ATTACHMENT 1
PUBLIC COMMENT LETTERS

From:	Richard Block
To:	Eguez, Judy
Cc:	Norton, Brian; Leonard Nunney; Gurumantra; Kevin Dawson; clearspan@aol.com; Tinio, Maribeth; Taylor, Matthew
Subject:	RE: [External] FW: Mt Vernon Ave RC zone site proposalPR-2021-001108(DR, GE), APN 257-160-003
Date:	Friday, February 10, 2023 4:45:51 PM
Attachments:	8500E500725F4D7082C06036BC0DD61D.png image001.png image002.png image003.png

Hello.
Thank you for providing the applicant response to the concerns expressed in our previous letter (both copied below), although we note that the applicant response is faulty and seriously deficient.

Friends of Riverside's Hills and the University Neighborhood Association vehemently oppose approval of this project in its present (latest) form. Any approval of the project in that form, with the house and ADU practically on top of the immediately adjacent Box Springs Mountain Reserve (BSM Reserve), a core Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Reserve and the premier wildlife sanctuary in or near Riverside, would be defective planning, and (absent appropriate environmental review) a violation of CEQA, as well as violating pertinent City codes and the City's legal obligations regarding MSHCP, all as noted in detail below.

Before getting into the CEQA, fire danger and other issues, we note that in our previous letter, as shown below, we quoted sections of the Grading Code and pointed out that the project violated such sections. We now mention one further section of the Grading Code, Section 17.28.020:

> "12. No grading shall be permitted on slopes exceeding 40 percent unless findings can be made by the Planning Commission that exceptional or special circumstances as set forth in Chapter 17.32 Conditional Exceptions apply."

Note that it doesn't say the slope of the entire site or of the entire graded area – it just says grading on slopes – that is, presumably on any substantial slope.

In her Thursday, September 15, 2022 3:42 PM email to me (copied below), then-Project planner Candice Assadzadeh said "The average existing slope of the entire parcel is 39.63% and the average existing slope of the area to be graded is 30%."
The 30.63% figure is suspiciously close to 40% -- would the Average NATURAL slope (rather than average EXISTING slope) be over 40%, thus invoking another restriction? Of course the area to be graded includes the flatter house-ADU pad area, thus lowering the average slope of the area to be graded. As far as we are aware, no figure has been given for the existing slope of the area to be graded for the driveway. The present version of the grading plan differs from the previous one only with very minor changes along the driveway. From the diagrams in the grading plan versions, one can see that for substantial portions, of substantial length, of the area proposed to be graded for the driveway, the slope appears to be about one to one, that is, a 100% slope, which far exceeds the 40% figure. Thus per the Grading Code, findings must be made by the **PLANNING COMMISSION**, that Is, **the project is beyond the jurisdiction of the DRC**, **and until such involvement of the Planning Commission, it is illegal and improper for the DRC to consider the project. It needs to be turned over now to the Planning Commission with them to make the decision regarding a Conditional Exception and the project as a whole.**

NOT EXEMPT FROM CEQA

As stated in our previous letter, while CEQA may provide an exemption for construction of a single-family

house and ADU under its Class 3 Exemptions, that exemption (as quoted from the law by us and by the applicant in his response copied below) is subject to the following provision of CEQA law:

> "these classes are considered to apply in all instances, **except** **where the project may impact on an environmental resource** of hazardous **or critical concern where designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies."**

It is important to note that for the exception to apply, the project site doesn't have to be within the designated, mapped, adopted area – for a house and ADU it wouldn't be when, as in the present case, such a designated area is publicly owned -- but merely that the project MAY impact on an environmental resource of critical concern (in this case, protection of native wildlife) for such a designated area.

The BSM Reserve, being a core MSHCP Reserve, with its wildlife protection, is indeed an environmental resource of critical concern, designated, precisely mapped, and officially adopted pursuant to law by Riverside County (and cities). As we had previously noted, the project site borders the BSMR borders all along the 427 feet of the site's long eastern boundary, as shown on the RCA MSHCP information map (incorporated by reference) https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=2b9d4520bd5f4d35add35fb58808c1b7
(or on Google maps) with the BSM Reserve then continuing from there north, east and south.

Regarding the BSM's native wildlife, there was a lengthy analysis of it by wildlife expert Dr. Smallwood – please see the City Council Dec. 6, 2022 agenda Item 11 Case PR-2021-000932, Attachment labeled 9/21/22 DRC Report (incorporated by reference) pp. 47-86 of that Report (full disclosure: we are now in litigation about that project, relying to an extent on Dr. Smallwood's report). Dr. Smallwood's report concerns BSM Reserve wildlife at what he states as very close (up to 1.5 miles) from the project he is commenting on. In his Table 2, Dr. Smallwood gives a list of scores of species of concern, some endangered, that are observed very close, and thus also very close (or at least nearby) to the present project site, evidence that the present project may impact the BSM Reserve's wildlife.

The applicant response claims

> "As per the biologist working on the project, "The Multiple Species Habitat Conservation Plan (MSHCP) for Riverside County does not consider the site of concern to wildlife." There will not be a long term effect on the area either. Instead of a negative long term effect the biologist stated," Once construction and landscaping is complete there could be a positive impact on the wild life in the area".

Those claims are false, even far-fetched. Regarding their MSHCP claim, it is true that, although it has a long border with the MSHCP-protected BSM Reserve, the project site itself is not in an MSHCP criteria cell. However, contained in the MSHCP document
https://www.rctlma.org/Portals/0/mshcp/volume1/sec6.html
(incorporated by reference) is its

> S**ection 6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface**
> "The guidelines presented in this section are intended to address indirect effects associated with locating Development in proximity to the MSHCP Conservation Area, …
>
> **Lighting**
> Night lighting shall be directed away from the MSHCP Conservation Area to protect species within

the MSHCP Conservation Area from direct night lighting. Shielding shall be incorporated in project designs to **ensure ambient lighting in the MSHCP Conservation Area is not increased.**

Noise
Proposed noise generating land uses affecting the MSHCP Conservation Area shall incorporate setbacks, berms or walls to minimize the effects of noise on MSHCP Conservation Area resources pursuant to applicable rules, regulations and guidelines related to land use noise standards. For planning purposes, wildlife within the MSHCP Conservation Area should not be subject to noise that would exceed residential noise standards.

... **Barriers**
Proposed land uses adjacent to the MSHCP Conservation Area shall incorporate barriers, where appropriate in individual project designs to minimize … domestic animal predation … in the MSHCP Conservation Area. …"

Regarding night lighting, with the house and ADU on top of a hill overlooking the BSM Reserve and only 60 and 54 feet away, there would be no practical way to ensure that light trespass from the house and ADU did not increase ambient lighting in the adjacent part of BSM Reserve, whereas if the house and ADU were located farther down near the west edge of the site then that very hill would effectively shield the BSM Reserve from such light trespass.

Regarding noise, construction noise is an issue. With construction for the house and ADU at the top of the hill, there would again be no practical way for wildlife so close in the adjacent part of the BSM Reserve not to be subject to construction noise exceeding residential noise standards, whereas again if the house and ADU were located farther down near the west edge of the site then that very hill would effectively shield the wildlife in the BSM Reserve from excessive noise.

Regarding barriers, residents' pet dogs and especially cats can be devastating to nearby native wildlife. It is unrealistic to think that the City would enforce any kind of barrier regarding pets. Thus having the house and ADU at the hill overlooking BSM Reserve from very close would be much more of a threat to the native wildlife of the BSM Reserve that that from buildings near the project site's western edge, thus much farther away from the reserve.

Thus, contradicting the applicant's claim, the MSHCP does indeed in those ways consider the site of concern to wildlife, and the City is legally bound by the standards quoted above. These issues stemming from the proposed location of the buildings a mere stone's throw from the BSM Reserve – light trespass, construction noise, potential cat predation – not only concern violation of MSHCP's Guidelines Pertaining to the Urban/Wildlands Interface, but also show that the project MAY impact on an environmental resource – the BSM Reserve of critical concern, and thus that it is NOT exempt from CEQA, per the quote of CEQA law above.

DUMP TRUCKS

Another issue affecting the BSM Reserve is that the dump trucks involved in the export of dirt from the site will traverse over several hundred feet of east-west dirt road easement, part of the BSM Reserve, easterly of and joining Mt Vernon Ave (see Google maps). With the dirt export (per the project Grading Plans -- the applicant's response fails to address the issue) estimated as over 6,500 cu yds, that would be about 500

dump truck loads (about 11 cu yds per 15-ton dump truck load), an extreme amount for a single lot, so 500 empty dump trucks in and 500 loaded dump trucks out, and yet another negative impact on a portion of the BSM Reserve, and a huge imposition on the residential neighborhood.

FIRE DANGER

The applicant claims

> "Per the fire consulate [sic] and the fire the City Fire department the pad cannot be located in the bottom of the property because the structure would be within the 100ft defensible space. Having the property at the bottom corner of the hill would expose two sides of the buildings to less than 100 ft from the property line. Having two sides exposed to within 100 ft is not allowed per the city fire department."

Again the applicant's claims are false, even absurd as applied to the proposed location of the buildings a stone's throw from the BSM Reserve, so with far less than 100 ft defensible space. It would be interesting to see in writing any such claims by the City Fire Department, and in particular any such dubious requirement of 100 ft defensible space pertaining to an existing individual residential lot, and any totally ignoring of the real fire danger of placing the buildings far less than 100 ft from the very flammable BSM Reserve. Regarding fire protection to the buildings from nearby fires and to nearby land from fires originating near the buildings, and a desirable 100 ft of defensible space, it is the location at the top of the hill that would be far more dangerous than a location below and much farther away from the BSM Reserve. The adjacent BSM Reserve land, outside the City and containing flammable brush that (in recognition of its status as a wildlife reserve) is not and must not be cleared, is the location of the real danger of nearby of fires – as has happened rather frequently in large parts of the BSM Reserve. Thus placing the house and ADU much closer than 100 ft from the BSM Reserve, and not being allowed to clear brush or plant there, poses two fire dangers: to the buildings from fire spreading from the BSM Reserve, and to the BSM Reserve from fire starting near the buildings or from their residents going into the BSM Reserve. Both of these dangers would be sharply reduced by locating the buildings down below near the west edge of the project site and thus much farther from the BSM Reserve.

GRADING EXCEPTION

We see that approval of this project involves granting of a Grading Exception, which requires certain findings. Please provide us with the written proposed justifications for those required findings. We note that one of the required findings is

> "C. That the granting of a waiver will not be materially detrimental to the public welfare or injurious to the property or improvements in the zone or neighborhood in which the property is located."

But of course the Grading Exception is to allow the proposed driveway up the steep hill so that the house and ADU can be located there. As shown above and in our previous letter that would be injurious to the BSM Reserve property, and as the immediate neighbors will testify, it is injurious to their neighborhood. Therefore the finding, and with it the Grading Exception, cannot be legally made.

ABOUT SITE NEAR BOTTOME OF HILL

In his responses, the applicant states

> "The only feasible location for the pad, taking in consideration the defensible space, the location of

the leech [sic] lines and following the grading ordinance is the top of the hill."

We've shown above that the defensible (from fire) space issue goes the totally opposite way: the site near the bottom of the hill is the one that is defensible and has much less need for defense because it would be in much less fire danger.

Regarding a septic system, if leach line layout might be a problem, one could use one or more seepage pits. The applicant has provided no report showing any problem with a septic system for building at the bottom of hill – he presumably hasn't bothered to have soil tests done for seepage pits there.

And as for following the grading ordinance, it is the location at the top of the hill that is so problematic – serious violations of hillside/arroyo provision of the grading code as we had previously pointed out, and a need for a Grading Exception, while there has been no indication for any grading code problem at the lower elevation.

Please confirm receipt of this email, which is being sent prior to the close of the requested comment period. We hope that the above considerations, as well as those in our previous letter, will be fully taken into account by the Planning Division.

Thanks
Richard
Richard Block for Friends of Riverside's Hills and the University Neighborhood Association

Sent from Mail for Windows

From: Eguez, Judy
Sent: Monday, February 6, 2023 11:55 AM
To: Richard Block
Cc: Norton, Brian
Subject: RE: [External] FW: Mt Vernon Ave RC zone site proposalPR-2021-001108(DR, GE), APN 257-160-003

Good morning Mr. Block,

Below is the applicants responses to your letter. I've also provided a link to supporting documents that he provided.

With the exception of the grading exception to allow a 20-foot-wide driveway width where the grading code requires a 15-foot-wide driveway, staff had determined that the proposed single family residence and ADU meet the development standards. Further analysis will be provided in the staff report.

Thank you,Judy

Supporting Documents

Grading: Per the fire consulate and the fire the City Fire department the pad cannot be located in the bottom of the property because the structure would be within the 100ft defensible space. Having the property at the bottom corner of the hill would expose two sides of the buildings to less than 100 ft from the property line. Having two sides exposed to within 100 ft is not allowed per the city fire department. Also, per the soil engineer we cannot

relocate the leech lines to another area of the property. We could not drill test holes on other sections of the property because of the topography of the site.

The pad cannot be built on the flat at the bottom corner of the property and moving the building pad halfway up the hill is not permitted either. Grading is not permitted on slopes exceeding 40%.
The only feasible location for the pad, taking in consideration the defensible space, the location of the leech lines and following the grading ordinance is the top of the hill.

The driveway curves around the hill side in order to keep the natural slope change to minimum. In addition, the driveway will be graded with gravel to blend with the landscape.

Regarding the view:

Blocking the view of a house does meet the threshold of significance. Citing Porterville Citizens for Responsible Hillside Development v. City of Porterville (2007) 157 Cal.App.4th 885. (2005)
Also: Mira Mar Mobile Community v. City of Oceanside (2004)

Zoning:

As supported by the city staff, the civil engineer and the architect working on this project, the project is following all zoning guidelines. Examples below:

- The grading has been limited to just 37% of the total property
- The driveway is limited to a 15% slope.
- The driveway curves around the hill side in order to keep the natural slope change to minimum.
- The driveway will be graded with gravel to blend with the landscape

General Plan Public Safety Element Violations: Fire Hazard

The project is following the state and city fire code by placing the pad on the top of the hill. In addition, a Fire Protection Plan (FPP) and Alternate Means and Method (AMMR) were created. The FPP and the AMMR were created to mitigate one side of the defensible space less than 100 ft.

The Environmental Impact Review (EIR) created for the city as part of the 2025 general plan states that construction in high fire severity hazards does not create a significant impact on the fire hazard. The report also clearly states that mitigation can be used to reduce any impact to less than significant. Please reference the EIR Section 5.7-36, Section 5.7-37 and section 5.7 -38.

CEQA:

The section used for reference by friends of the hills was misquoted.

Section 15300.2 (a) reads as follows:

As per the biologist working on the project, "The Multiple Species Habitat Conservation Plan (MSHCP) for Riverside County does not consider the site of concern to wildlife." There will not be a long term effect on the area either. Instead of a negative long term effect the biologist stated," Once construction and landscaping is complete there could be a positive impact on the wild life in the area"

As per the soil engineer there will be no need for blasting. As stated in the soil report, the type of rocks in the area can be removed using other methods than blasting.

Lastly, using the current condition of the property as a baseline. (Taking into consideration the noise and dust from the neighbors and visitors hiking in the area) will not significantly impact the area. The project meets the criteria for an Exception.

In conclusion, placing the house on top of the hill does not have an effect on the environment or wildlife. Placing the house anywhere else on the pad would cause unnecessary burden on myself (the owner) and violate several city ordinance and policies.

From: Richard Block <rblock31@charter.net>
Sent: Friday, February 3, 2023 3:34 PM
To: Eguez, Judy <JEguez@riversideca.gov>
Subject: RE: [External] FW: Mt Vernon Ave RC zone site proposalPR-2021-001108 (DR, GE), APN 257-160-003

Hello, Judy.

I looked at the plans referenced in the link you sent, and don't see any changes form the plans that we commented on in October. Have there been any changes, and if so what are they?

You say that the applicant has responded to the concerns we sent in October. Please email us a copy of any and all such applicant response(s) as well as any and all document(s) pertaining to how the staff has been, is, or will be, addressing those concerns.

Thanks,
Richard
Richard Block for Friends of Riverside's Hills and the University Neighborhood Association

Sent from Mail for Windows

From: Eguez, Judy
Sent: Friday, February 3, 2023 12:41 PM
To: Richard Block
Cc: Leonard Nunney; Gurumantra; Kevin Dawson; Arlee Montalvo; clearspan@aol.com; everett@delanoanddelano.com; Norton, Brian
Subject: RE: [External] FW: Mt Vernon Ave RC zone site proposalPR-2021-001108 (DR, GE), APN 257-160-003

Good afternoon Mr. Block,

My sincerest apologies. I think this is the second time I do this to you and I was literally thinking about it yesterday afternoon. I do have your letter of concerns from October, which the applicant has responded to and I will be addressing your concerns in the staff report. I will make sure to provide you with the staff report before the DRC meeting (I promise!).

The plans being considered by the DRC can be found in the link below:

~Plans.pdf

Thank you,

Judy Egüez, Senior Planner
City of Riverside
Community & Economic Development, Planning Division
Main: 951.826.5371
Direct: 951.826.3969

From: Richard Block <rblock31@charter.net>
Sent: Friday, February 3, 2023 11:56 AM
To: Eguez, Judy <JEguez@riversideca.gov>
Cc: Assadzadeh, Candice <CAssadzadeh@riversideca.gov>; Leonard Nunney <nunney@ucr.edu>; Gurumantra <gm@nutritionnews.com>; Kevin Dawson <kevindaw@aol.com>; Arlee Montalvo <montalvo@ucr.edu>; clearspan@aol.com; everett@delanoanddelano.com
Subject: [External] FW: Mt Vernon Ave RC zone site proposal PR-2021-001108 (DR, GE), APN 257-160-003

February 3, 2023
Hello, Judy

These comments are being submitted on behalf of Friends of Riverside's Hills and the University Neighborhood Association. A letter, copied herein, was submitted to the then-project-planner Candice Assadzadeh, on behalf of both organizations on Oct. 27, 2022, so only several months ago, pointing out serious problems, including greatly excessive grading and impact on the Box Springs Mountain Reserve and the University neighborhood, with violations of the City's grading code, zoning code, and general plan, and CEQA, pointed out. Unless the project has been very significantly changed, those concerns remain.

WE PROTEST THAT WE WERE NOT NOTIFIED OF THE NEW CONSIDERATION AND COMMENT PERIOD (extending to Feb. 10) FOR THE PROJECT, EVEN THOUGH WE HAD SPECIFICALLY ASKED IN THAT LETTER "Please keep us informed regarding any proposal for this site."

Please inform us of any change from the proposal as it existed at the time of our October letter, and of any further consideration regarding it since that time, and in particular of any consideration of the issues raised in our October letter.

Please confirm receipt of this letter, and again we ask to please keep us informed regarding any proposal for this site.

Richard Block for Friends of Riverside's Hills and the University Neighborhood Association

Sent from Mail for Windows

From: Richard Block
Sent: Thursday, October 27, 2022 4:55 PM
To: Assadzadeh, Candice
Cc: Kopaskie-Brown, Mary; Leonard Nunney; Gurumantra; Kevin Dawson; Arlee Montalvo
Subject: Mt Vernon Ave RC zone site proposal

Hello, Candice.
Thank you for emailing (the latest on Sept. 15) material on this proposed project. We hope you are well now.

Does the project have a case number?

Friends of Riverside's Hills strongly objects to the proposed plan for the house and driveway, and specifically the building location on the lot and extent of grading, at the parcel with APN 257-160-003 (formerly mislabeled 2292 Mt Vernon Ave although that is an existing long-developed neighboring property) in the RC zone and bordering the Box Springs Mountain Reserve. The site is colored green in the above exhibit.

Although western parts of the site (as shown on the proposed grading plan), including the start of the proposed driveway, are at an elevation of around 1,470 ft, the proposed building pad is at 1,540 ft, a 70 ft higher elevation only about 200 feet away, thus involving the proposed very long driveway to achieve the huge rise, and accompanying excessive grading including an estimated [per the developer's grading plan—attachment MV grading] export of over 6,500 cu yds, or about 500 dump truck loads (about 11 cu yds per 15-ton dump truck load), an extreme amount for a single lot, over a nearly half-mile of dirt road easement, part of it on an easement over the Box Springs Mountain Reserve, between the site and Mt Vernon Ave. Actually, per the developer's grading plan in the Attachment labelled MV grading previous, the export would be even more: over 7,500 cu yds.

Grading Code Violations

The proposed project violates a number of provisions of the City's Grading Code and Zoning Code that apply to RC-zoned lots that are focused on minimizing grading on hillsides. The circumstances showing these violations are that the proposed building pad, instead of being placed so high up a hill, could have been placed at a much lower elevation near the western side of the site with as a result a much shorter and less steep driveway [attachment MV grading – see also the other attachments, including aerial photos with comments] and consequently much less grading.

Thus the proposed grading is in serious violation of provisions of the City's Grading Code, in particular the following ones of Grading Code section 17.28.020 - Hillside/arroyo grading:

> A. Grading requirements. Where grading is proposed on any parcel having an average natural slope of ten percent or greater, or which is zoned Residential Conservation (RC), … grading must be confined per this chapter and limited to the minimum grading necessary to provide for an approved dwelling unit or units, driveway, garage and limited level yard. The ungraded terrain must be left in

its natural form for the remainder of the site. All hillside/arroyo grading shall conform to the following general requirements:

1. The overall shape, height or grade of any cut or fill slopes shall be developed utilizing contour grading in concert with existing natural contours and the scale of the natural terrain of the site. …

6. The area of a site proposed to be graded shall be that which fits into the natural terrain and which allows for a minimal amount of grading. …

7. Structures shall be designed to fit with the contours of the hillside and relate to the overall form of the terrain. Structures shall be designed to fit into the hillside rather than altering the hillside to fit the structure.

As shown in the attached grading plan MV grading and in the other attachments, the proposed grading places the house pad at the top of a hillside with a very steep and wide winding driveway leading up to it, thus requiring a very large amount of grading and excessive export of dirt, instead of placing the house pad in the lower flatter part of the site, with a more appropriately located and shorter driveway.

Thus the proposed grading is far in excess of the minimum necessary, is not in concert with nor does it fit in with the existing natural terrain, and it alters the hillside, in particular removing rock outcroppings and excessively grading in order to have the driveway reach the top of the hillside. This is shown in the attached aerial photos and the comments marked on them.

Regarding any possible exception to the above quoted Grading Code requirements, the Findings required to justify any such exception include all the following:

A. That the strict application of the provisions of this title would result in practical difficulties or unnecessary hardships inconsistent with the general purpose and intent of this title;

C. That the granting of a waiver will not be materially detrimental to the public welfare or injurious to the property or improvements in the zone or neighborhood in which the property is located.

As with variances, California Appellate and Supreme Court decisions constrain the justifications that can be used for such findings. Here, it is the developer who is choosing to place the building pad so far up the hill, thus necessitating the extremely large amount of grading for the driveway, a self-induced difficulty-hardship, and self-induced difficulties or hardships cannot be used in a legally adequate justification. And the developer's chosen position for the building will degrade the view from the houses to the west and cause light trespass and noise on the bordering Box Springs Mountain Reserve thus degrading the habitat there, which is injurious to that property.

All of the above also applies to the developer's requested variance for the driveway width.

