	●	●
Provide stall marking for spaces. (13C.5.106.5)	●	●
Water Meters: Provide submeters for spaces projected to consume >1,000 gal/day, or >100 gal/day if in buildings over 50,000 sq. ft.	●	●
Indoor W Reduce overall use of potable water within the building by 20% for showerheads, lavatories, kitchen faucets, wash fountains, water closets, and urinals. (13C.5.303.2)	●	●
Commissioning: For new buildings greater than 10,000 square feet, commissioning shall be included in the design and construction of the project to verify that the building systems and components meet the owner's project requirements. (13C.5.410.2) **OR** for buildings less than 10,000 square feet, testing and adjusting of systems is required.	●	● (Testing & Balancing)
Protect duct openings and mechanical equipment during construction (13C.5.504.3)	●	●
Adhesives, sealants, and caulks: Comply with VOC limits in SCAQMD Rule 1168 VOC limits and California Code of Regulations Title 17 for aerosol adhesives. (13C.5.504.4.1)	●	●
Paints and coatings: Comply with VOC limits in the Air Resources Board Architectural Coatings Suggested Control Measure and California Code of Regulations Title 17 for aerosol paints. (13C.5.504.4.3)	●	●
Carpet: All carpet must meet one of the following: 1. Carpet and Rug Institute Green Label Plus Program 2. California Department of Public Health Standard Practice for the testing of VOCs 3. NSF/ANSI 140 at the Gold level *AND* **Carpet cushion** must meet CRI Green Label, *AND* **Carpet adhesive** must not exceed 50 g/L VOC content. (13C.5.504.4.4)	●	●
Composite wood: Meet CARB Air Toxics Control Measure for Composite Wood (13C.5.504.4.5)	●	●
in the 2009 Collaborative the Resilient Floor Covering Institute (RFCI) FloorScore program. (13C.5.504.4.6)	●	●
Environmental Tobacco Smoke: Prohibit smoking within 25 feet of building entries, outdoor air intakes, and operable windows. (13C.5.504.7)	●	●
Air Filtration: Provide at least MERV mechanically ventilated buildings. (13C.5.504.5.3)	●	Limited exceptions. See CA T24 Part 11 Section 5.714.6
Acoustical Control: Wall and roof-ceilings STC 50, exterior windows STC 30, party	●	● See CA T24 Part 11 Section 5.714.7
CFCs and Halons: Do not install equipment that contains CFCs or Halons. (13C.5.508.1)	●	●
Additional Requirements for New A, B, I, OR M Occupancy Projects 5,000 - 25,000 Square Feet		
Construction Waste Management – Divert 75% of construction and demolition debris AND comply with San Francisco Construction & Demolition Debris Ordinance.	●	Meet C&D ordinance only
Effective January 1, 2012: Generate renewable energy on-site equal to ≥1% of total annual energy cost (LEED EAc2), OR demonstrate an additional 10% energy use reduction (total of 25% compared to Title 24 Part 6 2008), OR otal electricity use (LEED EAc6).	●	n/r

Notes

1) New residential projects of 75' or greater must use the "New Residential High-Rise" column. New residential projects with >3 may choose to apply the LEED for Homes Mid-Rise rating system; if so, you must use the "New Residential Mid-Rise" column.

2) LEED for Homes Mid-Rise projects must meet the "Silver" standard, including all prerequisites. The number of points required to achieve Silver depends on unit size. See LEED for Homes Mid-Rise Rating

3) Requirements for additions or alterations apply to applications received on or after July 1, 2012.

PROJECT NAME
66 Mountain Spring Av.
San Francisco, CA 94114

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SHEET TITLE
Green Building Checklist

	05/17/2018	PLANS SUBMITTED
	08/08/2018	REVISION
	04/09/2019	REVISION

DRAWN BY	R.L.
DESIGN BY	R.K.
DATE	06/12/2019
JOB NO.	18-1792
SHEET NO.	G-0.1