Zoning Code Violations

In addition to violation of the above provisions of the Grading Code, the proposed grading violates the following provisions of the Zoning Code:

19.100.050 - Additional regulations for the RC Zone.

D. Grading.

1. No grading permit shall be issued for any grading in the RC Zone until grading plans and, if required, special drawings showing grading and topography as viewed from critical locations within the neighborhood or community, have been submitted to and approved by the designated Approving or Appeal Authority as set forth in Table 19.650.020 (Approving and Appeal Authority).

2. The Approving and/or Appeal Authority shall consider the following items of particular concern in the review of grading proposals in the RC Zone. Conditions may be applied in the approval of grading plans so as to achieve these objectives pursuant to adopted standards included in the City's Grading Ordinance (Title 17).
a. The maximum retention of vistas, natural plant communities and natural topographic features including ridgelines, hilltops, slopes, rock outcroppings, arroyos, ravines and canyons;
b. The avoidance of excessive building padding or terracing and cut and fill slopes to reduce the scarring effects of grading;
c. The encouragement of sensitive grading to ensure optimum treatment of natural hillside and arroyo features; and
d. The encouragement of imaginative grading plans to soften the impact of grading on hillsides including rolled, sloping or split pads; rounded cut and fill slopes and post and beam construction techniques.

But instead of sensitive and imaginative grading to ensure optimum treatment and softening impact on natural hillsides, the proposal, with its extreme grading for the driveway, does the opposite. See in particular the Attachment MV slope diagram w comments.

General Plan Public Safety Element Violations: Fire Hazard

Per the City's General Plan Public Safety Element, at p. 30, the project site is well within a Very High Fire Hazard Zone. Therefore in the planning process for the project, the following pertinent Public Safety Objective and Policies need to be taken account of:

Objective PS-6: Protect property in urbanized and nonurbanized areas from fire hazards.
Policy PS-6-3: Integrate fire safety considerations in the planning process.
Policy PS-6.4: Evaluate all new development to be located in or adjacent to wildland areas to assess its vulnerability to fire and its potential as a source of fire.
Policy PS-6.5: Mitigate existing fire hazards related to urban development or patterns of urban development …
Policy PS-6.6: Continue to implement stringent brush-clearance requirements in areas subject to wildland fire hazards
Policy PS-6.7: Continue to involve the City Fire Department in the development review process.

For this project, not only is the site well within a Very High Fire Hazard Zone, but it borders on its long 427 foot eastern side the Box Springs Mountain Reserve, a wildland area which is maintained as natural habitat not subject to brush clearance near any new buildings. That means that the required 100 feet brush clearance/plant-restriction zone around any newly planned building cannot intrude into the Reserve, and thus any planned house or ADU on the project site must be located at least 100 feet from the site's eastern boundary. Placement of the house and ADU at a lower elevation in the western part of the site would accomplish that, but as shown on the Grading Plan, the location of the Proposed Main House (resp. Proposed ADU) is on top of a hill and only 61 feet (resp. 54 feet) from the Reserve, distances too short to accomplish the needed fire protection – protection of the Reserve and protection of the buildings, both in accord with the above quoted General Plan Objective and Policies.

Thus the project is violation of the General Plan Safety Element. In particular the City Fire Department needs to be involved in the review process, and we need to be informed of any consideration in regard to fire potential related to the proposal.

CEQA Violations

In addition to violations of City Codes and General Plan, there is the question of potential CEQA violations. In one of the project's engineering plans [MV grading previous], it states "Planning Division – Environmental Review Not Required". That is wrong.

While CEQA may provide an exemption for construction of a single-family house and ADU under its Class 3 Exemptions,

> that exemption is "qualified by consideration of where the project is to be located. A project that would ordinarily be insignificant in its impact on the environment may, in a particularly sensitive or hazardous area, be significant. Therefore, **these classes will not apply where the project may impact an area of special significance that has been designated, precisely mapped, and officially adopted pursuant to law by federal, state, or local agencies.**"

In the present case, that area of special significance (so designated, precisely mapped and officially adopted by local agencies) is the County's Box Springs Mountain Reserve ("Reserve"), a special habitat reserve under the Western Riverside County Multiple Species Habitat Conservation Plan, which the site (in green in the display above) borders all along the 427 feet of the site's long eastern boundary.
The building location, as shown on the site's grading plan, is on a hilltop overlooking the Reserve to its east from a rather close distance (54' for the ADU, 61' for the main house). Thus light trespass and noise into the Reserve will be a permanent impact to the wildlife there, in violation of the Reserve's designation as a Sensitive Receptor. In addition there will be the construction noise and air quality impacts, including from the many hundreds of dump truck loads going over an easement on a portion of the Reserve, as noted above.

And with the project's substantial excavation in rocky areas, it is important to know before any approval whether there will be any blasting.

The above quoted Municipal Code provisions and General Plan policies were all adopted in order to provide environmental protection, and thus potential violations of them are subject to CEQA consideration. In view of these potential impacts, there needs to be an Environmental Review of the project.

Because the project involves impingement on Box Springs Mountain, which is a primary amenity of the University Neighborhood, the University Neighborhood Associations joins in opposing the present version of the project.

Please keep us informed regarding any proposal for this site.

Thanks,
Richard
Richard Block for Friends of Riverside's Hills and the University Neighborhood Association

From: Assadzadeh, Candice
Sent: Thursday, September 15, 2022 3:42 PM
To: Richard Block
Cc: Leonard Nunney; Kevin Dawson; Gurumantra; Arlee Montalvo; clearspan@aol.com

Subject: RE: [External] 2292 Mt Vernon Ave project

Hi Richard,
Sorry for the delay in getting back to you, as I have been out of the office sick. I am not sure where the address in the email subject came from, but agree that it is incorrect. The APN for the subject parcel is 257-160-003. I was not able to open the email attachment, but have provided a PDF of the Aerial/Location Map indicating the location of the subject parcel, which is north of 2290 Mt. Vernon Avenue and east of 2292 Mt. Vernon Avenue. The north arrow on the PDF of the Grading Plan is inaccurate, as it should be pointing to the left. I hope that resolves the confusion.

The average existing slope of the entire parcel is 39.63% and the average existing slope of the area to be graded is 30%.

Thank you,

Candice Assadzadeh
City of Riverside
Community and Economic Development Department, Planning Division
Main: 951-826-5371
Direct: 951-826-5667
RiversideCA.gov

From:	clearspan@aol.com
To:	Eguez, Judy
Subject:	[External] CASE # PR-2021-001108 (DR,GE)
Date:	Friday, February 10, 2023 2:16:04 PM
Attachments:	Mount Vernon Ave.cleaned.pdf MOUNT VERNON 1.pdf MOUNT VERNON 2.pdf MOUNT VERNON 3.pdf

Miss Jeguez,

Attached is a response to the above referenced case.

Can you send me an email confirming you received the information?

Thanks
Brian

ATTACHMENT 2
APPLICANT PREPARED
RESPONSES

From:	Guillermo Landeros
To:	Equez, Judy
Subject:	Re: FW: [External] FW: Mt Vernon Ave RC zone site proposalPR-2021-001108(DR, GE), APN 257-160-003
Date:	Wednesday, February 15, 2023 11:31:24 PM
Attachments:	8500E500725F4D7082C06036BC0DD61D.png image.png image.png image.png image.png image.png image.png 33808.4 - Mr. Guillermo Landeros.cleaned.pdf

---

Hi Judy,

Please see my response to the friends of the hills:

Regarding Grading:

This is absolute, the average natural slope does not exceed 40%. The same is true for the grading plan. The grading plan does not exceed 40% grading. As written and stamped by the civil engineer,the grading plan and the natural slope of the site do not exceed 40%. Both the grading and the natural slope of the site are both lower than 40% that is a mathematical reality**.**

Regarding CEQA and The MSHCP:

As per the Western Riverside County Multiple Species Habitat Conservation Plan Volume 1 Section 6.1.1

> Development of property outside of the MSHCP Conservation Area (both within and outside of the Criteria Area) shall receive Take Authorization for Covered Species Adequately Conserved provided payment of a mitigation fee is made (or any credit for land conveyed is obtained) and compliance with *Section 6.0* of the MSHCP occurs. Payment of the mitigation fee and compliance with the requirements of *Section 6.0* are intended to provide full mitigation under the California Environmental Quality Act (CEQA), National Environmental Policy Act (NEPA), Federal Endangered Species Act, and California Endangered Species Act for impacts to the species and habitats covered by the MSHCP pursuant to agreements with the U.S. Fish and Wildlife Service, the California Department of Fish and Game and/or any other appropriate participating regulatory agencies and as set forth in the Implementing Agreement for the MSHCP. However, it is recognized that the MSHCP cannot provide mitigation for projects regulated by entities or agencies not participating in the MSHCP.
>
> All proposed discretionary Development projects within the Criteria Area shall be subject to review under the HANS process and monitored through a uniform computerized tracking system. However, the issuance of a grading permit or site preparation permit for an individual single family home or mobile home on an existing legal lot shall not be subject to review under the HANS process but shall be subject to review under the procedures described in the *Expedited Review Process for Single-Family Homes or Mobile Homes To Be Located on an Existing Lot Within the Criteria Area,* presented at the end of this section. This HANS process will not be construed as a limitation on the County's or the Cities' ability to approve or deny a development application except that a project consistent with this HANS process may not be denied solely because a development application does not comply with the MSHCP Conservation Criteria.

Two Key Points:

- **The project is not of critical concern and meets the criteria for CEQA exemption**. As stated in MSCHP section 6.1.1 development of property outside of the MSHCP Conservation Area **(both within and outside of the Criteria Area)** provided full mitigation under CEQA by paying the fee and compliance with the requirements in sections 6.
- **Deveplopment of Single family homes are considered covered activity within the Criteria Area.**

Additionally, the project is only subject to review solely in order determine location of the building (referencing Western Riverside County Multiple Species Habitat Conservation Plan Volume 1 Section 7.3.2)

6.1.4 Guidelines Pertaining to the Urban/Wildlands Interface

The guidelines presented in this section are intended to address indirect effects associated with locating Development in proximity to the MSHCP Conservation Area, where applicable. Existing local regulations are generally in place that address the issues presented in this section. Specifically, the County of Riverside and the 14 Cities within the MSHCP Plan Area have approved general plans, zoning ordinances and policies that include mechanisms to regulate the development of land. In addition, project review and impact mitigation that are currently provided through the CEQA process address these issues.

Section 6.1.4 states where applicable. As outlined in the City of Riverside 2025 General Plan and the EIR Report prepared for the 2025 General Plan, there are already policies in place.

I repeat, the project is only subject to review solely in order determine location of the building (referencing Western Riverside County Multiple Species Habitat Conservation Plan Volume 1 Section 7.3.2) **Single family homes are consider covered activity within the Criteria Area.**

7.3.2 Single-Family Homes on Existing Parcels Within the Criteria Area

Development of individual single-family homes on existing parcels, in accordance with existing land use regulations is a Covered Activity within the Criteria Area. As described in *Section 6.1.1* of this document, there is currently a process for siting a home on an existing lot. The location of a single family home or mobile home on an existing lot is determined by factors such as access, topography/terrain, zoning development standards including setbacks, soil types, presence of earthquake fault lines, leach fields, presence of oak trees and location of lot within a high fire hazard area. Therefore, an expedited review process, through the Property Owner Initiated Habitat Evaluation and Acquisition Negotiation Process has been developed to assist in determining the appropriate location of a single family home or mobile home on an existing lot within the Criteria Area.

An application for the issuance of a grading permit for an individual single family home on an existing lot or a site preparation permit for a mobile home on an existing lot within the Criteria Area will be subject to review against the MSHCP Conservation Criteria solely in order to determine the location of a building foot print area and any necessary access road(s) on the least sensitive portion of the lot. A habitat assessment may be required in order to assist in determining the most appropriate location for the area of disturbance and any necessary access road(s). A habitat assessment for purposes of this provision shall include mapping of the vegetation at sufficient detail to identify sensitive areas. Upon completion of the review, the Permittee will determine the location of the area of disturbance, and the location of any necessary road(s). Any necessary firebreaks will be included within the area of disturbance.

The biology report and letter prepared by the biologist were completed as additional documentation following section 6.1.1 of the MSHCP. No further reviews are required under the MSHCP.

As per the comments made above the is no violation of the MSHCP or CEQA.

Dump trucks:

The possible usage of dirt transportation by the dump truck over the easement at part of the development is a covered activity under the MSHCP. The easement is a road access, part of the development of the project, and is a covered activity under the MSHCP for single family homes. (See Section 7.3.2 above)

Additionally under the City of Riverside EIR for the General Plan of 2025 the truck usage as part of construction will not pass the threshold of significant (Referencing Appenix G of CEQA). The daily threshold for construction is below:

Table 5.3-B
SCAQMD CEQA Regional Significance Thresholds

Emission Threshold	Units	ROG	NO_X	CO	SO_X	PM-10	PM-2.5
Construction	lbs/day	75	100	550	150	150	55
Operation	lbs/day	55	55	550	150	150	55

Fire:

Mr. Block's statements are baseless and false. The FPP prepared by a licensed fire engineer shows the conditions at the bottom of the hill have increased fire risk. A "worse case" fire scenario computer simulated for the north side of the hill (location recommended by Mr. Richard Block) and the typical offshore (current proposed location) show the north has higher fire risk. The simulation shows the north side burns at a faster speed and with longer flames than the current proposed location.

As stated previously, per the fire consultant, and the city fire department, the pad cannot be located at the bottom section of the property. No adequate fire protection plan can be created with the house located at the bottom of the hill because of lack of defensible space. **In summary, building at the bottom of the hill has a higher fire risk than building at the top of the hill.**

For reference a fire protection with the home at the bottom of the hill could not be approved. However, a fire protection plan with the home at the top of the hill was submitted and approved by the city fire department.

See fire sumilation below, 379.5 rate of fire spread on the top of the hill versus 399.5 rate of fire spread. Flame lenght at the top of the hill 49.6 ' versus 50.8 ' at the North side

Image 1 Typical Off Shore

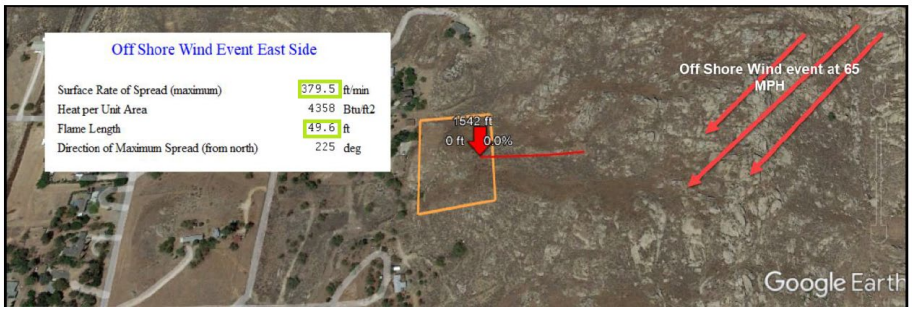

Image 2 Fire Behavior from the North

Location of the house:

The comment made by Richard Block are false. The supporting document provided by Judy on February 6 contains a letter from the civil engineer with reasoning for the grading exemption. The WQMP, FPP and grading plan show there is no harm to the neighbor as determined by the city ordinance. In addition, per the city fire department, because of California Fire Code requirements a grading exemption would be required regardless of the location of the housing pad.

None of the points made by Mr. Richard Block are correct. The attach soil report show the bonderies of the test site as the bottom of hill. Testing at the top of the hill was not possible be of the topography of the site. The deeper testing site required for a well type sepic system could not be completed because of the geology of the site. Therefore per the geologist, the project requires a leech field and the leech field could only be constructed at the bottom of the hill. **As reference in the MSHCP section 7.3.2 the leech field is a factor when**

19 November 2022

Re: LANDEROS RESIDENCE APN 257160003

The property is rocky with senescent vegetation. Elevations range from approximately 1460 to 1560 feet. The subject property is currently a vacant rectangular shaped with no significant topographic features or vegetation, and it is currently undeveloped land. The Multiple Species Habitat Conservation Plan (MSHCP) for Riverside County lists the following:

- Not in a Cellgroup
- Not in a Criteria Cell

Conservation Description:

- Not in an amphibian survey area
- Burrowing owl area
- Not in a criteria area species survey area
- Not in a mammal survey area
- Not in a narrow endemic plant survey area

A burrowing owl survey was conducted; no signs of BUOW (tracks, whitewash, pellets, decorations, prey remains) were found. No burrowing owls (BUOW), a CDFW species of concern, or BUOW burrows were found within the site or 500 foot buffer. This is not an area that provides favorable habitat to BUOW. The rodent burrows that are present are not large enough to house a BUOW and the ground is not supportive of burrowing.

The Multiple Species Habitat Conservation Plan (MSHCP) for Riverside County does not consider this area a habitat of wildlife concern. Biologists surveyed the area and did not find any current evidence of burrowing owl presence or historical presence.

Construction will be of a relatively short duration. After construction is complete, and landscaping is complete, there is the possibility of creating shelter for wildlife within the landscaped area and could be a positive influence in the area.

Wildlife Biologist
Barrett's Biological Surveys
760 427 7006

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1411 Rimpau Ave, Ste 109
Corona, CA 92879
Phone: 714-606-3655
Email: Info@pearlcityinc.com

Date: **November 8, 2022**

To: **City of Riverside**
Planning Department
3900 Main Street
Riverside, CA 92522

Re: **LANDEROS RESIDENCE – APN: 257-160-003 – PLANNING CASE P20-0427 (PLOT PLAN REVIEW)**

Topic: **PROPOSED PAD LOCATION AND GRADING DESIGN**

To Whom Maybe Concerned:

The proposed single-family development lies along the edge of the Box Springs Mountains which rise to the north and east of the site. This area descends at moderate gradients to the north, west, and south and rises quite steeply, offsite, to the east. Total project site is 2.47 acres and disturbed area is 0.92 acres (37% of the site). The area of the proposed residence lies atop a roughly east to west trending topographic within the center portion of the property. Large lot residential properties lie to the north and west of the site while the properties to the east and south of the site are vacant, natural land. The proposed access road alignment selected to avoid natural boulders and limited the required cut / fill slopes to the existing terrain and contours of the site. After discussion with City of Riverside staffs, the design team have come up with numerous ways to reduce the amount of grading and best fit the project for the lot.

- **Pad Location**

The proposed structures will be lies atop a roughly east to west trending topographic high within the center portion of the property. The location of the structures is placed in one of the flattest portions of the site (existing natural terrain range from 5% to 15%). The structures will be designed to fit with the contours of the hillside and relate to the overall form of the terrain. Structures will be designed to fit into the hillside rather than altering the hillside to fit the structure.

If the pad is placed at lower portion of the site, this creates a transition grading situation which requires cut and fill (see Figure 1). Typically, the building requires 3’ to 5’ overexacation over the existing surface and recompacted to 90% relative compaction. The amount of grading is excessive. Alternatively, stepped building layout typically used to avoid excessive cut and fill (see Figure 2). However, the stepped building layout requires shoring walls and extensive amount of retaining wall which creates a financial burden to the owner. Therefore, in our opinion, the proposed pad location fits into the natural terrain and most economical to the owner.

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Figure 1: Transition Grading (Cut and Fill)

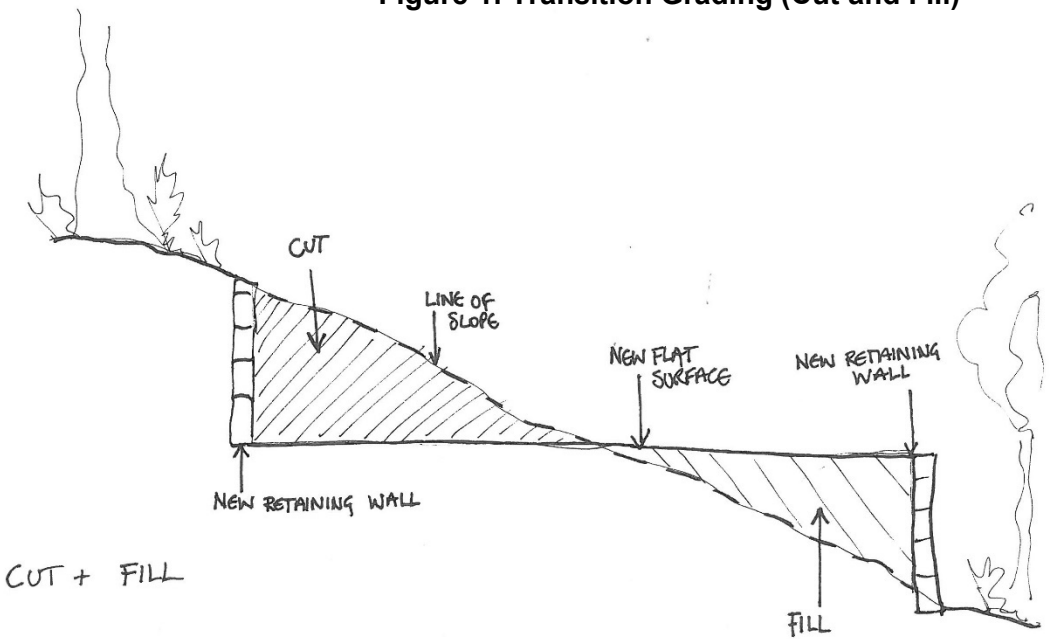
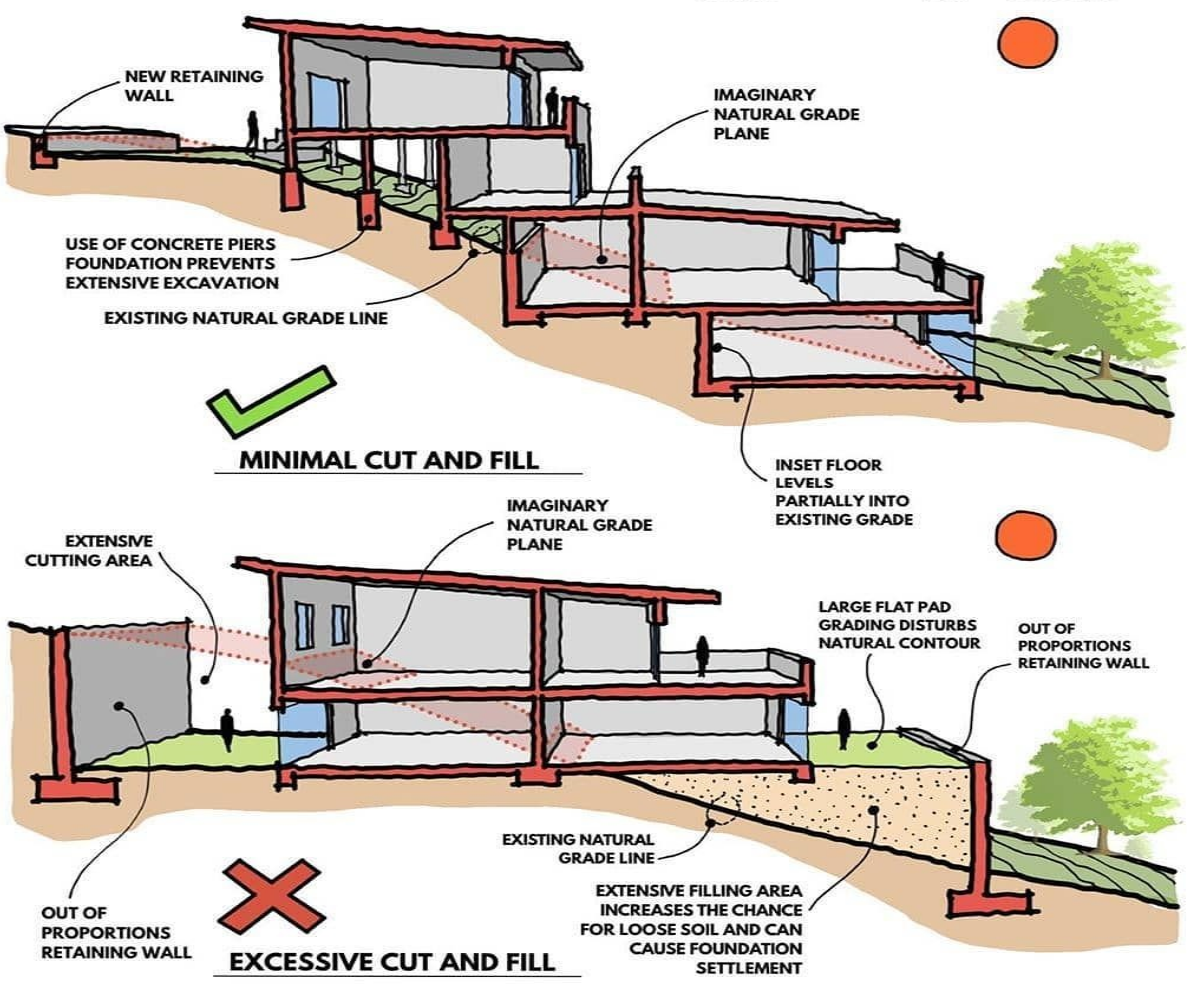


Figure 2: Stepped Building Concept



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- **Reduce Amount of Grading**

The area of a site proposed to be graded shall be that which fits into the natural terrain and which allows for a minimal amount of grading. The ungraded area must be left in its natural form for the remainder of the site. No native vegetation shall be removed and no non-native vegetation shall be introduced or allowed within hillside areas not included as part of the graded pad area. Most of the grading is due to the maximum slope of 15% and driveway width is required by Fire Department to increase to 20' side. After discussion with Fire Department, the straight portion of the driveway can be reduced to 15'. This reduced approx. 3,000 sf of disturbed area and 2,325 cy less of export.

The proposed grading slope to be rounded and blend with natural hillside slope. The disturbed area mostly avoided where larger rocks located. If necessary, interference larger rocks will be relocated elsewhere of the site as a natural feature.

In conclusion, the proposed development meets City's grading ordinance and best fit to the existing terrain. If you have any questions, do not hesitate to contact us.

Best Regards,

Yang Hu, PE
(714) 606-3655
yhu@pearlcityinc.com

*FIRE*WISE*2000*, LLC

Mel Johnson, Owner
***FIRE*WISE 2000, LLC**
info@firewise2000.com
(760) 745-3947

6 August 2022

To: Planning Department City of Riverside

We often find the same comments on many of our projects, the Fire Protection Plan submitted to Fire provides details on expected fire behavior, required fuel modification distances, and mitigation measures.

CEQA Finding

Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

The wildland fire risk in the vicinity of the project site has been analyzed and it has been determined that wildfires may occur in wildland areas to the south, west, north and east of the project site, but would not be significantly increased in frequency, duration, or size with the approval of the Landeros Residence.

The types of potential ignition sources that currently exist in the area include vehicle and roadway, electrical transmission line, and machinery associated with various land uses in the vicinity, as well as from off-site developed parcels.

The project would introduce potential ignition sources, but would also include conversion of fuels to lower flammability landscape and include better access throughout, managed and maintained landscapes, higher site awareness/monitoring, and generally a reduction in the receptiveness of the areas landscape to ignition.

Fires from off-site would not have continuous fuels across this site and would therefore be expected to burn around and/or over the site via spotting. Burning vegetation embers may land on structures but are not likely to result in ignition based on types of non-combustible and ignition resistant materials that will be used.

The project does comply with ignition resistant fire and building codes, plus site-specific measures that will result in a project that is less susceptible to wildfire than surrounding landscapes and that would facilitate fire fighter and medical aid response.

Respectably

Monty Kalin
Associate Planner
*Fire*wise2000, LLC
Monty.Kalin @firewise2000.com

LOR GEOTECHNICAL GROUP, INC.
Soil Engineering ▲ Geology ▲ Environmental

November 17, 2022

Mr. Guillermo Landeros
3391 Spruce Street
Riverside, California 92501

Project No. 33808.11

Subject: Proposed Residential Development, APN 257-160-003, Riverside.

Reference: Preliminary Geotechnical Investigation, Proposed Residential Development, APN 257-160-003, Riverside, Project No. 33808.1, dated May 16, 2022.

At your request, we are providing the following opinion with regards to the proposed development, from a geotechnical standpoint. Grading of the site is anticipated to be conducted without blasting. We have experience in the removal of bedrock similar to this at the nearby University of Riverside campus without the need for blasting. The proposed grading is of a much smaller scale than what we experienced at the university. Following standard regulations, we do not foresee any impact on adjacent properties.

Respectfully submitted,
LOR Geotechnical Group, Inc.

John P. Leuer,
President

AAT:JPL:ss

Distribution: Addressee via email gulanderos@gmail.com

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Re: LANDEROS RESIDENCE – APN: 257-160-003 – PLANNING CASE P20-0427 (PLOT PLAN REVIEW)

Descriptive Narrative for Project Meeting Hillside/Arroyo Grading Ordinance

Hillside / Arroyo Grading Ordinance Requirements:

1. The overall shape, height or grade of any cut or fill slopes shall be developed utilizing contour grading in concert with existing natural contours and the scale of the natural terrain of the site.

   The site lies along the edge of the Box Springs Mountains which rise to the north and east of the site. This area descends at moderate gradients to the north, west, and south and rises quite steeply, offsite, to the east. Total project site is 2.47 acres and disturbed area is 0.96 acres (39% of the site). The area of the proposed residence lies atop a roughly east to west trending topographic within the center portion of the property. Large lot residential properties lie to the north and west of the site while the properties to the east and south of the site are vacant, natural land. The proposed access road alignment selected to avoid natural boulders and limited the required cut / fill slopes to the existing terrain and contours of the site.

2. Where two cut or fill slopes intersect, the intersection shall be horizontally rounded and blended.

   Refer to **Appendix A** for Grading Specification for details showing slopes blended with natural hillside. Also, added the notes to the Conceptual Grading Plan.

3. The tops of cut and fill slopes shall be rounded vertically with a constant tangent (T) of ten feet.

   Refer to **Appendix A** for Grading Specification for how slope to be rounded and blend with natural hillside slope. Also, added the notes to the Conceptual Grading Plan.

4. Where any cut or fill slopes intersect the natural grade, the intersection of each slope shall be vertically and/or horizontally rounded and blended with the natural contours so as to present a natural slope appearance.

Refer to **Appendix A** for Grading Specification for how slope to be rounded and blend with natural hillside slope. Also, added the notes to the Conceptual Grading Plan.

5. Where any cut or fill slope exceeds 100 feet in horizontal length, the horizontal contours of the slope shall be developed in concert with existing natural contours.

Refer to Appendix A for Grading Specification and details how landform graded slopes blended with natural contours. Also, added the notes to the Conceptual Grading Plan.

6. The area of a site proposed to be graded shall be that which fits into the natural terrain and which allows for a minimal amount of grading. The ungraded area must be left in its natural form for the remainder of the site. No native vegetation shall be removed and no non-native vegetation shall be introduced or allowed within hillside areas not included as part of the graded pad area. The Community & Economic Development Director shall be responsible to determine the precise boundaries of the non-graded area to be retained as natural open space and an open space easement shall be recorded over this area. Portions of the non-graded area may be excluded from the natural open space easement by the Community & Economic Development Director based on factors specific to each lot, including whether the area is isolated from a meaningful area of contiguous open space and the absence of unique topographical or geological features. The intent of this provision is to create significant areas of contiguous open space and not to create small, isolated areas of open space. No change to the boundaries of the area determined to be placed in natural open space by Community & Economic Development Director shall be made unless the Planning Commission determines that exceptional or special circumstances addressed in Chapter 17.32 Conditional Exceptions apply.

The proposed disturbed grading area well fits into the natural terrain and limited disturbance of the site. Total disturbed area is 39% of the total project area. All the native vegetation will remain. Added the note on Conceptual Grading Plan.

7. Structures shall be designed to fit with the contours of the hillside and relate to the overall form of the terrain. Structures shall be designed to fit into the hillside rather than altering the hillside to fit the structure.

The proposed structures will be lies atop a roughly east to west trending topographic high within the center portion of the property. The location of the structures is placed in one of the flattest portions of the site (existing natural terrain range from 5% to 20%).

8. Streets shall be designed to generally follow the natural contours and land form in order to minimize cut and fill.

Not applicable. No street is proposed for the development.

9. Pad sizes for single family residential development shall be limited as follows:

- Thirty percent to 40 percent average natural slope within the area to be graded - 18,000 square feet.

Based on average natural slope calculation, S = 30% and allowable pad size is 18,000 sf. The proposed project with an 8,000-sf pad is well below the allowable pad size.

10. Slopes having a ratio of 3.9:1 or steeper shall not exceed 20 feet in vertical height. Slopes having a 4:1 or flatter ratio may be up to 25 feet in vertical height. The Community & Economic Development Director shall have the authority to increase vertical slope height by up to 25 percent without a grading exception depending on the sensitivity of the site. Sensitivity shall be determined by such factors as the slope's visibility from the public right-of-way, its location on a ridge line, the presence of habitat for sensitive species including rare, threatened, or endangered species, or the presence of unique topographic features such as knolls, valleys, rock outcroppings or other features or views capes. (Level padded area defined as area that is at a slope ratio of 5:1 or flatter.)

As shown on the Conceptual Grading Plan, vertical height throughout the site ranges from 11' to 19'. The proposed grading mostly avoided existing Boulders.

11. Slopes requiring benches shall not normally be permitted.

No slope with benches proposed for the project.

12. No grading shall be permitted on slopes exceeding 40 percent unless findings can be made by the Planning Commission that exceptional or special circumstances as set forth in Chapter 17.32 Conditional Exceptions apply

The proposed grading will be on the northwest of the project site which is generally flatter than Remainer of the site. The disturbed area mostly between 5% to 40%.

13. Driveway grading:
    a. Shall not exceed 15 feet in width.
    b. Shall not exceed a 15 percent finished grade unless otherwise approved by the Fire Department and Community & Economic Development Director.
    c. Driveway cut and fill slopes shall be subject to the same restrictions as identified in Chapter 17.28.
    d. Driveway grading required to provide access to the level building pad area is not included as part of the total permitted level pad area.

The maximum slope is 15% and driveway width is required by Fire Department to increase to 20' side.

14. Arroyo grading.

a. No development or grading of any kind shall be permitted within 50 feet of the limits of the Mockingbird Canyon, Woodcrest, Prenda, Alessandro, Tequesquite, or Springbrook Arroyos and associated tributaries as shown on Exhibits A-F. The Community & Economic Development Director shall have the authority to administratively allow grading within designated arroyo tributaries depending on the sensitively of the area. Sensitivity shall be determined by such factors as the presence of riparian vegetation, habitat for rare or endangered species, significant rock outcroppings or other unique topographic features on the property proposed to be graded or in nearby segments of the same tributary.

b. The limits of these arroyos shall include all that land within the watercourse area, the adjacent slopes having an average natural slope of 30 percent or greater, and all other areas within the boundaries shown on Exhibits A-F.

c. No grading for private crossings of these arroyos shall be permitted. Grading for public street crossings must be limited to the minimum necessary for access and emergency access.

d. No native vegetation shall be removed and no non-native vegetation shall be introduced within the boundaries of theses arroyos in areas that cannot be graded.

e. All land within the boundaries of these arroyos shall be included as an open space easement on final tract and parcel maps.

f. Where drainage structures enter these arroyos, the structure must be blended into the natural terrain, and where necessary, lined with natural or quarried rock or other material as approved by the Community & Economic Development Director and Public Works Director.

g. Where possible, other arroyos, shall be preserved as natural drainage courses. Significant natural features within these arroyos shall be preserved including riparian vegetation, boulders, rock outcroppings, milling features and deeply incised channels. These features shall be shown on the grading plans submitted for review. To insure that these areas are adequately preserved, an appropriate setback for development and grading may be applied.

h. Development or grading within blue line streams shall be limited to the minimum necessary for access or drainage structures. Any disturbance will require permits from the U.S. Corps of Engineers and the State Department of Fish and Wildlife.

The project is not within Arroyo Hillside boundary.

Please contact me with any questions. Thank you,

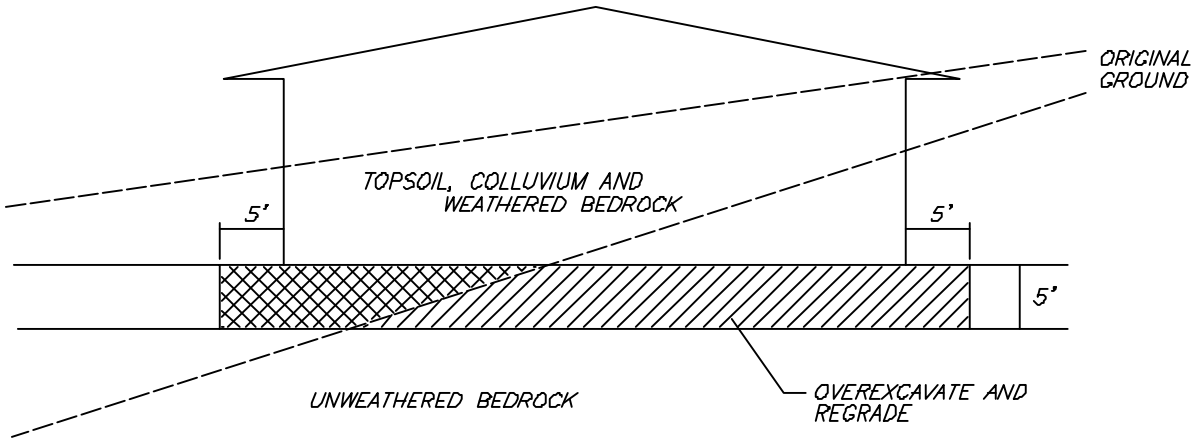
Yang Hu, PE

(714) 606-3655

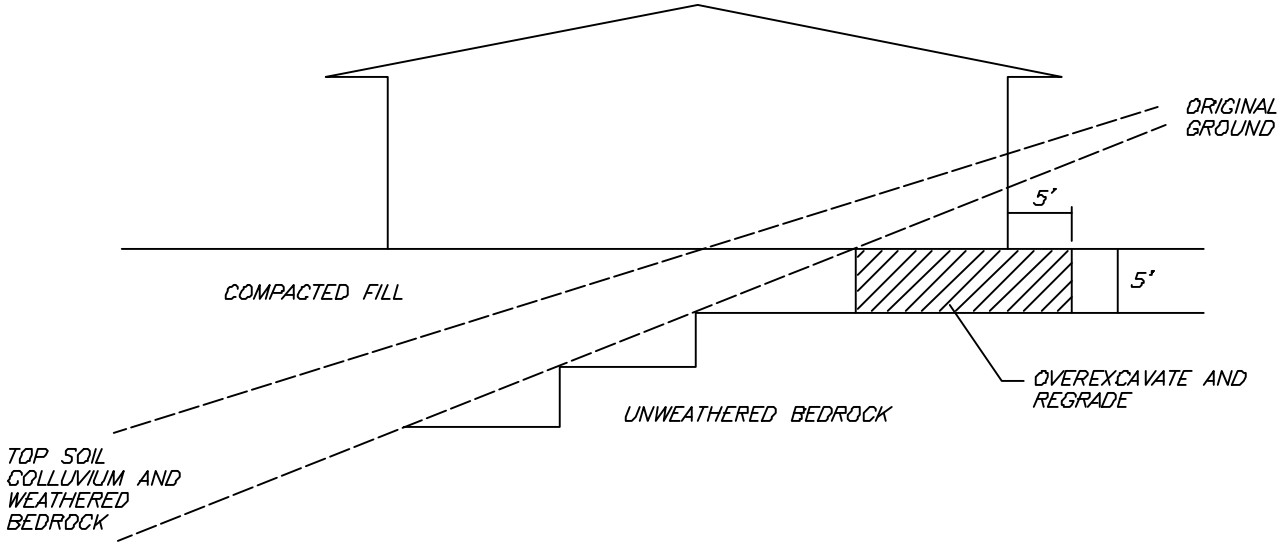
yhu@pearlcityinc.com

APPENDIX A

CUT LOT

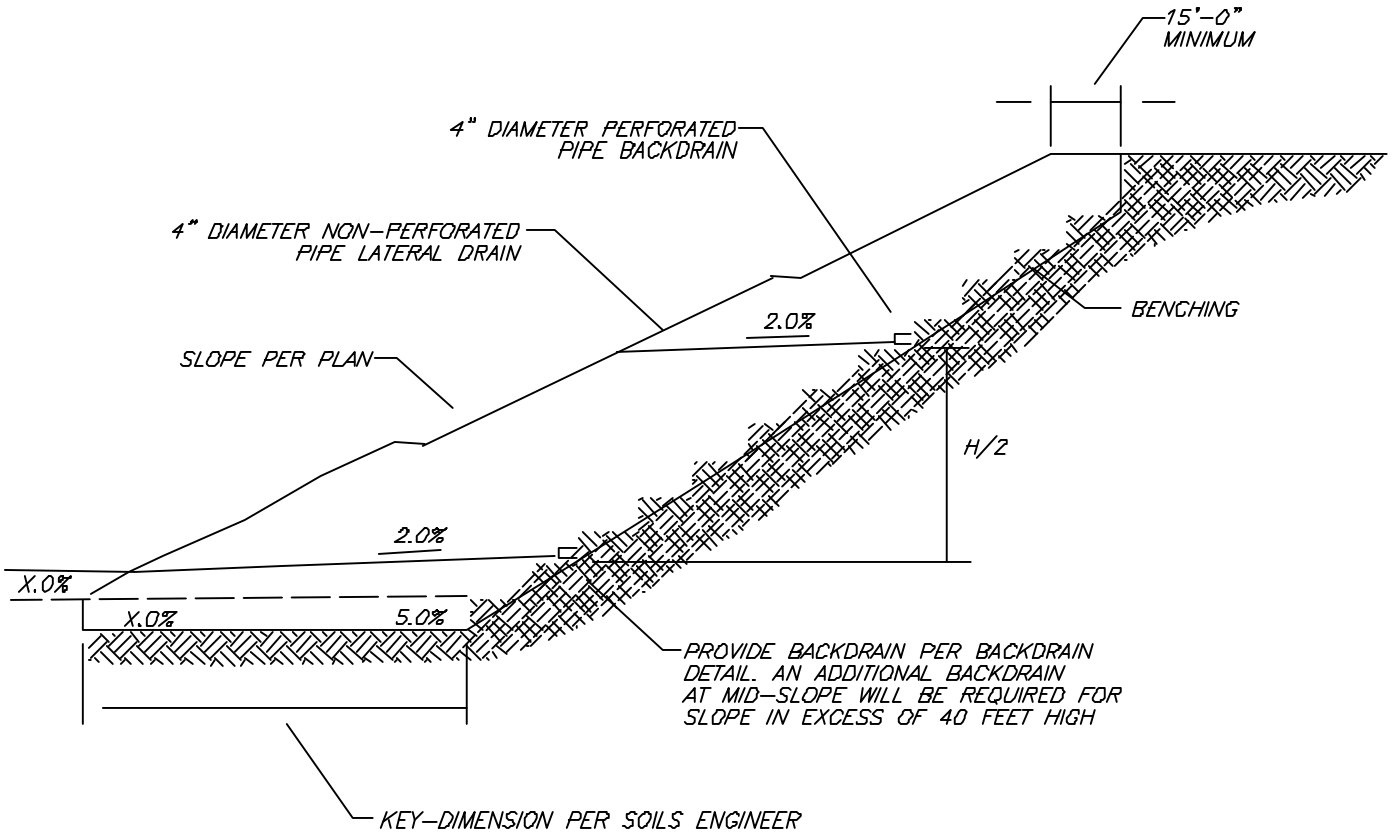


CUT/FILL LOT (TRANSITION)



TRANSITION LOT DETAIL

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
SHEET 1

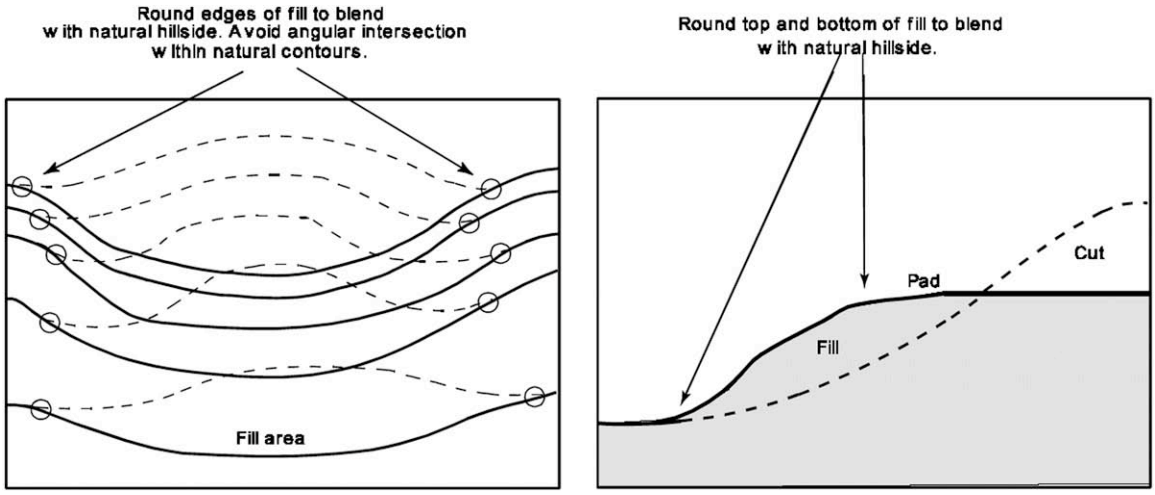


TYPICAL BUTTRESS FILL DETAIL

GENERAL EARTHWORK AND GRADING SPECIFICATIONS
SHEET 2

DIAGRAMS FOR DESIGN STANDARDS

DIAGRAM II-1
FILL SLOPES BLENDED WITH NATURAL STEEP HILLSIDE



Note: The tops of cut and fill slopes shall be rounded vertically with a constant tangent (T) of ten feet.

DIAGRAM II-2: LANDFORM GRADED SLOPES

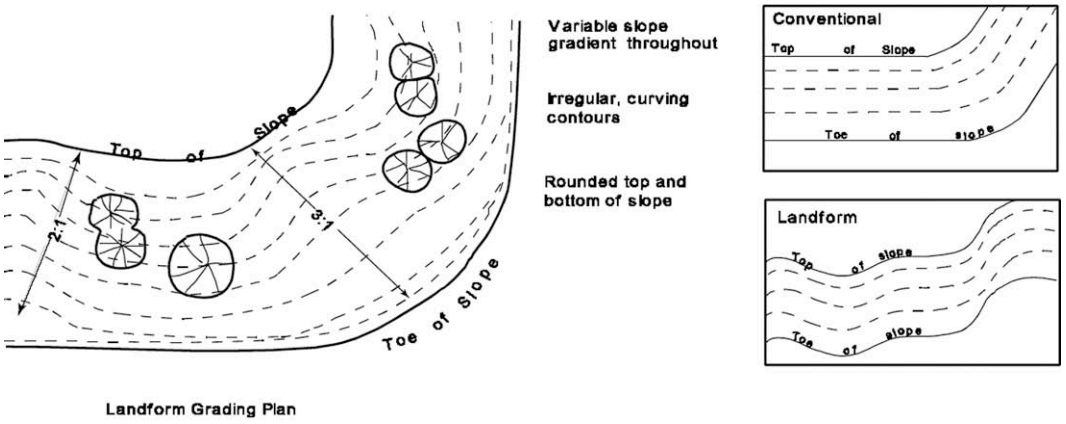


DIAGRAM II-6
LONG DRIVEWAYS

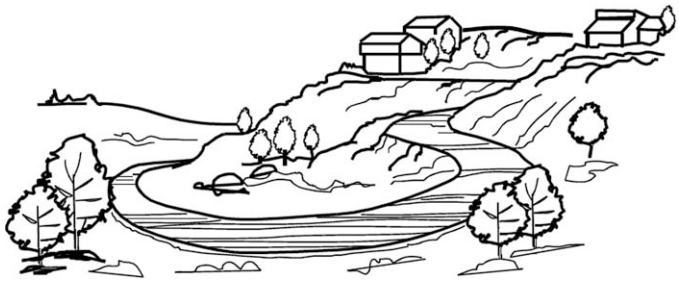


DIAGRAM II-7
STRUCTURES THAT FIT NATURAL CONTOURS

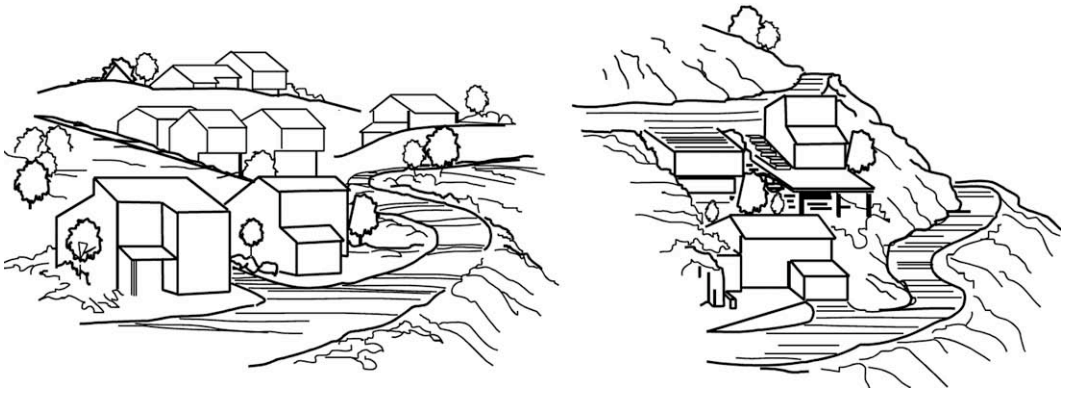


DIAGRAM II-9
STRUCTURE LOCATED IN FRONT OF MANUFACTURED SLOPE

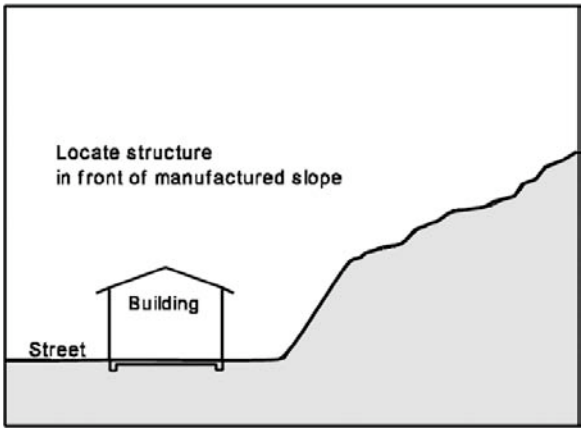


DIAGRAM II-10: STEPPED BUILDING

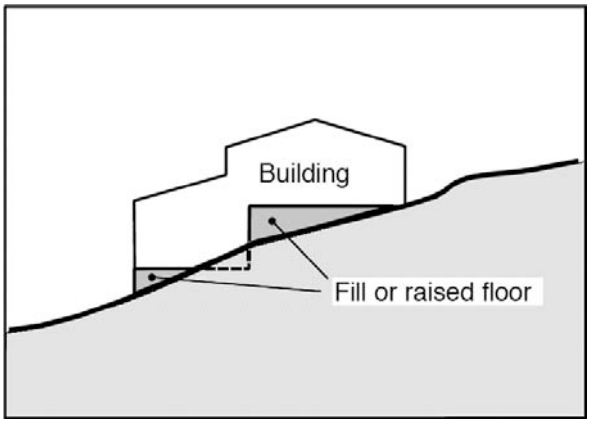


DIAGRAM II-11: BUILDING SET INTO STEEP HILLSIDE

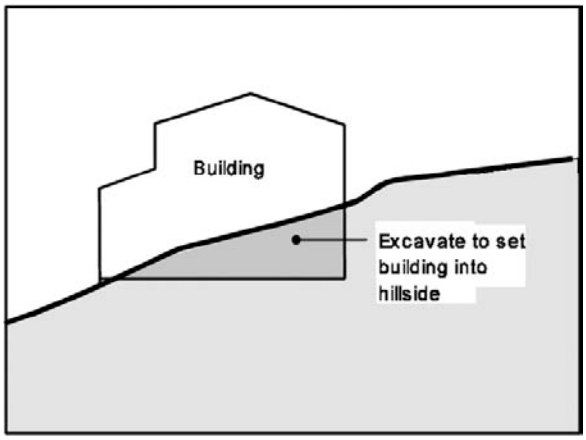


DIAGRAM II-13
NATURAL HILLSIDES RETAINED
BETWEEN DEVELOPMENT AREAS

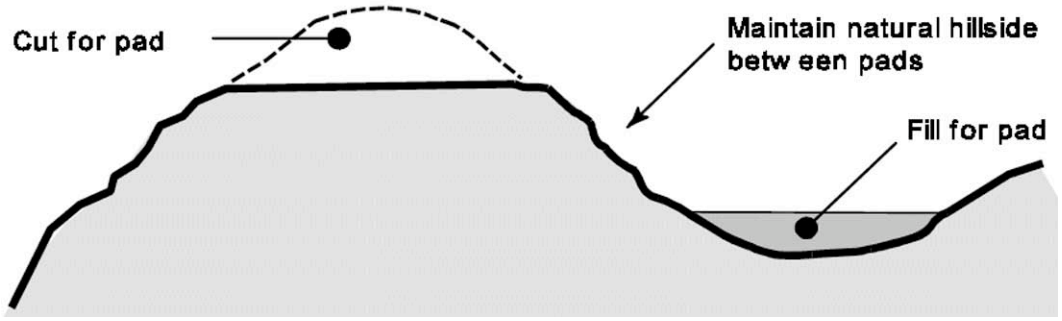


DIAGRAM II-15
RETAINED AREAS OF UNDISTURBED HILLSIDES WITHIN DEVELOPMENT

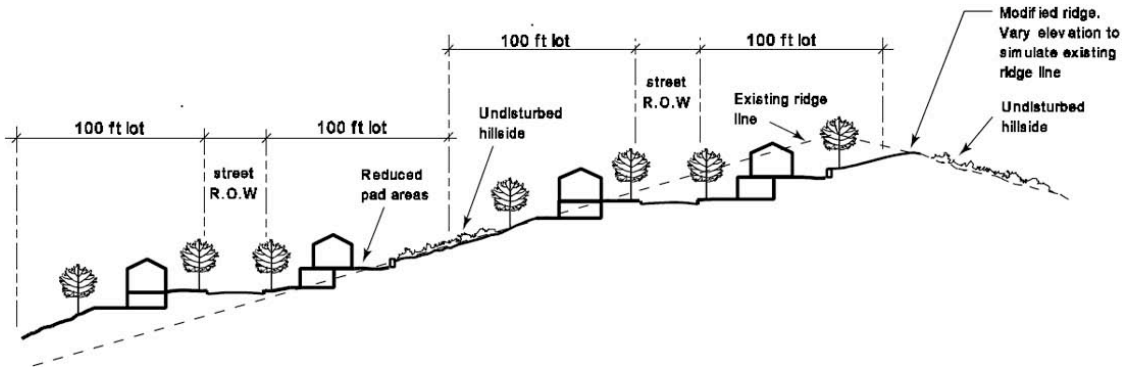
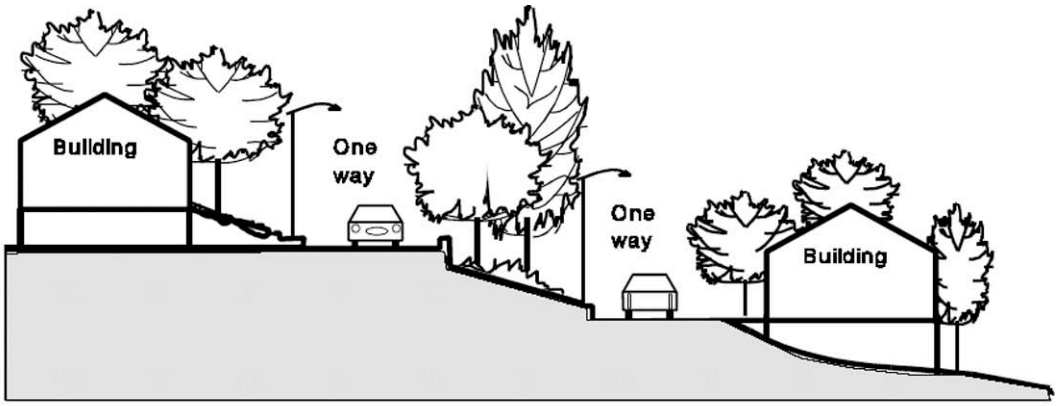


DIAGRAM II-16
SPLIT-LEVEL STREET



Split level roads can reduce site disturbance

DIAGRAM II-17
USE OF RETAINING WALLS IN HILLSIDE DEVELOPMENTS

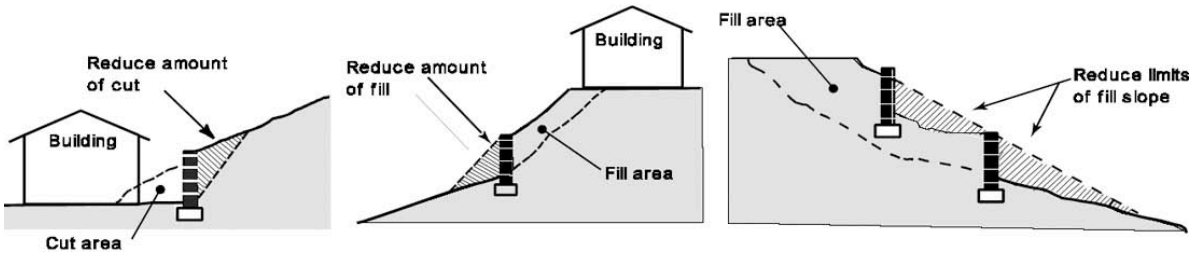


DIAGRAM II-18
VARIED LOT SIZE AND SHAPE

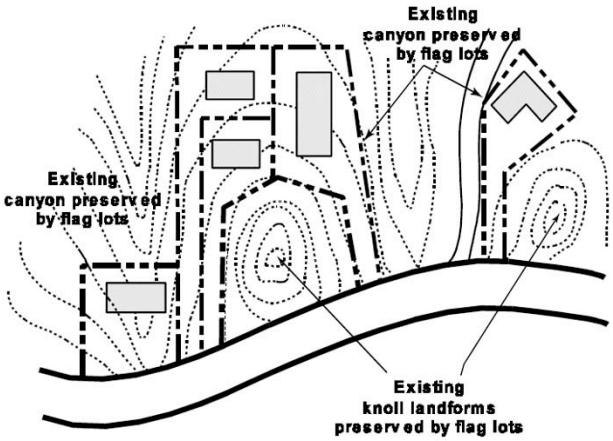
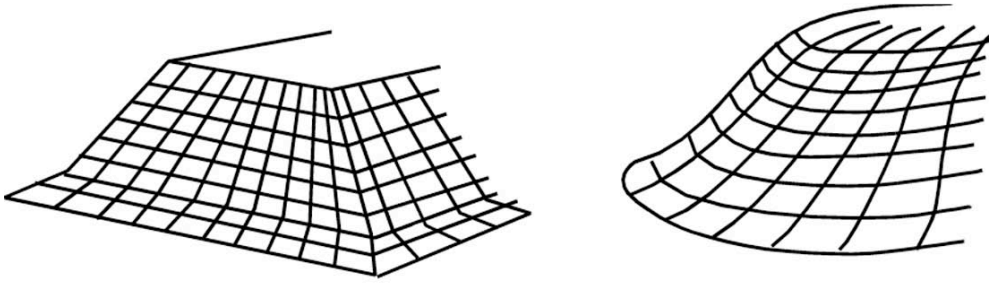


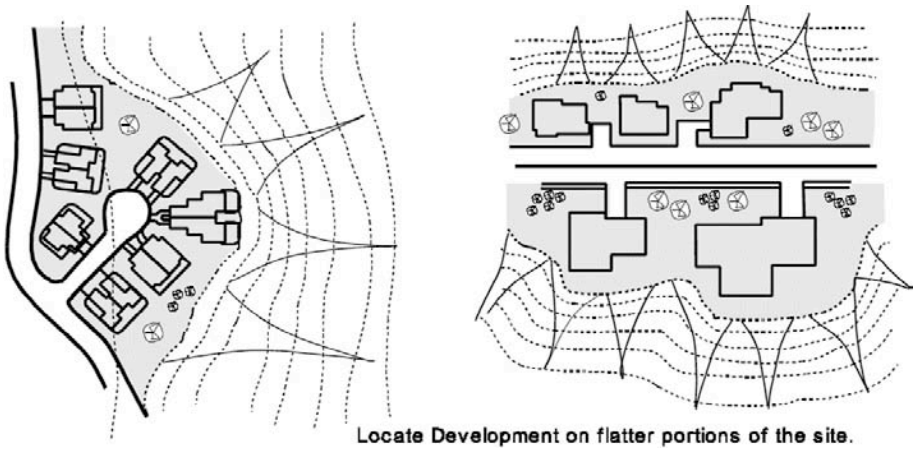
DIAGRAM II-19
BLENDED MANUFACTURED SLOPES



Avoid harsh, easily eroded formes and high, steep banks

Retain smooth flow of ground form

DIAGRAM II-20
DEVELOPMENT LOCATED ON LEAST STEEP AREAS



Locate Development on flatter portions of the site.

DIAGRAM II-21
BUILDING LOCATED NEAR RIDGELINE

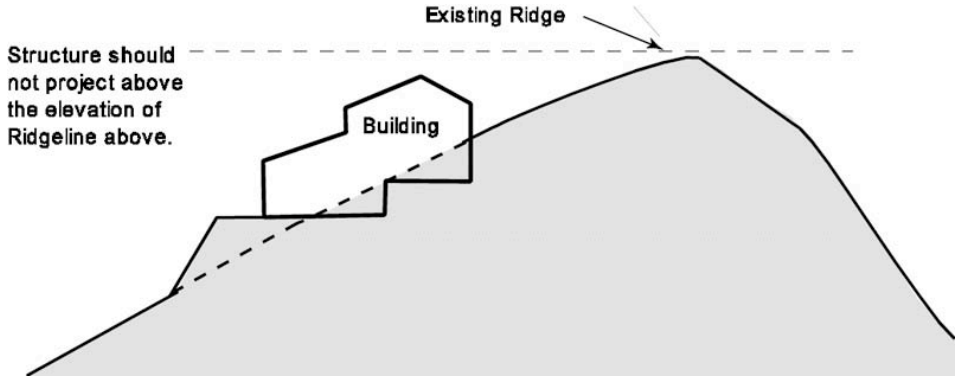


DIAGRAM II-22
SINGLE LOADED STREETS

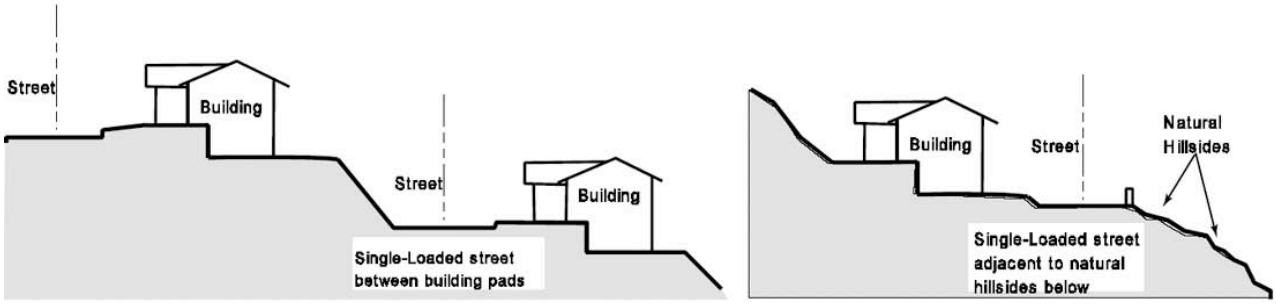


DIAGRAM II-23
STEPPED PADS

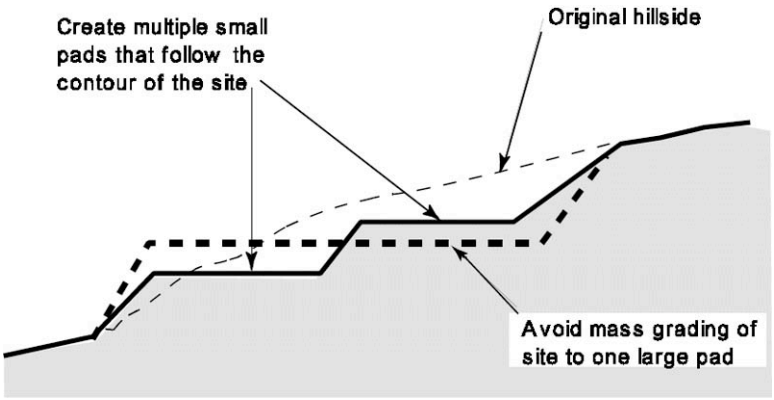


DIAGRAM II-24
PARKING FOR HILLSIDE STRUCTURES

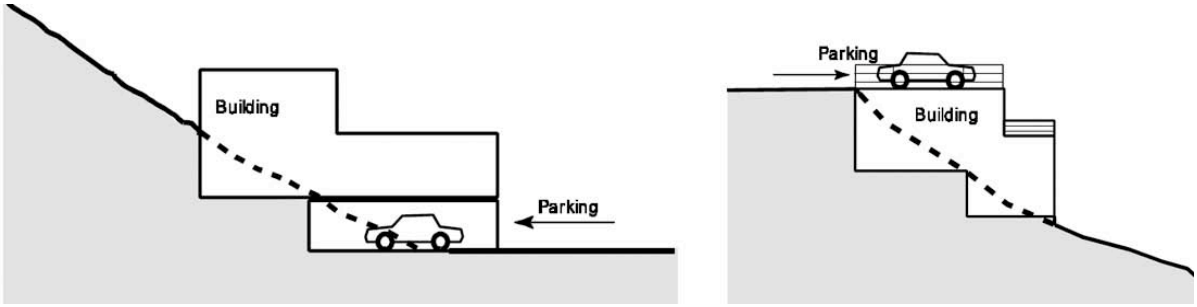
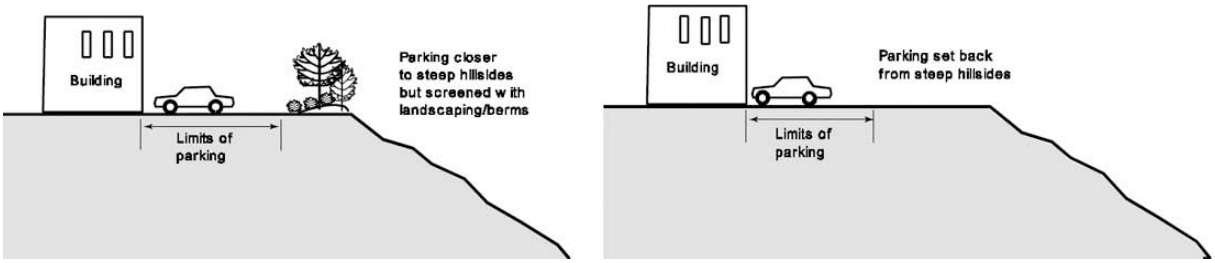


DIAGRAM II-25
PARKING LOTS NEAR STEEP HILLSIDES



SLOPE MAINTENANCE GUIDELINES

SLOPE MAINTENANCE GUIDELINES

Hillside lots in general, and hillside slopes in particular, need maintenance to continue to function and retain their value. Many homeowners are unaware of this and allow deterioration of their property. In addition to his own property, the homeowner may be subject to liability for damage occurring to neighboring properties as a result of his negligence. It is therefore important to familiarize homeowners with some guidelines for maintenance of their properties and make them aware of the importance of maintenance.

Nature slowly wears away land, but human activities such as construction increase the rate of erosion 200, even 2,000 times that amount. When we remove vegetation or other objects that hold soil in place, we expose it to the action of wind and water, and increase its chance of eroding.

The following guidelines are provided for the protection of the homeowner's investment, and should be employed throughout the year.

(a) Care should be taken that slopes, terraces, berms (ridges at crown of slopes), and proper lot drainage are not disturbed. Surface drainage should be conducted from the rear yard to the street by a graded swale through the sideyard, or alternative approved devices.

(b) In general, roof and yard runoff should be conducted to either the street or storm drain by nonerosive devices such as sidewalks, drainage pipes, ground gutters, and driveways. Drainage systems should not be altered without expert consultation.

(c) All drains should be kept cleaned and unclogged, including gutters and downspouts. Terrace drains or gunite ditches should be kept free of debris to allow proper drainage. During heavy rain periods, performance of the drainage system should be inspected. Problems, such as gullying and ponding, if observed, should be corrected as soon as possible.

(d) Any leakage from pools, waterlines, etc. or bypassing of drains should be repaired as soon as possible.

(e) Animal burrows should be filled since they may cause diversion of surface runoff, promote accelerated erosion, and even trigger shallow soil failures.

(f) Slopes should not be altered without expert consultation. Whenever a homeowner plans a significant topographic modification of the lot or slope, a qualified geotechnical consultant should be contacted.

(g) If plans for modification of cut, fill, or natural slopes within a property are considered, an engineering geologist should be consulted. Any oversteepening may result in a need for expensive retaining devices. Undercutting of the bottom of a slope might possibly lead to slope instability or failure and should not be undertaken without expert consultation.

(h) If unusual racking, settling, or earth slippage occurs on the property, the homeowner should consult a qualified soil engineer or an engineering geologist immediately.

(i) The most common causes of slope erosion and shallow slope failures are as follows:

- ❖ Gross negligent of the care and maintenance of the slopes and drainage devices.
- ❖ Inadequate and/or improper planting. (Barren areas should be replanted as soon as possible.)
- ❖ Excessive or insufficient irrigation or diversion of runoff over the slope.
- ❖ Foot traffic on slopes destroying vegetation and exposing soil to erosion potential.

(j) Homeowners should not let conditions on their property create a problem for their neighbors. Cooperation with neighbors could prevent problems; also increase the aesthetic attractiveness of the property.

WINTER ALERT

It is especially important to "winterize" your property by mid-September. Don't wait until spring to put in landscaping. You need winter protection. Final landscaping can be done later. Inexpensive measures installed by mid-September will give you protection quickly that will last all during the wet season.

- ❖ Check before storms to see that drains, gutters, downspouts, and ditches are not clogged by leaves and rubble.
- ❖ Check after major storms to be sure drains are clear and vegetation is holding on slopes. Repair as necessary.
- ❖ Spot seed any bare areas. Broadcast seeds or use a mechanical seeder. A typical slope or bare areas can be done in less than an hour.
- ❖ Give seeds a boost with fertilizer.
- ❖ Mulch if you can, with grass clippings and leaves, bark chips or straw.
- ❖ Use netting to hold soil and seeds on steep slopes.

- Check with your landscape architect or local nursery for advice.
- Prepare berms and ditches to drain surface runoff water away from problem areas such as steep, bare slopes.
- Prepare base areas on slopes for seeding by raking the surface to loosen and roughen soil so it will hold seeds.

CONSTRUCTION

- Plan construction activities during spring and summer, so that erosion control measures can be in place when the rain comes.
- Examine your site carefully before building. Be aware of the slope, drainage patterns and soil types. Proper site design will help you avoid expensive stabilization work.
- Preserve existing vegetation as much as possible. Vegetation will naturally curb erosion, improve the appearance and value of your property, and reduce the cost of landscaping later.
- Use fencing to protect plants from fill material and traffic. If you have to pave near trees, do so with permeable asphalt or porous paving blocks.
- Minimize the length and steepness of slopes by benching, terracing, or constructing diversion structures. Landscape benched areas to stabilize the slope and improve its appearance.
- As soon as possible after grading a site, plant vegetation on all areas that are not to be paved or otherwise covered.

TEMPORARY MEASURES TO STABILIZE THE SOIL

Grass provides the cheapest and most effective short-term erosion control. It grows quickly and covers the ground completely. To find the best seed mixtures and plants for your area, check with your local landscape architect, local nursery, or the U.S. Department of Agriculture Soil Conservation Service. Mulches hold soil moisture and provide ground protection from rain drainage. They also provide a favorable environment for starting and growing plants. Easy-to-obtain mulches are grass clippings, leaves, sawdust, bark chips, and straw.

Straw mulch is nearly 100 percent effective when held in place by spraying with an organic glue or wood fiber (tackifiers), by punching it into the soil with a shovel or roller, or by tacking a netting over it.

Commercial applications of wood fibers combined with various seeds and fertilizers (hydraulic mulching) are effective in stabilizing sloped areas. Hydraulic mulching with a tackifier should be done in two separate applications; the first composed of seed fertilizer and half the mulch, the second composed of the remaining mulch and tackifier. Commercial hydraulic mulch applicators – who also provide other erosion control services – are listed under “landscaping” in the phone book.

Mats of excelsior, jute netting, and plastic sheets can be effective temporary covers, but they must be in contact with the soil and fastened securely to work effectively.

Roof drainage can be collected in barrels or storage containers or touted into lawns, planter boxes, and gardens. Be sure to cover stored water so you don’t collect mosquitoes. Excessive runoff should be directed away from your house. Too much water can damage tress and make foundations unstable.

STRUCTURAL RUNOFF CONTROLS

Even with proper timing and planting, you may need to protect disturbed areas from rainfall until the plants have time to establish themselves. Or you may need permanent ways to transport water across your property so that it doesn’t cause erosion.

To keep water from carrying soil from your site and dumping it into nearby lots, streets, streams and channels, you need ways to reduce its volume and speed. Some examples of what you might use are:

- Riprap (rock lining) – to protect channel banks from erosive water flow.
- Sediment trap – to stop runoff carrying sediment and trap the sediment.
- Storm drain outlet protection – to reduce the speed of water flowing from a pipe onto open ground or into a natural channel.
- Diversion dike or perimeter dike – to divert excess water to places where it can be disposed of properly.
- Straw bale dike – to stop and detain sediment from small-unprotected areas (a short-term measure).
- Perimeter swale – to divert runoff from a disturbed area or to contain runoff within a disturbed area.
- Grade stabilization structure – to carry concentrated runoff down a slope.

ATTACHMENT 3
APPROVED FIRE PROTECTION PLAN

Fire Protection Plan

Landeros Residence

APN 257-160-003

Riverside, California

20 November 2022

Prepared for:
Guillermo Landeros
3391 Spruce Street Unit C
Riverside, CA 92501

Certified by: _____
Mel Johnson, Owner
Certified CEQA Wildland Fire Consultant
FIREWISE 2000 LLC
P.O. BOX 339
LOWER LAKE, CA
INFO@FIREWISE2000.COM

CITY OF RIVERSIDE FIRE DEPT.

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Engineer Smith Choi **Date** 12/07/22

Landeros Residence
Fire Protection Plan

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APPENDICES

Fire Protection Plan

Landeros Residence

APN 257-160-003

Riverside, California

1.0 GENERAL DESCRIPTION

The proposed Landeros Project, construction of a SFR of approximately 3,154sqft, and construction of an ADU of approximately 971sqft
The parcel is 2.47 acres of undeveloped vacant land. Residences are found to the west and north; vacant lots to the south and east. The City of Riverside boundary is on the east side of the property. The property is rocky with sparse vegetation. Elevations range from approximately 1460 to 1560 feet. Figure 2 Topo image

The subject property is currently a vacant rectangular shaped with no significant topographic features or vegetation, and it is currently undeveloped land.
The proposed Project is located within a high fire hazard zone in the City of Riverside Figure 1 Very High Fire Hazard Severity Zone (VHFHSZ)).

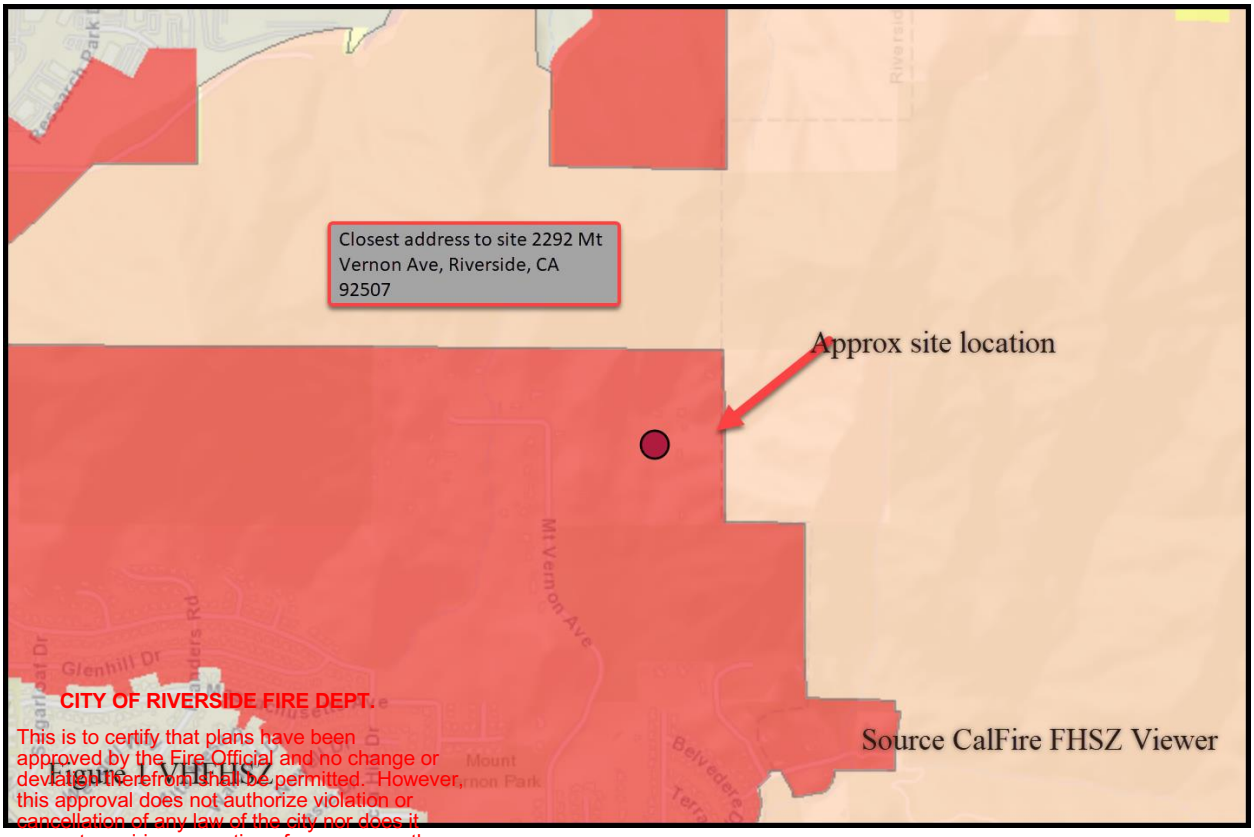

Figure 1 VHFHSZ

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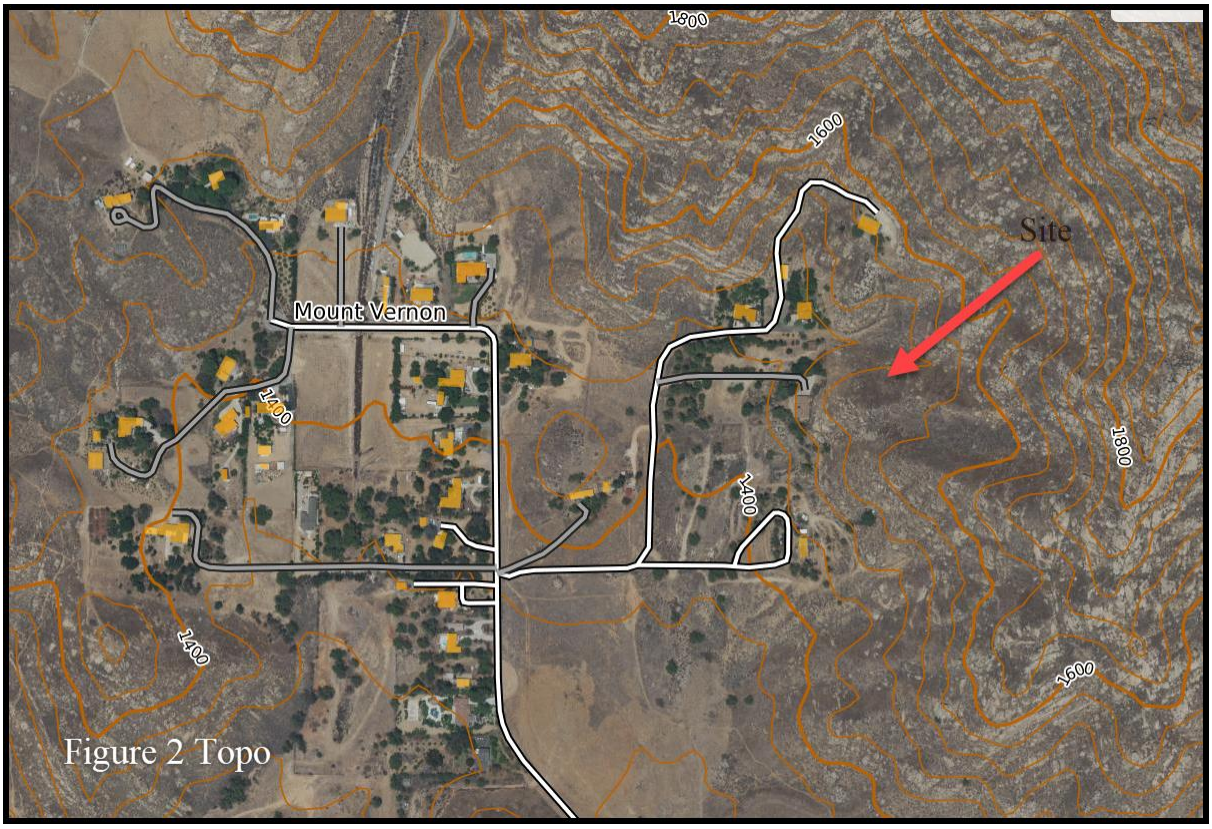
Engineer Smith Choi Date 12/07/22



The project is mostly bounded by undeveloped land to the north, east and south. (Figure 2).

Prior to any land development within this proposed project, a Fire Protection Plan (FPP) must be submitted to and approved by the City of Riverside Fire Department (RCFD). The FPP assesses the overall (on-site and off-site) wildland fire hazards and risks that may threaten life and property associated with the proposed residential development. In addition, this FPP establishes both short and long-term fuel modifications to minimize any projected fire hazard and risk and assigns annual maintenance responsibilities for each of the recommended fuel modification actions.

1.1 General Information

Developer/Applicant: Guillermo Landeros
3391 Spruce Street Unit C
Riverside, CA 92501

Prepared By: Monty Kalin
Firewise2000, LLC
Associate Planner

Approving Departments: City of Riverside Planning Department
Fire Authority: City of Riverside Fire Department

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Engineer Smith Chol Date 12/07/22

The project does not provide for 100 feet of Fuel Treatment and defensible space on east side of the proposed structure. Figure 3

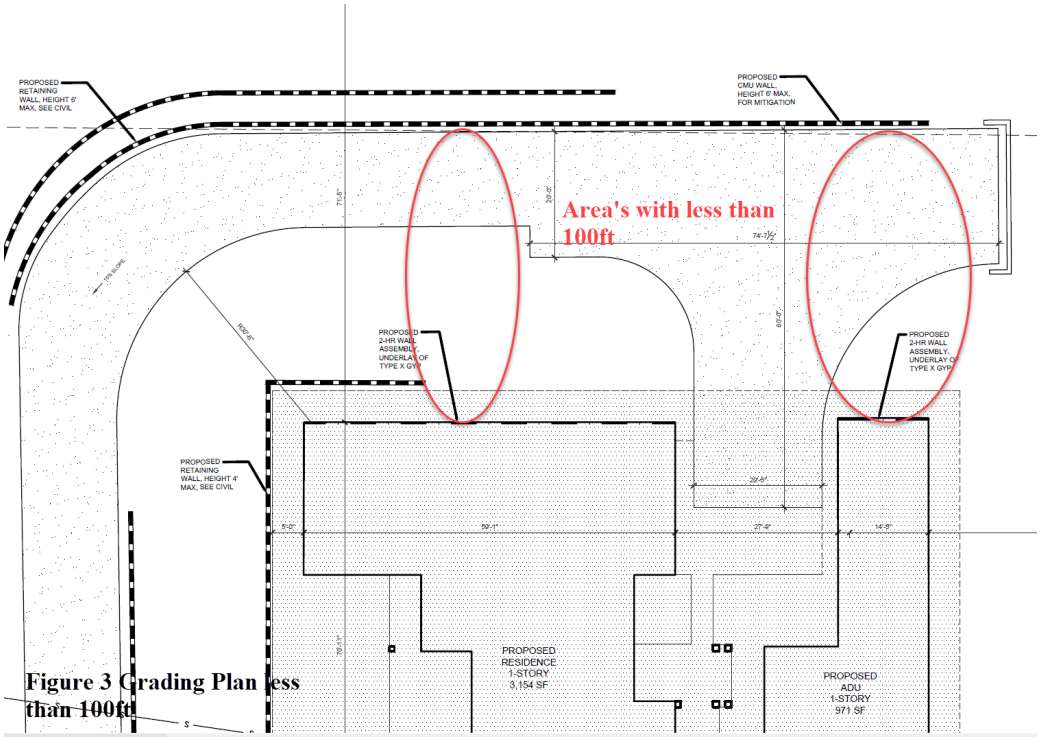

Figure 3 Grading Plan less than 100ft

The purpose of this FPP is to provide Vegetation Management Zone treatment and construction feature direction for developers, architects, builders, and the individual lot owner. The document will be used in making the structures in the proposed project safe from future wildfires.

Requirements of this FPP are based upon requirements listed in the 2019 California Fire Code, Chapter 49. Public Resources Code, Sections 4201 through 4204, and Government Code, Sections 51175 through 51189, or other areas designated by the enforcing agency to be at a significant risk from wildfires.
Local Amendments as required; Chapter 7A-California Building Code; 2019 California Residential Code sections R337; National Fire Protection Association Standards (NFPA) 13-D, 2019 Edition.
the City of Riverside Weed Abatement, Declaration of Nuisance 6.15.020, and supporting guidelines.

Hazardous vegetation and fuels around all applicable buildings and structures shall be maintained by the following laws and/or regulations:
Public Resources Code, Section 4291. California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 3, Section 1299 (see guidance for implementation "General Guideline to Create Defensible Space"). California Government Code, Section 51182. California Code of Regulations, Title 19, Division 1, Chapter 7, Subchapter 1, Section 3.07. Riverside County Ordinances; 787.7 and 460.151.

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2.0 WILDLAND FIRE HAZARD AND RISK ASSESSMENT

The proposed site is located within an area classified by the RCFD as a Very High Fire Hazard Area. Wildland fire may impact the project as there are wildland fuels within 1000 feet of the project on all sides. The greatest threat comes from the adjacent undeveloped properties and steep terrain. There is potential for wildfire to enter the project site from any direction. All the structures within the site would be subject to embers showers.

2.1 Weather Review and Assessment

The typical prevailing summer time wind pattern is out of the west/southwest and normally is of a much lower velocity (5-10 MPH with occasional gusts to 30 MPH) and is associated with relative humidity readings ranging between 20% and occasionally more than 70% due to the sites proximity to the ocean. All other (northwest, southeast and south) wind directions may be occasionally strong and gusty; however, they are generally associated with cooler moist air and have higher relative humidity (>40%). They are considered a serious wildland fire weather condition when wind speeds reach >20-MPH.

The most critical weather pattern to the project area is a hot, dry offshore wind, typically called a Santa Ana. Such wind conditions are usually associated with strong (>50 MPH), hot, dry winds with very low (<15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.
The following illustrations depict the the worst case weather that ***FIREWISE 2000 LLC*** could verify over the last 10 years. Note that when very low humidity occurs simultaneously with strong winds that fire behavior can be profoundly affected.

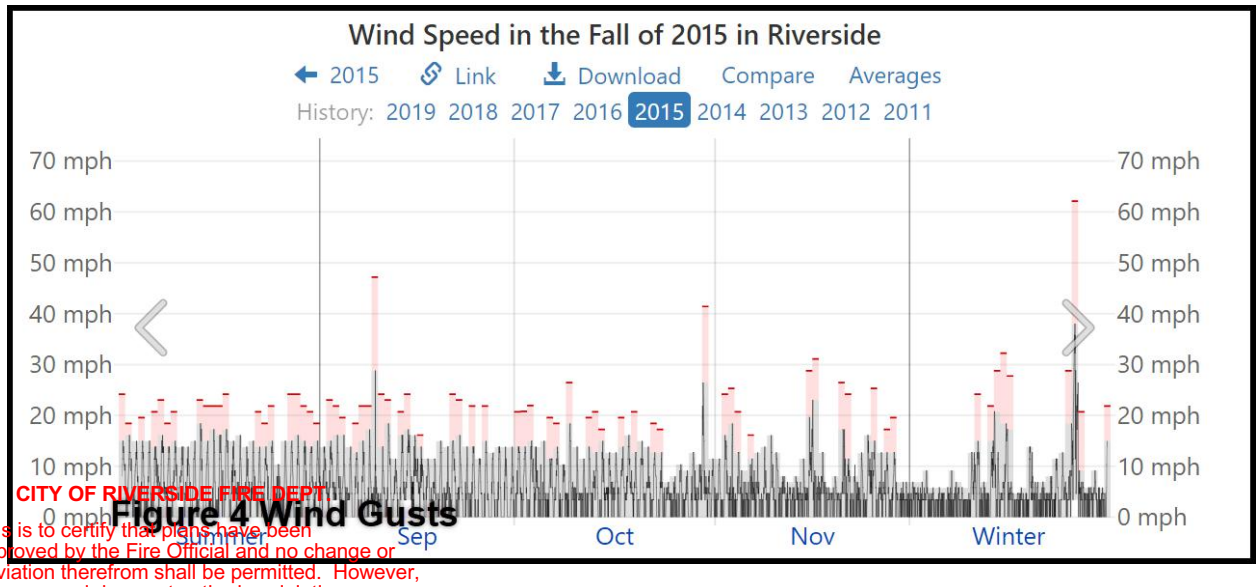

Figure 4 Wind Gusts

Figure 4 Wind Gust highest found oer the past several years. Recorded at 65 mph.

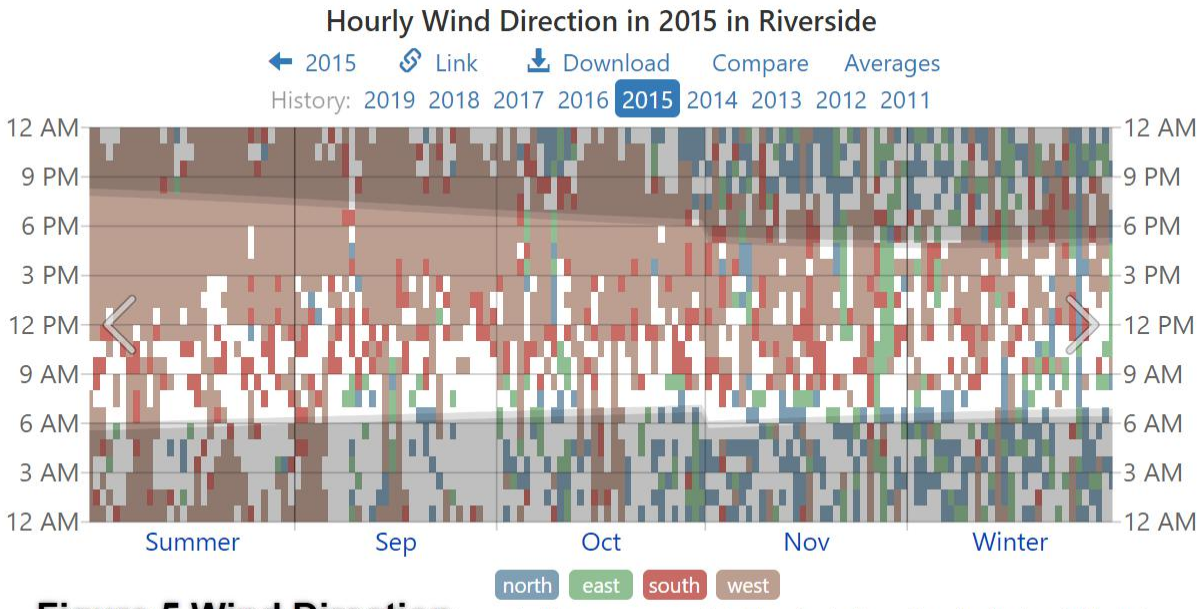

Figure 5 Wind Direction

Hourly wind direction frequency, color coded by compass point. The shaded overlays indicate night and civil twilight.

Figure 5 note predominate wind out of the west.

2.2 Off-Site Fire Hazard and Risk Assessment

Figure 6 shows areas that potentially put the structure at risk. There is considerable open space fuel in all directions.
The Fire Behavior Analysis was performed in all directions from the proposed pad.

Noted is that the site is very rocky, the lack of fuel means the models results are over predicted.

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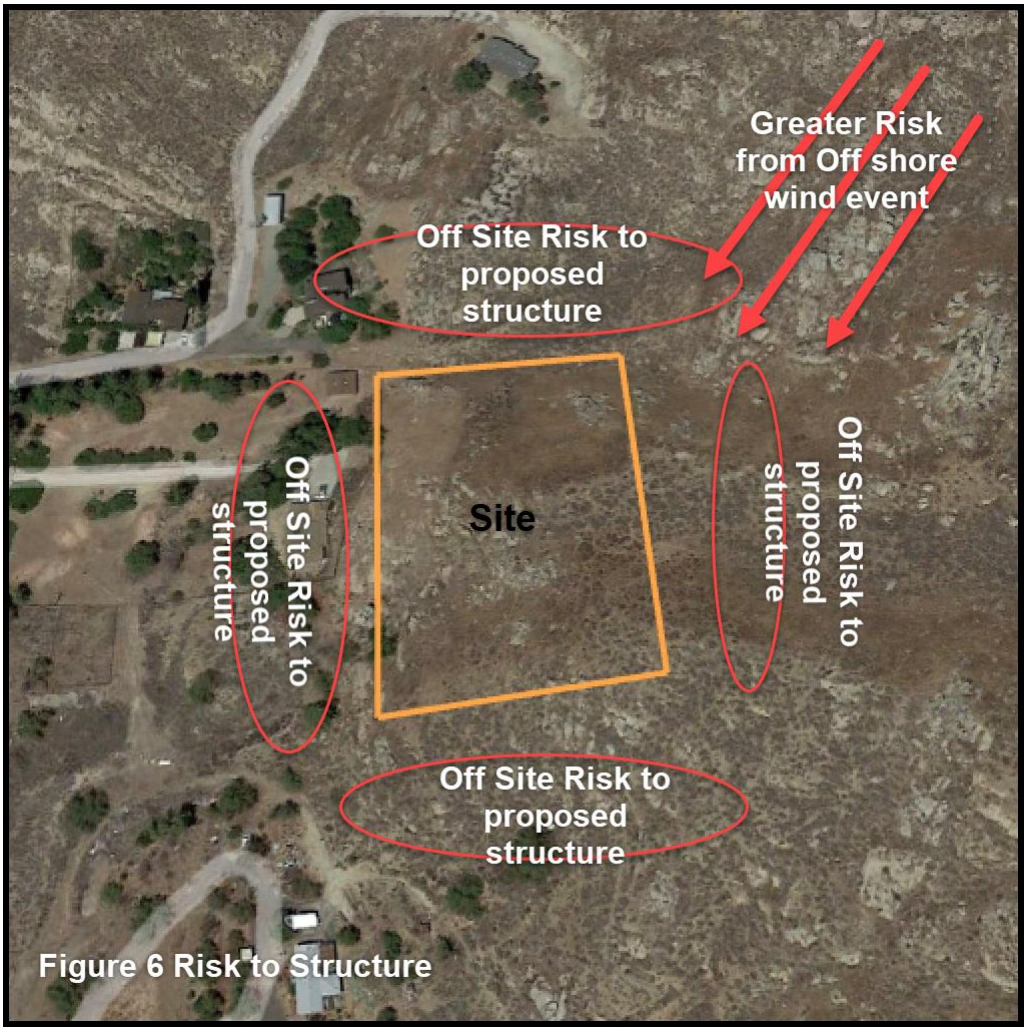


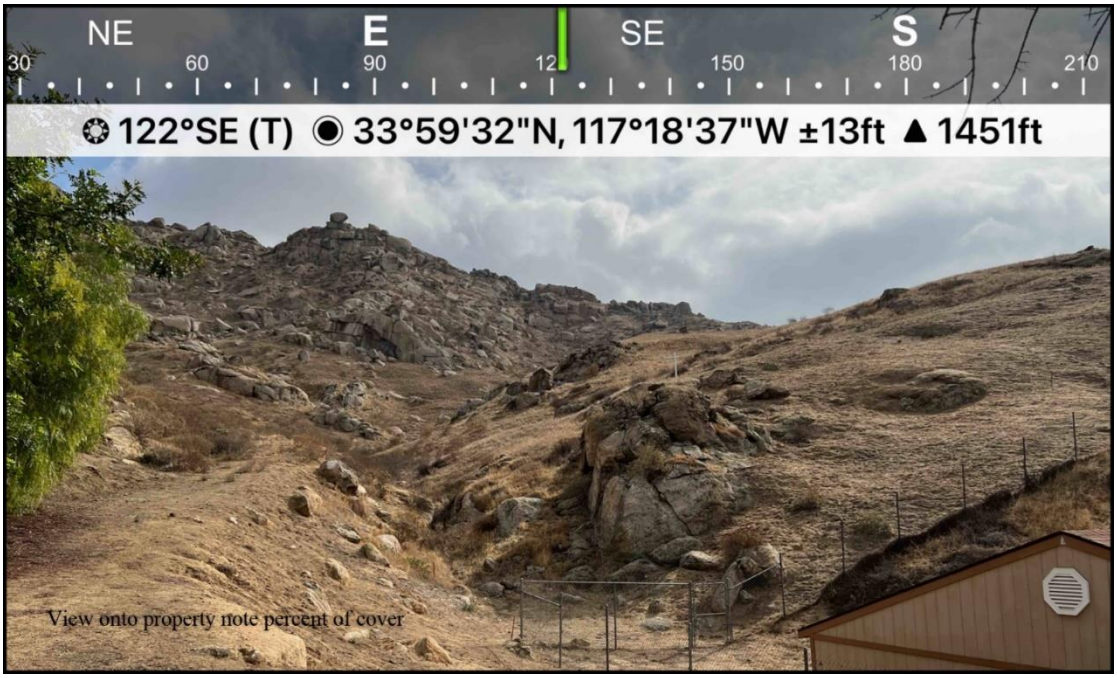
Figure 6 Risk to Structure

Historically, wildland fires have burned in the City of Riverside during moderate west to southwest winds. This moderately strong, dry wind condition that occurs during these fires usually develops in the late afternoon or early evenings. These winds occur during the normal summer and early fall (June through October) months. These winds may blow from 20-30 MPH. The most significant wind pattern that will impact the project is a Santa Ana wind which typically occur in September thru November and in the range of 50-60 MPH within this portion of Riverside County.

The current vegetative cover best resembles a SCAL 18 BEHAVE Model. Moderate Load, Dry Climate Shrub.

The required irrigated fire-resistant landscape surrounding the structure combined with ignition resistant construction requirements, will be more than sufficient to mitigate any threats from wildfire and embers coming from the east.

Site Photos



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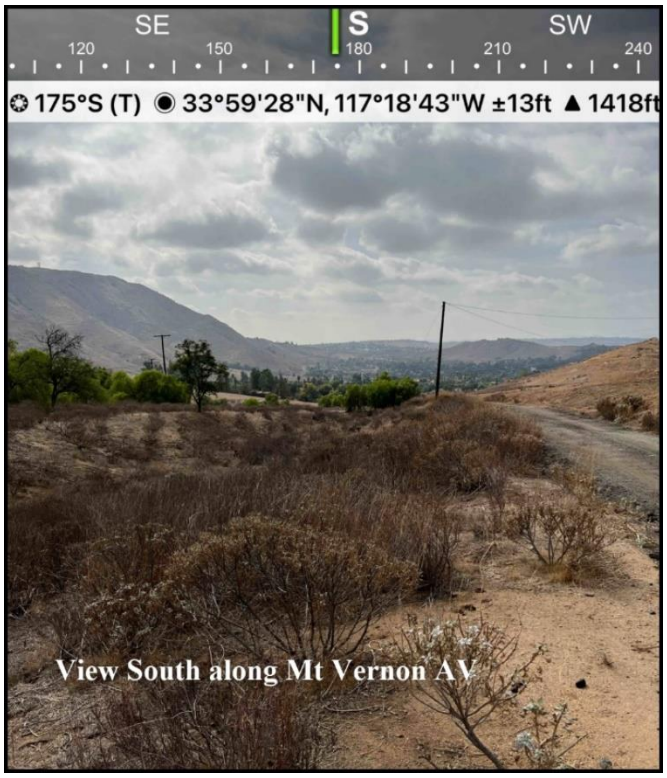

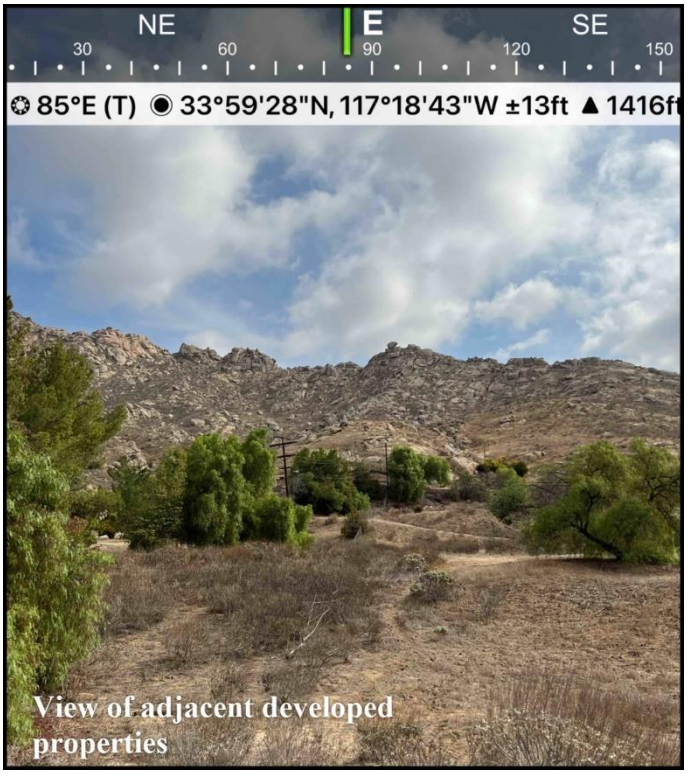

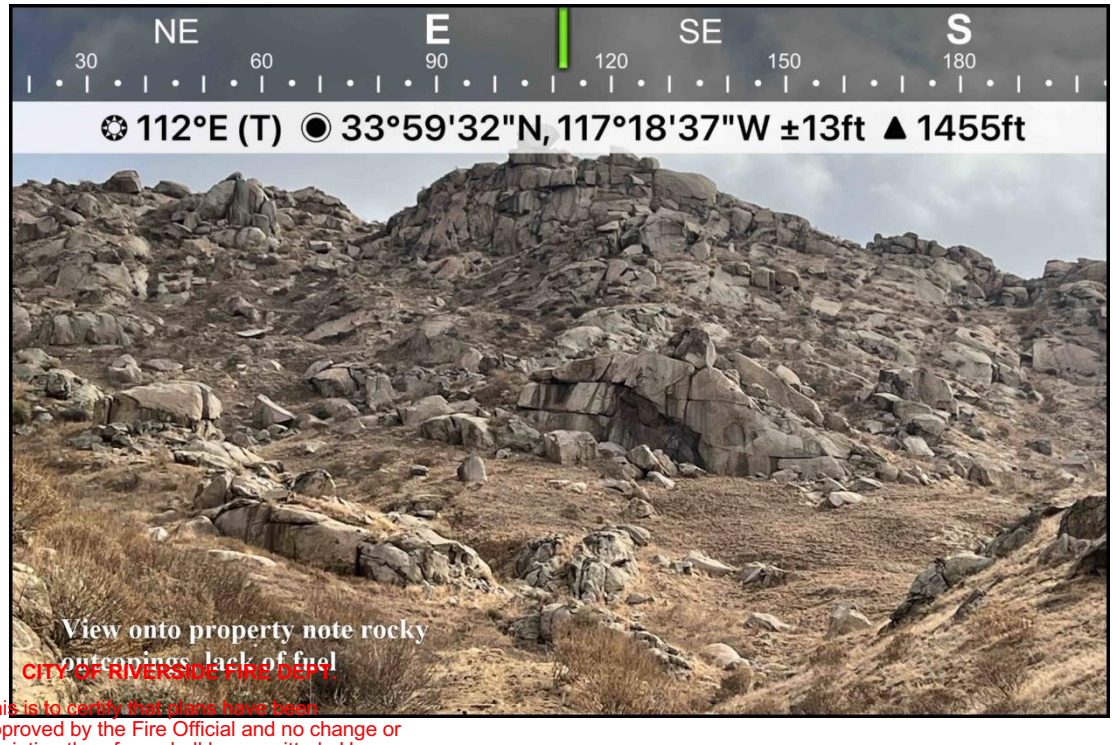

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The greatest threat will be from embers from a wildfire occurring to the east in the undeveloped open space.

2.3 On-site Fire Hazard and Risk Assessment

All the interior fuels will be removed during grading; therefore, there are no wildland fire hazards anticipated within the development once all the fuel modifications are developed as described in Section 6.0 Fuel Modification Zone Descriptions & Required Treatments.

2.4 Fire History

Historical wildland fire activity was also considered in developing this FPP. On the following page is a map showing historical large fire activity on and around the project over the past 100 years. The data for this map was obtained from CalFire. Smaller fires of under 100 ac are seldom maped unless they caused significant damage or loss of life.

Fire History is not signaficiant as both the major fires occred in 1981.

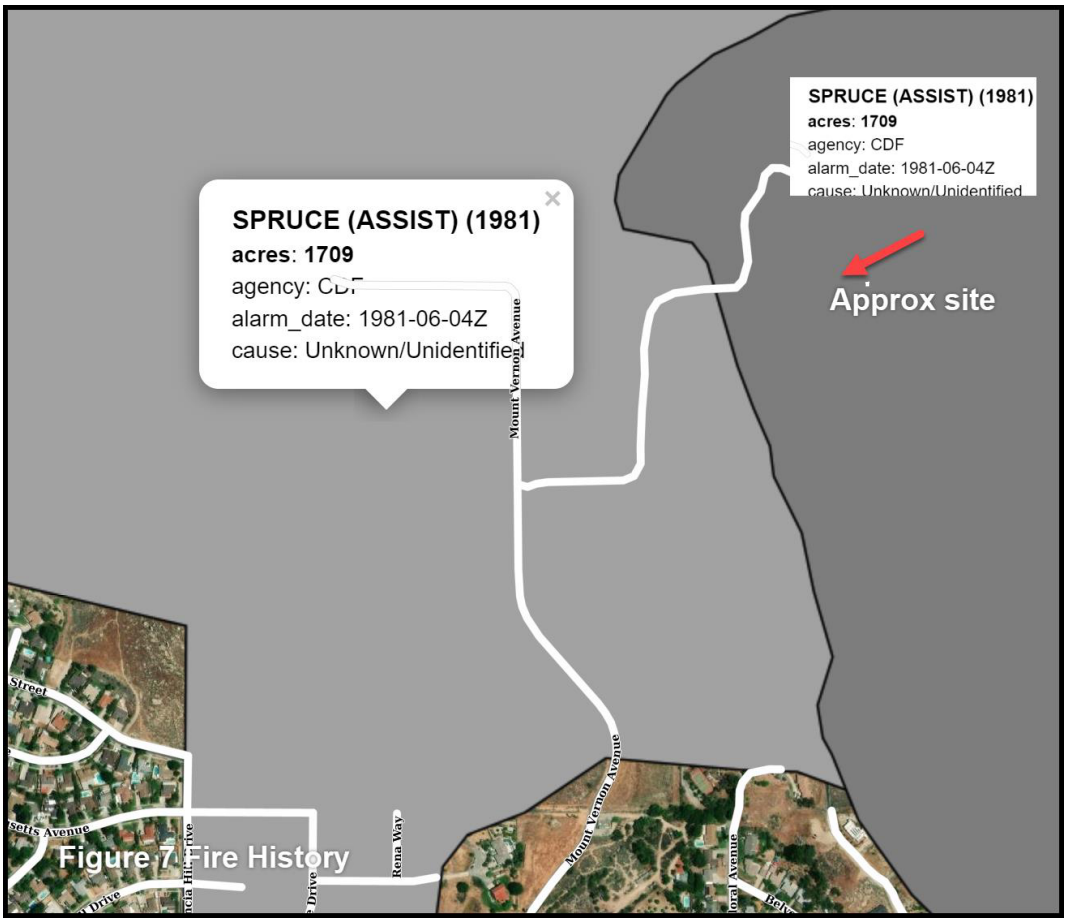

Figure 7 Fire History

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3.0 Predicting Wildland Fire Behavior

The BEHAVE Plus 5.0.5 Fire Behavior Prediction and Fuel Modeling System developed by USDA–Forest Service research scientists Patricia L. Andrews and Collin D. Bevins at the Intermountain Forest Fire Laboratory, Missoula, Montana, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE Plus fire behavior computer modeling system is utilized by wildland fire experts nationwide.

Wildland fire managers use the BEHAVE Plus modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in Fire Protection Planning purposes. ***FIREWISE 2000 LLC***. used the BEHAVE Plus 5.0.5 Fire Behavior Prediction Model to make the fire behavior assessments for the project discussed below.

3.1 Wildland Fire Behavior Calculations for the Adjacent Hazardous Vegetative Fuels

Wildland fire behavior calculations have been projected for the hazardous vegetative fuels in the undeveloped lands located east of the the proposed project. These projections are based on scenarios that are "worst case" Riverside County fire weather assumptions in the vicinty of the project area.

The following images provide the fire behaviour for a fire start in each directiion from the pad. They displays the expected Rate of Fire Spread (expressed in feet/minute), Fireline Intensity (expressed in btu/ft/s) and Flame Length (expressed in feet).

The Behave calculation inputs follow each run, and include source inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel moisture levels typically observed during the local fire season.

The flame lengths are over predicted because the model does not take into account the non-vegatated areas (rock out crops.) or areas that are dirt.
In estimatiion of the effect would be to evaluate the cover and deduct the percentage.

This is not scientific, however will be very close.

<u>If cover represent a 30% reduction caused by a lack of vegatation then it would reduce the flame lengths for the off shore run from 49 to 35 feet.</u>
30% would be less than what my observations were, I guessed around 50%.

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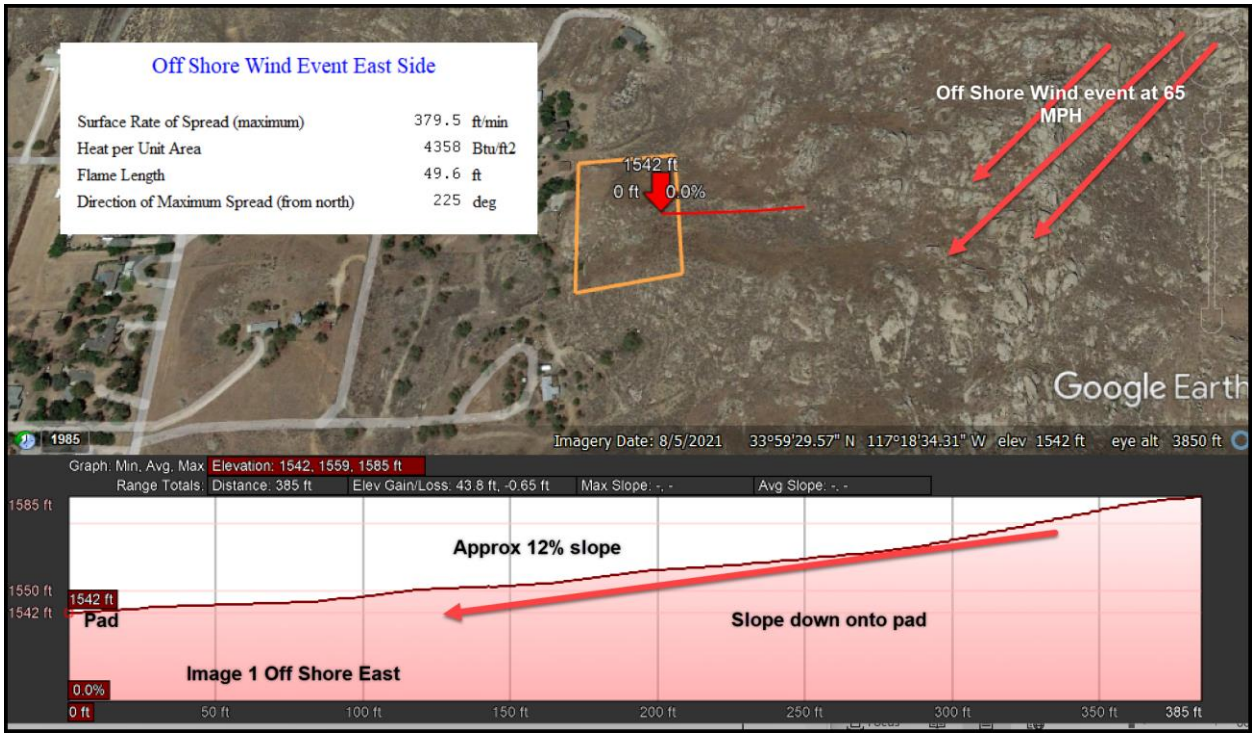
Image 1 Typical Off Shore



BehavePlus 5.0.5 (Build 307)

Off Shore Wind Event East Side
Wed, Jun 29, 2022 at 15:19:48

Input Worksheet

Inputs: SURFACE

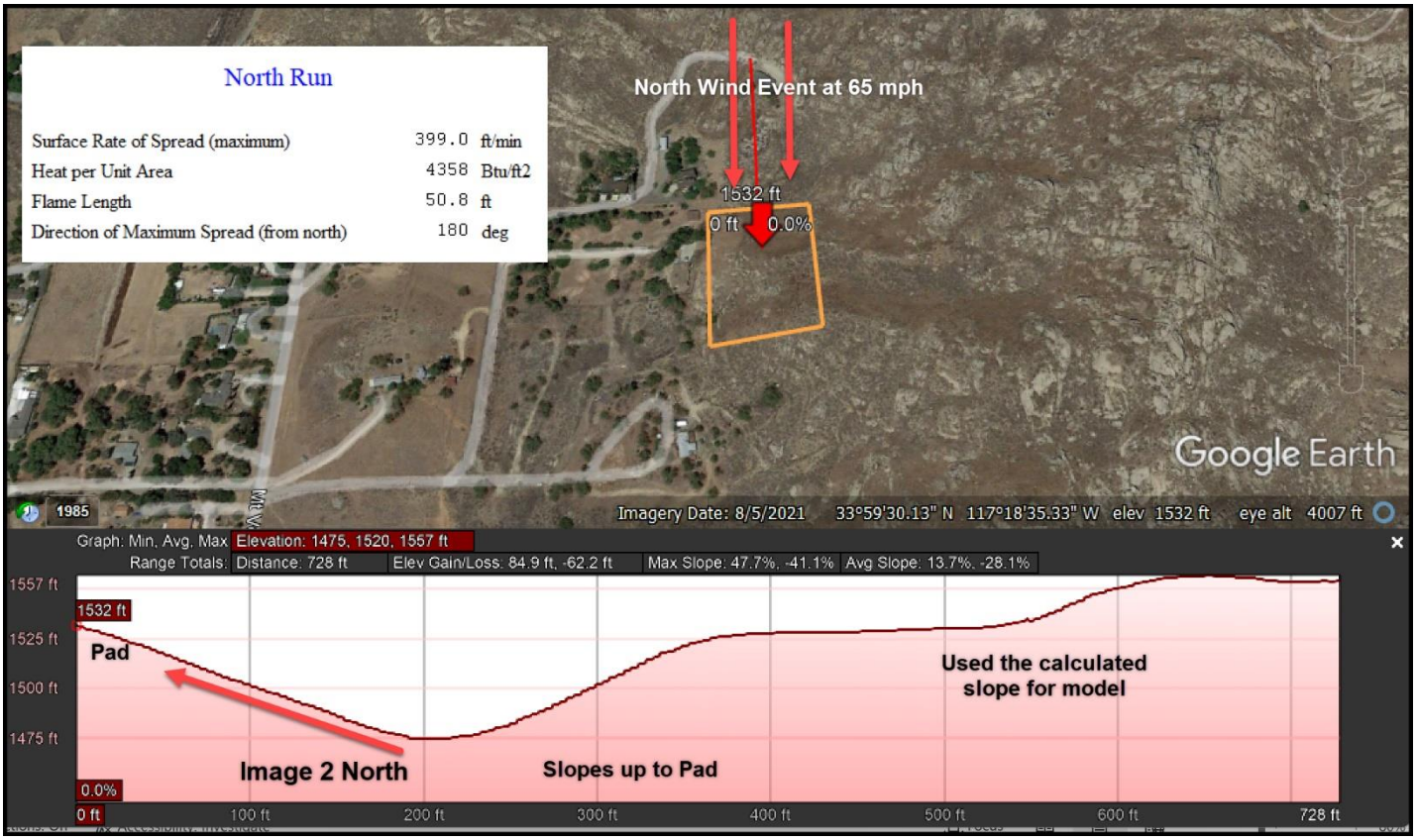
Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	65
Wind Adjustment Factor		.5

Wind Direction (from north)	deg	45

Terrain

Slope Steepness	%	12
Aspect	deg	270

Image 2 Fire Behavior from the North



BehavePlus 5.0.5 (Build 307)

North Run

Wed, Jun 29, 2022 at 15:29:48

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3

100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50

Weather

20-ft Wind Speed	mi/h	65
Wind Adjustment Factor		.5
Wind Direction (from north)	deg	0

Terrain

Slope Steepness	%	47
Aspect	deg	0

Notes

Image 3 Fire Behavior from the South

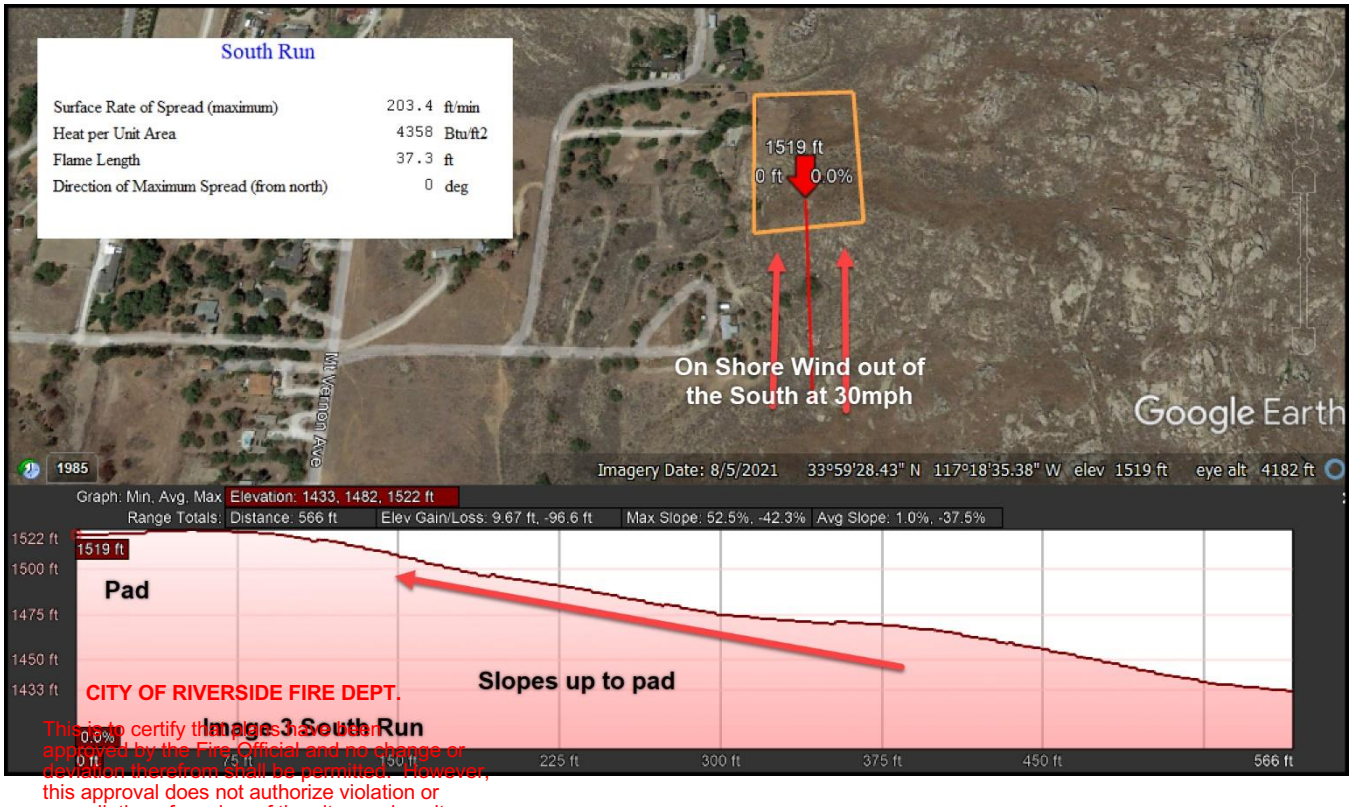


Image 3 South Run

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South Run

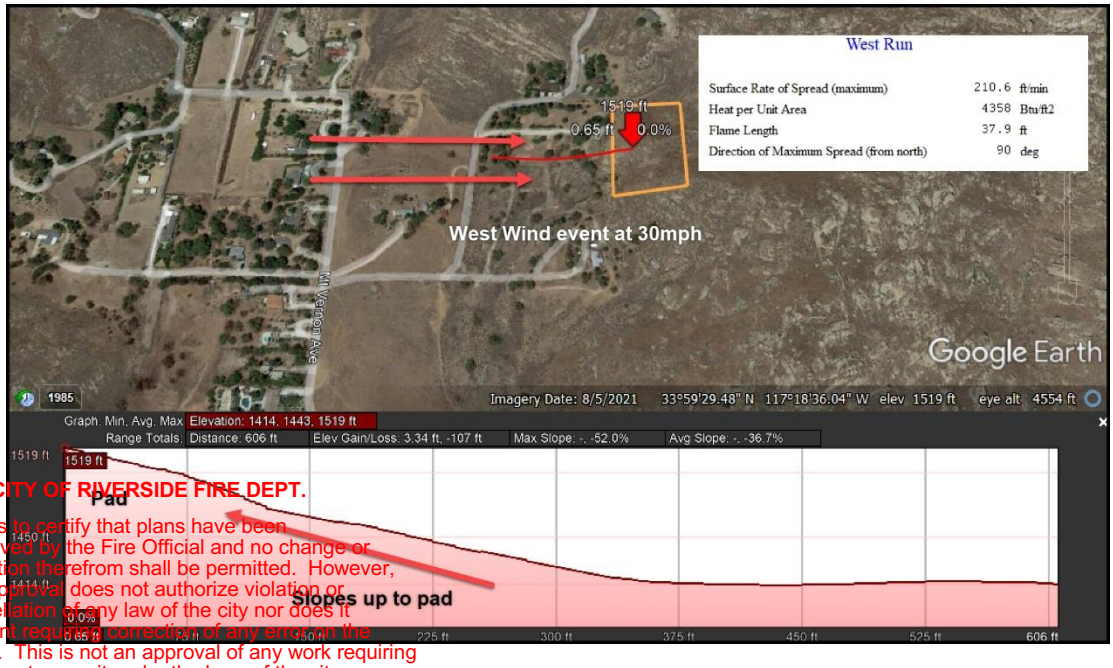
Wed, Jun 29, 2022 at 15:43:16

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	30
Wind Adjustment Factor		.5
Wind Direction (from north)	deg	180
Terrain		
Slope Steepness	%	43
Aspect	deg	180

Image 4 Fire Behavior from the West



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West Run

Wed, Jun 29, 2022 at 15:51:27

Input Worksheet

Inputs: SURFACE

Input Variables	Units	Input Value(s)
Fuel/Vegetation, Surface/Understory		
Fuel Model		SCAL18
Fuel Moisture		
1-h Moisture	%	2
10-h Moisture	%	3
100-h Moisture	%	5
Live Herbaceous Moisture	%	30
Live Woody Moisture	%	50
Weather		
20-ft Wind Speed	mi/h	30
Wind Adjustment Factor		.5
Wind Direction (from north)	deg	270
Terrain		
Slope Steepness	%	52
Aspect	deg	270

4.0 Assessing Structure Ignitions in the Wildland/Urban Interface

Structure ignitions from wildland wildfires basically come from three sources of heat: convective firebrands (flying embers), direct flame impingement, and radiant heat. The Behave Plus Fire Behavior Modeling Program does not address wind blown embers or firebrands from a structure ignition perspective. However, even though ignition resistant exterior building materials will be required in the construction, they are not garnateed to prevent ignition from wind driven embers, these issues are addressed in this FPP.

4.1 Firebrands

Firebrands are pieces of burning materials that detach from a burning fuel due to the strong convection drafts in the flaming zone. Firebrands may also be referred to as embers. Firebrands can be carried a long distance (one mile or more) by fire drafts and strong winds. Severe wildland/urban interface fires can produce heavy showers of firebrands. The chance of these firebrands igniting a structure will depend on the number and size of the firebrands, how long they burn after contact and the type of building materials, building design, and construction features incorporated into the structure. Firebrands landing on combustible roofing and decks are common sources for structure ignition. They can also enter a structure through unscreened or poorly screened vents, chimneys, unprotected skylights, and windows.

Even with non-combustible roofing, firebrands landing on leaves, needles, and other combustibles located on a roof (due to a lack of maintenance) can cause structure ignition. Any open windows, doors, or other types of unscreened openings are sources for embers to enter a structure during a wildland fire. If these maintenance issues are addressed on a regular basis, firebrands should not be a concern.

4.2 Radiant Heat/Direct Flame Impingement

Radiation and convection involve the transfer of heat directly from the flame to any exposed surface. Unlike radiation heat transfer, convection requires that the flames or heat column contact the structure. An ignition from radiation (given an exposed flammable surface) heat transfer depends on two aspects of the flame: 1) the radiant heat flux to a combustible surface and, 2) the duration (length of time) of the radiant flux. The radiant heat flux depends on the flame zone size, flame-structure distance, and how much the combustible material of the structure is exposed to the flame. While the flame from a wildfire may approach 1,800 degrees Fahrenheit, it is the duration of heat that is more critical. For an example, a blow torch flame typically approaches 2,100 degrees Fahrenheit, yet a person can easily pass their hand through the flame. Heat duration only becomes critical to a home with a wood exterior surface if the heat is allowed to remain for 30-90 seconds.

Research scientist Jack Cohen of the United States Forest Service has found that a home's or structures characteristics (its exterior materials and design in relation to the immediate area around a home within 100 feet) principally determine the home's ignition potential. He calls the home and its immediate surroundings the 'home ignition zone'. In a study of ignition of wood wallboard, tests by a USDA Forest Service research team described in the Proceedings, 1st International Fire and Materials Conference showed that flame impingement for sufficient length of time (approximately 1 min.) ignites a typical hardboard siding material.

Fire agencies consider fuel treatment as a principal approach to wildland fire hazard reduction. Whenever the flame length is equal to or more than the separation of combustible vegetation from a combustible structure for 1-2 minutes in duration or more, there is a high probability of structure ignition. Contact with a fire's convection heat column also may cause ignition but the temperature of the column's gases is generally not hot enough or long enough in duration to sustain the ignition of the structure.

Comparing the expected wildland fire behavior projections for all boundary areas against the required fuel modification zones, and mitigation measures outlined in Section 6.0, demonstrates substantial reductions in the expected flame length in treated fuels. By requiring the structures exposed to the threat of wildfire to incorporate the following guidelines, those structures will be provided with the most effective treatment for minimizing losses from flame impingement and associated radiant heat intensities.

- The structure is constructed of ignition resistant building materials.
- The area surrounding structure contains an Irrigated Zone (defensible space) and a thinning zone (low fuel volume buffer strip) between the Irrigated Zone and the untreated fuels.

The property owner shall be required (see Section 6.0) to maintain the properties to Zone 1 / Zone 2 Fuel Modification standards and shall keep the roof and any rain gutters free of leaves, needles and other combustible debris.

All combustible materials must be properly stored away from each structure so that burning embers falling on or near the structure have no suitable host. By requiring the structures to be constructed of non-combustible roofing, ignition resistant building materials, and the implementation of required fuel modification will be the most effective treatment for minimizing structure losses due to the projected flame lengths and associated radiant heat intensities.

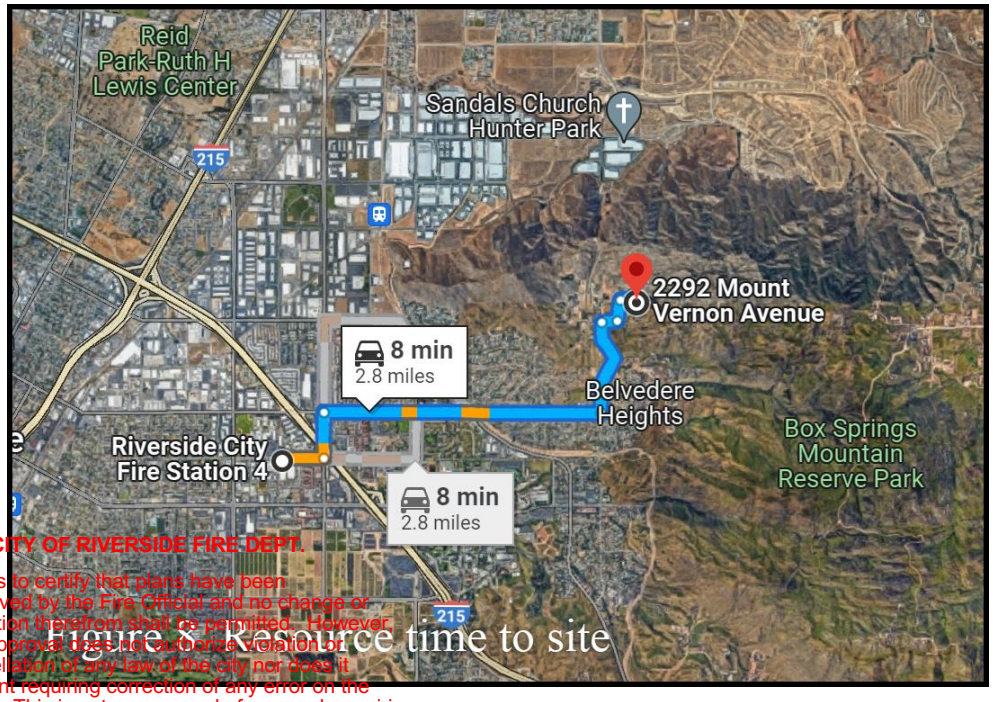
4.3 Fire Resistant Plant Palette

Wildland fire research has shown that some types of plants, including many natives, are more fire resistant than others. These low fuel volume, non-oily, non-resinous plants are commonly refered to as "fire resistant". This term comes with the proviso that each year these plants are pruned, all dead wood is removed and all grasses or other plant material are removed from beneath the circumference of their canopies. Some native species are not considered "undesirable" from a wildfire risk management perspective provided they are properly maintained year round. Refer to APPENDIX 'A' for a list of prohibited plant species and APPENDIX 'B' for Defensible Space Landscaping.

5.0 Fire Department Response Times

The project is within the Riverside City Fire Department's (RCFD) response area. The closest Fire apparatus is RCFD Riverside City Fire Station 4, from 1496 W Linden St (2.8 miles away). Would likely be the first engine to arrive on scene at to the structure.

Additional agencies such as Riverside County and nearby cities would also likely respond equipment should all of Riverside City Resources be unavailable.



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Although the RCFD Fire Station #4 engine may be generally 8 minutes away, there is no assurance that any of the engine companies will be in their stations when a wildfire threatens. Engines may respond from other stations located further away or from other incidents. On high/extreme fire danger days there often may be multiple fire starts and engine companies may be already deployed on other incidents.

- This is why planned projects use *"defensible space"*, 'Ignition Resistant' building features, and key fuel treatment strategies that enable residents to substantially increase their ability to survive a wildfire on their own and without the loss of any structure. The goal of this FPP, therefore, is to make the future residences and its owners, as safe as possible and able to survive on their own until firefighting equipment arrives and/or the occupants can be safely evacuated.

6.0 VEGETATION MANAGEMENT ZONE DESCRIPTIONS & REQUIRED TREATMENTS

- **Note: Landscaping elements will be coordinated with the Case Planner through "Landscape and Irrigation Design Review".**

Below are the descriptions and required treatments for the Vegetation Management Zones. All distances in this report are measured horizontally. These distances are depicted on the attached Fire Protection Plan Exhibit.

Zones 1 and 2 encompasses 100 feet which will ensure no radiant heat will reach the structure. Properties to the west required fuel treatment areas will tie into proposed Zones in that area. This will offer some buffer from on shore wind relate fire events. As note prior the extremely rocky landscape will assist in breaking up the fuel bed into more compartmentalized fuel areas.

Below are the descriptions and required treatments for the Fuel Modification Zones. All distances in this report are measured horizontally from the exterior of each structure. These distances are depicted on the enclosed Fire Protection Plan Map. Fuel treatment areas are a mix of irrigate areas and dry thinning areas.

The owner will be responsible for maintaining Fuel Modification Zone. In the event of repossession, the person/unit/agency holding title to the project will be responsible for the maintenance.

All highly flammable plant species identified in Appendix A shall be permanently removed from the Irrigated Zone 1 and Thinning Zone 2 due to their susceptibility to wildland fire.

6.1 Irrigated Zone 1 - Vegetation Management Zone 0/1 Irrigated - *HOMEOWNER MAINTAINED 50 feet*

Zone 0 Homeowner maintained Irrigated - An area starting at the structure envelope extending 5 feet outward. This zone includes the area under and around all attached decks, and requires the most stringent wildfire fuel reduction. This area shall be kept clear of combustibles, landscaping mulch, and any large shrubs and trees. It may have limited plants that are low growing, nonwoody, properly watered and maintained. Combustible fencing material shall not be attached to the structure.

Defined

Irrigated Zone 1 is commonly called the defensible space zone and shall be free of all combustible construction and materials. It includes the entire area around the structure (front, back and side) and that is located within the parcel. It is measured from the exterior wall of each structure or from the most distal point of a combustible projection, an attached accessory

structure, or an accessory structure within 10 feet of a structure. It provides the best protection against the high radiant heat produced by wildfire. It also provides a generally open area in which fire suppression forces can operate during wildfire events. This zone includes a level or level-graded area around each structure, primarily used for parking.

Required Landscaping

- Plants in this zone shall be fire resistant and shall not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the most 'fire resistant'. Refer to APPENDIX 'A' for the Prohibited Plant list.
- Zone 1 shall be cleared of all fire prone and prohibited plant species (see APPENDIX 'A').
- Landscape designs using hardscape features such as driveways, swimming pools, concrete, rock, pavers, and similar non-combustible features to break up fuel continuity within Zone 1 are encouraged.

- All Landscaping will be fire resistive. Landscaping elements will be coordinated with the Case Planner through Landscape and Irrigation Design Review.

Required Maintenance

- Maintenance shall be year round by the owner as required by this FPP or the RCFD.
- Remove and replace any dead or dying plant material monthly.
- Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they shall be cut to four inches or less in height.
- Trees shall be maintained to a minimum of six feet of vertical separation from low growing, irrigated vegetation beneath the canopy of each tree.
  All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]* (see (http://tcia.org/business/ansi-a300-standards).

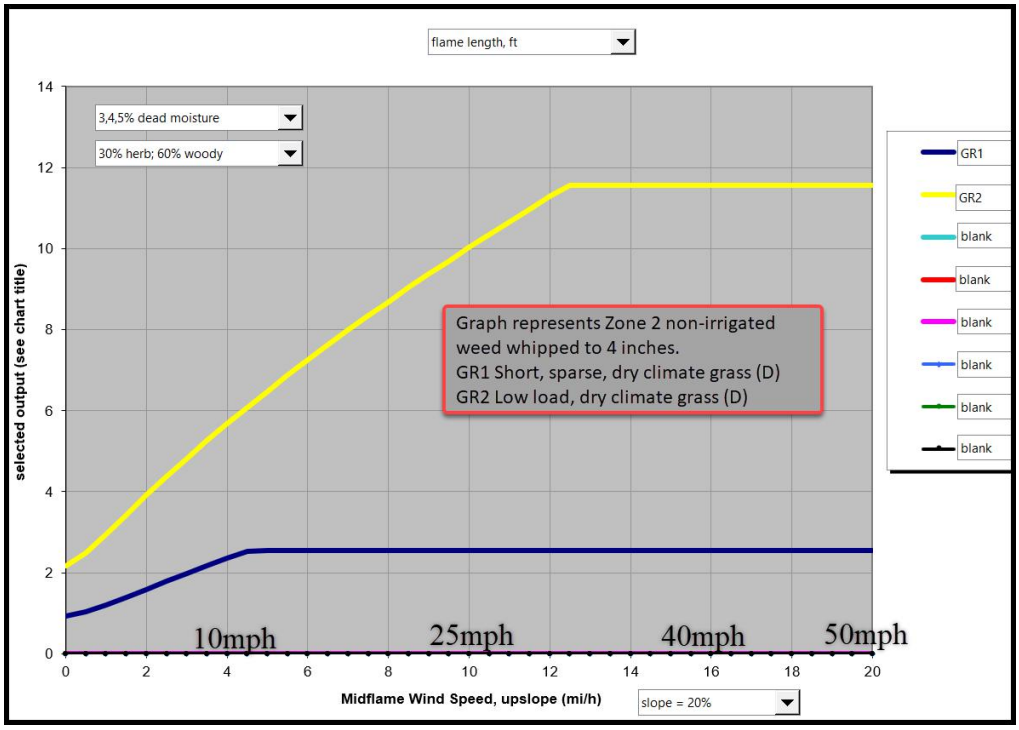
6.2 Vegetation Management Non Irrigated – MAINTAINED by OWNER

Defined

THINNING ZONE, is an area following Zone 1 and extends outward to 100 feet or the PL. Distances is less than 100feet on east side of project site. The first 20 feet closest to Zone 1 shall be kept clear of any shrub plantings and trees, maintained as grass land weed whipped or mowed to 4 inches.
The area following this 20-foot band may include single or small clusters of trimmed fire resistance native plants up to 36 inches in height where 50% of the vegetation is removed. Selected native plant clusters must be separated by at least 1 1/2 times the mature height of the retained plants. The ground cover and grasses shall be weed whipped and maintained to 4" or less in stubble height.

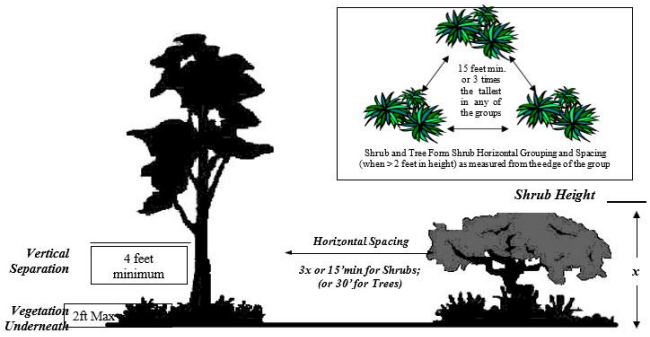
Required Maintenance

- Fuel Modification area shall be maintained year, as required by this FPP. Inspections and compliance shall be by Riverside City.
- Shrubs shall be kept trimmed to ensure spacing is maintianed.
- Grasses shall be maintained weed whipped to 4 inches.
- The area shall be maintained free of invasive plants and any volunteer native shrubs.
- **All plantings should be installed with at maturity growth in mind.**



- **The image below provides a best practice spacing guide for construction and long-term maintenance.**

Requirements for Planting Installation in Fuel Modification Zones Spacing and Separation



Horizontal Spacing

Vegetation Less than 2 Feet in height:

- No horizontal spacing or vertical separation is required. Ground cover shall not exceed 2 feet in height, In Zone 1,ground cover may cover the entire ground between groups of shrubs, trees, or grasses and grasses are not considered ground cover. Grasses are acceptable within Zone 1 irrigated, all non-irrigated grasses will be maintained weed whipped or mowed to 4 in.

Shrubs and Trees 2 Feet in Height or Greater:

Shrub and Tree Group Size:

- All Shrubs and Trees can be in groups of 3 specimens or less. No horizontal spacing is required inside the group.

Shrub / Tree-form Shrub Group Spacing:

- Groups of shrubs shall be spaced by the greater of the following two measurements: A., distance of 15 feet minimum (or) 3 times the height of the tallest specimen in any of the groups.
- No vegetation over 2 feet in height is allowed within 15 feet from the edge of tree canopy(s).

Tree Group Spacing:

- Groups of Trees shall be spaced by a distance of 20 feet minimum regardless of height. In Zone 1, full growth tree branches are not allowed within 10 feet of enclosed combustible structures.

Vertical Separation

- **Shrubs and Trees Less than 10 Feet in Height**: When the fuel modification zone is within 30 feet of the structure, a vertical separation of 2ft is required from the vegetation underneath (not required if shrubs are further than 30 feet from structure).

Shrubs and Trees 10 Feet in Height or Greater:

- A vertical separation of 4 feet minimum is required to be maintained from the vegetation underneath.
- Trees only: All vegetation located underneath trees, shall be a maximum of 2 feet in height.

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Engineer Smith Choi Date 12/07/22

Figure 9 Plant Spacing

7.0 Construction Standards

The Landeros Residence and ADU shall be considered to be within a Very High Fire Hazard Severity Zone (VHFHSZ) and shall be designed and built-in accordance with Chapter 7A (Materials and Construction Methods for Exterior Wildfire Exposure) of the 2019 California Building Code. To include local code amendments. For a description of the current construction requirements as of the date of this report see APPENDIX 'D'.

- All construction and ignition resistant requirements shall meet the 2019 version of the California Fire Code, including amendments, and related Ordinances. The fire protection features described herein shall be maintained to their equivalent or greater ignition resistance in perpetuity.

Construction or building permits shall not be issued until the fire code official inspects and approves required fire apparatus access and water supply for the construction site.

7.1 Conditions To Be Met

Prior to the delivery of combustible building construction materials to the project site the following conditions shall be completed to the satisifaction of the RCFD:

- Water and power utilities shall be installed and approved by the appropriate inspecting department or agency.
- Zone 1 shall be cleared of all vegetation prior to construction and subsequently planted to the requirments stated in Section 6.1 after construction is completed.

7.2 Additional Construction Requirements

Adequate irrigated space exists to provide a level of safety in regard to radiant heat.

An automatic fire sprinkler system is required by City Ordinance 16.32.080. Under separate cover, submit plans for the automatic fire sprinkler system(s) and obtain approval from the Fire Department prior to installation.

7.3 Application for Alternate Materials and Methods. (AMMR) and Proposed mitigation measures and mandatory requirement.

These measures are formally captured in the AM&M Application Appendix E.

1) 6-ft tall masonry wall as designated on the attached exhibit along the eastern PL to protect the structures from, convected/radiant heat and blowing ground embers.
2) A 2-hour exterior rated wall assembly for those surfaces facing the reduced Fuel Modification Area

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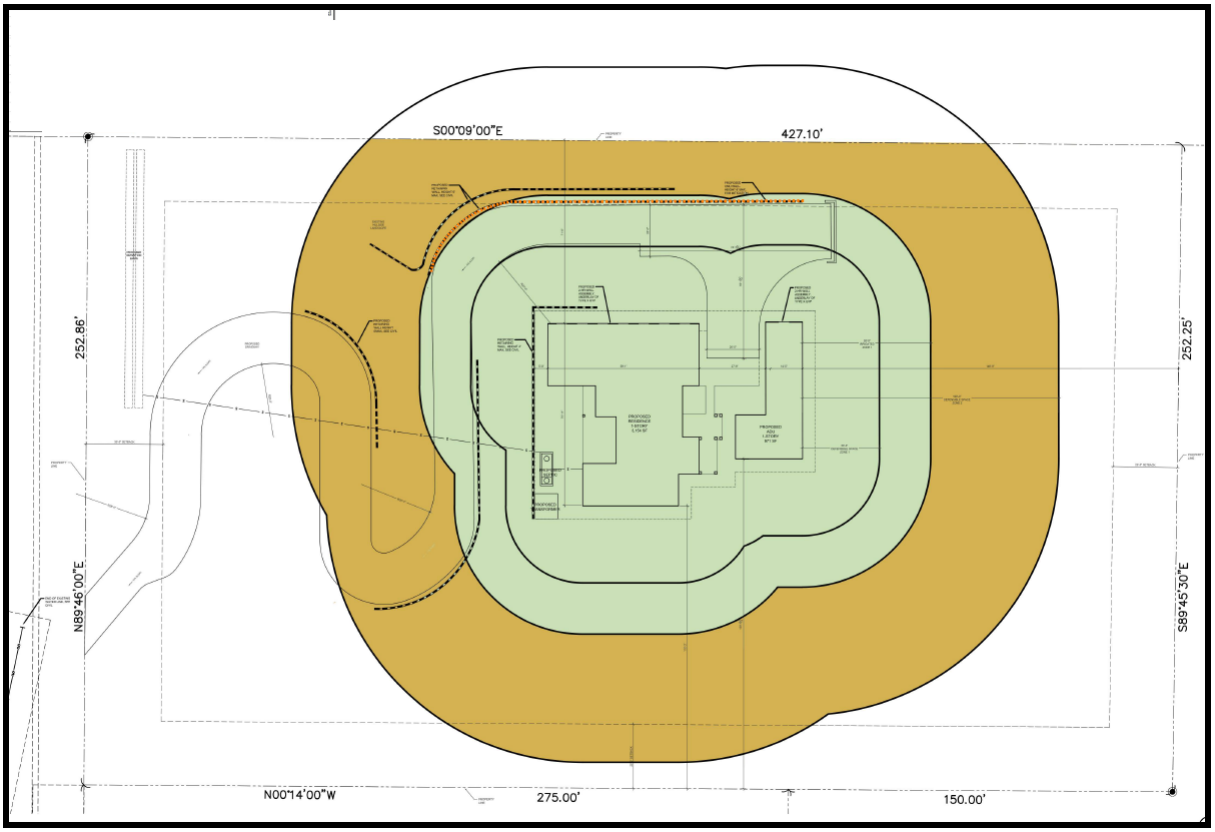

8.0 Owner, Occupant/Employee Education

The owner should prepare, that in the event of a wildland fire, they should always relocate to a safe area well beyond the path of the threatening wildland fire. If relocation is not possible and egress is cut-off by the fire, they should seek shelter within thier structure until the wildland fire passes through their area. The ignition resistant buildings will have a 'defensible space' area around each structure for firefighters to make their stand in the protection of each structure. In the event firefighting forces are not readily available, the defensible space will substantially increase the probability of 'structure survivability'.

Should relocation be the the chosen option and time is available, they should ensure that all doors and windows are closed to prevent embers from entering their structure. Doors should be unlocked to allow emergency personnel unimpeded access. Both inside and outside lights should be placed on to allow emergency personnel to know that a structure is present when smoke or darkness may otherwise obscure visibility. In addition, combustible materials shall not be stored within 10 feet of any structure.

The owner shall be aware of the herein described fire protection measures by reviewing this FPP of the types of non-combustible construction and plant materials that are allowed within the the designated fuel treatment zones. A copy of this plan shall be provided to a future owner during escrow proceedures. Of particular importance are APPENDICES 'A', 'B', and 'D' of this plan which provide guidance in the types of plants that allowed to be established in landscaped areas

and appropriate construction materials within fuel modification zones. Plant selection is critical as embers often travel over a mile during Santa Ana wind events.

Where this FPP requires specific construction features, these features shall not be changed without the approval of the RFD. These features are required to maintain reasonable fire safety.

9.0 Infrastructure

Below is a review and discussion of water supply and access roads/driveways and gates that are to be utilized in the development.

9.1 Water Supply

The water supply will be provided by Riverside Public Utilities. An approved permanent water supply capable of supplying the required fire flow will be designed and installed prior to beginning construction.

Water supplies for fire protection and hydrants shall be in accordance with the 2019 California Fire Code as amended by the City of Riverside.
Hydrant installation shall conform to City of Riverside INFORMATION BULLETIN: D-19-005 and the 2019 NFPA 14, Fire hydrants shall be tested, accepted and placed in service prior to the delivery of any combustible materials to the project site.

9.2 Access Roads/Driveways and Gates

There shall be one access into the project. Access will be via Mt Vernon Ave, with a fire department turnaround on property.

Driveways and access roads within the development shall be termed 'Fire Access Roads' within this document. All fire access roads shall meet the requirements of the Riverside City Fire Depaertment, and shall be all weather surface capable of supporting loads of 80,000 lbs gross vehicle weight.
Unless otherwise approved by the RCFD Fire Marshal, the grade of a fire apparatus access road shall not exceed 16 percent and the cross slope shall not exceed 2.5 percent.
Access to all exterior portions of each structure must be within 150 feet of the available fire department access. The required turning radius of a fire apparatus access road shall be in accordance with Information Bulletin B-19-001, 28 feet inside radius and 48 feet outside radius. in accordance with Information Bulletin B-19-001 unless otherwise approved by the fire code official. Fire lanes shall be marked in accordance with the guidelines in Information Bulletin B-19-003.

Any gates to be installed shall meet RCFD Standards and shall be approved by the RCFD prior to fabrication and installation. A Knox override key switch or similar device must be installed outside the gate in an approved, readily visible, and unobstructed location at or near the gate to provide emergency access. Gates accessing major roadways shall also be equipped with approved emergency traffic control-activating strobe light sensor(s), or other devices approved by the Fire Chief, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure. All gates shall always be equipped to allow for automatic egress.

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10.0 Fire Protection Plan Map

Attached in a separate file is the Fire Protection Plan Map depicting the location of all proposed fuel treatment locations as well as fire access roads, and development bundaries.

APPENDICES

Prohibited Plant List	**APPENDIX 'A'**
Defensible Space Landscaping	**APPENDIX 'B'**
Literature Referenced	**APPENDIX 'C'**
Ignition Resistant Construction Requirements	**APPENDIX 'D'**
AM&M Application	**APPENDIX 'E'**
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CITY OF RIVERSIDE FIRE DEPT.

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Engineer Smith Choi **Date** 12/07/22

APPENDIX 'A'

Prohibited Plant List

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Engineer Smith Choi **Date** 12/07/22

APPENDIX 'A'

Prohibited (& Fire Prone) Plant Species List
For Fuel Modification Zones in High & Very High Hazard Areas

	Botanical Name	Common Name	Plant Form
1.	Acacia species •	Acacia	Shrub/Tree
2.	Adenostema fasciculatum	Chamise	Shrub
3.	Adenostema sparsifolium	Red Shank	Shrub/Tree
4.	Artemisia californica	California Sagebrush	Shrub
5.	Anthemis cotula	Mayweed	Weed
6.	Arundo donax	Giant reed	Grass/weed
7.	Brassica nigra	Black Mustard	Weed
8.	Brassica ropa	Yellow Mustard	Weed
9.	Cedrus species	Cedar	Tree
10.	Cirsim vulgare	Wild Artichoke	Weed
11.	Conyza canadensis	Horseweed	Weed
12.	Cortaderia selloana	Pampas Grass	Tall Grass
13.	Cupressus species	Cypress	Tree
14.	Eriogonum fasciculatum	Common Buckwheat	Shrub
15.	Eucalyptus species	Eucalyptus	Shrub/Tree
16.	Heterotheca grandiflora	Telegraph plant	Weed/shrub
17.	Juniperus species	Junipers	Succulent
18.	Lactuca serriola	Prickly lettuce	Weed
19.	Nicotiana bigelevil	Indian tobacco	Shrub
20.	Nicotiana glauca	Tree tobacco	Shrub
21.	Pennisetum species	Fountain Grass	Ground cover
22.	Pinus species	Pines	Tree
23.	Rosmarinus species	Rosemary	Shrub
24.	Salvia species • •	Sage	Shrub
25.	Silybum marianum	Milk thistle	Weed
26.	Urtica urens	Burning nettle	Weed

- • Except:
  Acacia redolens desert carpet (Desert Carpet ground cover)
- • • Except:
  Salvia columbariae (chia)
  Salvia sonomensis (Creeping Sage)

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Additionally, all of the following plants shall be removed from fuel treatment zones in order to not only reduce fuel loading but also eliminate invasive plants that are identified in the Multiple Species Habitat Conservation Plan for Riverside County (MSHCP).

TABLE 6-2
PLANTS THAT SHOULD BE AVOIDED
ADJACENT TO THE MSHCP CONSERVATION AREA

BOTANICAL NAME	COMMON NAME
Acacia spp. (all species)	acacia
Achillea millefolium	var. *millefolium* common yarrow
Ailanthus altissima	tree of heaven
Aptenia cordifolia	red apple
Arctotheca calendula	cape weed
Arctotis spp. (all species & hybrids)	African daisy
Arundo donax	giant reed or arundo grass
Asphodelus fistulosus	asphodel
Atriplex glauca	white saltbush
Atriplex semibaccata	Australian saltbush
Carex spp. (all species*)	sedge
Carpobrotus chilensis	ice plant
Carpobrotus edulis	sea fig
Centranthus ruber	red valerian
Chrysanthemum coronarium	annual chrysanthemum
Cistus ladanifer	(incl. hybrids/varieties) gum rockrose
Cortaderia jubata [*syn.C. Atacamensis*]	jubata grass, pampas grass
Cortaderia dioica [syn. *C. sellowana*]	pampas grass
Cotoneaster spp. (all species)	cotoneaster
Cynodon dactylon	(incl. hybrids varieties) Bermuda grass
Cyperus spp. (all species*)	nutsedge, umbrella plant
Cytisus spp. (all species)	broom

Delosperma 'Alba'	white trailing ice plant
Dimorphotheca spp. (all species)	African daisy, Cape marigold
Drosanthemum floribundum	rosea ice plant
Drosanthemum hispidum	purple ice plant
Eichhornia crassipes	water hyacinth
Elaegnus angustifolia	Russian olive
Eucalyptus spp. (all species)	eucalyptus or gum tree
Eupatorium coelestinum [syn. Ageratina sp.]	mist flower
Festuca arundinacea	tall fescue
Festuca rubra	creeping red fescue
Foeniculum vulgare	sweet fennel
Fraxinus uhdei	(and cultivars) evergreen ash, shamel ash
Gaura (spp.) (all species)	gaura
Gazania spp. (all species & hybrids)	gazania
Genista spp. (all species)	broom
Hedera canariensis	Algerian ivy
Hedera helix	English ivy
Hypericum spp. (all species)	St. John's Wort
Ipomoea acuminata	Mexican morning glory
Lampranthus spectabilis	trailing ice plant
Lantana camara	common garden lantana
Lantana montevidensis [syn. *L. sellowiana*]	lantana
Limonium perezii	sea lavender
Linaria bipartita	toadflax
Lolium multiflorum	Italian ryegrass
Lolium perenne	perennial ryegrass
Lonicera japonica	(incl. 'Halliana') Japanese honeysuckle
Lotus corniculatus	birdsfoot trefoil
Lupinus arboreus	yellow bush lupine
Lupinus texanus	Texas blue bonnets

Malephora crocea	ice plant
Malephora luteola	ice plant
Mesembryanthemum nodiflorum	little ice plant
Myoporum laetum	myoporum
Myoporum pacificum	shiny myoproum
Myoporum parvifolium	(incl. 'Prostratum') ground cover myoporum
Oenothera berlandieri	Mexican evening primrose
Olea europea	European olive tree
Opuntia ficus-indica	Indian fig
Osteospermum spp. (all species)	trailing African daisy, African daisy,
Oxalis pes-caprae	Bermuda buttercup
Parkinsonia aculeata	Mexican palo verde
Pennisetum clandestinum	Kikuyu grass
Pennisetum setaceum	fountain grass
Phoenix canariensis	Canary Island date palm
Phoenix dactylifera	date palm
Plumbago auriculata	cape plumbago
Polygonum spp. (all species)	knotweed
Populus nigra 'italica	' Lombardy poplar
Prosopis spp. (all species*)	mesquite
Ricinus communis	castorbean
Robinia pseudoacacia	black locust
Rubus procerus	Himalayan blackberry
Sapium sebiferum	Chinese tallow tree
Saponaria officinalis	bouncing bet, soapwart
Schinus molle	Peruvian pepper tree, California pepper
Schinus terebinthifolius	Brazilian pepper tree
Spartium junceum	Spanish broom
Tamarix spp. (all species)	tamarisk, salt cedar
Trifolium fragiferum	strawberry clover
Tropaelolum majus	garden nasturtium

Ulex europaeus	prickly broom
Vinca major	periwinkle
Yucca gloriosa	Spanish dagger
An asterisk (*) indicates some native species of the genera exist that may be appropriate. **Sources:** California Exotic Pest Plant Council, United States Department of Agriculture-Division of Plant Health and Pest Prevention Services, California Native Plant Society, Fremontia Vol. 26 No. 4, October 1998, The Jepson Manual; Higher Plants of California, and County of San Diego-Department of Agriculture.	

APPENDIX 'B'

Defensible Space Landscaping

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Engineer Smith Choi **Date** 12/07/22

Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
1.	W_	Abelia x grandiflora	Glossy Abelia	Shrub
2.	_	Acacia redolens desert carpet	Desert Carpet	Shrub
3.	_	Acer macrophyllum	Big Leaf Maple	Tree
4.	X	Achillea millefolium	Common Yarrow	Low shrub
5.	W	Achillea tomentosa	Wolly Yarrow	Low shrub
6.	X	Aeonium decorum	Aeonium	Ground cover
7.	X	Aeonium simsii	Aeonium	Ground cover
8.	W	Agaave attenuata	Century Plant	Succulent
9.	W	Agave shawii	Shaw's Century Plant	Succulent
10.	N	Agave victoriae-reginae	Agave	Ground cover
11.	X	Ajuga reptans	Carpet Bugle	Ground cover
12.	W_	Alnus cordata	Italian Alder	Tree
13.	_	Alnus rhombifolia	White Alder	Tree
14.	N	Aloe aborescens	Torch Aloe	Shrub
15.	N	Aloe aristata	Dwarf Aloe	Ground cover
16.	N	Aloe brevifolia	Aloe	Ground cover
17.	W	Aloe Vera	Medicinal Aloe	Succulent
18.	W_	Alyogyne huegelii	Blue Hibiscus	Shrub
19.	_	Ambrosia chamissonis	Beach Bur-Sage	Perennial
20.	_	Amoroha fruticosa	Western False Indigobush	Shrub
21.	W_	Anigozanthus flavidus	Kangaroo Paw	Perennial Accent
22.	_	Antirrhinum nuttalianum ssp. Nuttatianum	Beard Tongue	Subshrub
23.	X	Aptenia cordifolia x 'Red Apple'	Red Apple Aptenia	Ground cover
24.	W	Arbutus unedo	Strawberry Tree	Tree
25.	W	Arctostaphylos 'Pacific Mist'	Pacific Mist Manzanita	Ground cover
26.	W_	Arctostaphyis edmundsil	Little Sur Manzanita	Ground cover
27.	_	Arctostaphylos glandulosa	Eastwood Manzanita	Shrub
28.	W	Arctostaphylos hookeri 'Monterey Carpet'	Monterey Carpet Manzanita	Low shrub
29.	N	Arctostaphylos pungens	Heather	Shrub
30.	N	Arctostaphylos refugioensis	Refugio Manzanita	Shrub
31.	W	Arctostaphylos uva-ursi	Bearberry	Ground cover
32.	W	Arctostaphylos x 'Greensphere'	Greensphere Manzanita	Shrub
33.	N	Atemisia caucasia	Caucasian Artemisia	Ground cover
34.	N	Artemisia pycnocephaia	Beach Sagewort	Perennial
35.	X	Atriplex canescens	Four-Wing Saltbush	Shrub
36.	X_	Atriplex lentiformis ssp. Breweri	Brewer Saltbush	Shrub
37.	_	Baccharis emoryi	Emory Baccharis	Shrub
38.	W_	Baccharis pilularis ssp. Consanguinea	Chaparral Bloom	Shrub

X = Plant Species prohibited in wet and dry fuel modification zones adjacent to native open space lands. Acceptable in all other fuel modification zones and locations.

W = Plant species appropriate for use in wet fuel modification zones adjacent to native open space lands. Acceptable in all other wet and irrigated dry (manufactured slopes) fuel modification zones and locations.

_ = Plant species native to Riverside, Orange and San Diego Counties. Acceptable in all fuel modification (wet or dry zones) in all locations.

N = Plant species acceptable on a limited basis (maximum 30% of the area at time of planting) in wet fuel modification zones adjacent to native open space reserve lands. Acceptable in all other fuel modification zones and locations.

* = If seed collected from local seed source.

+ = Non-native plant species, but can be used in all fuel modification zones.

Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
39.	X_	Baccharis pilularis var. pilularis 'Twin Peaks #2'	Twin Peaks	Ground cover
40.	_	Baccharis salicifolia	Mulefat	Shrub
41.	N	Baileya Multiradiata	Desert Marigold	Ground cover
42.	W	Beaucarnea recurvata	Bottle Palm	Shrub/Small tree
43.	N_	Bougainvillea spectabilis	Bougainvillea	Shrub
44.	N_	Brahea armata	Mexican Blue Palm, Blue Hesper Palm	Palm
45.	N_	Brahea brandegeei	San Jose Hesper Palm	Palm
46.	N_	Brahea edulis	Guadalupe Palm	Palm
47.	_	Brickellia californica	Hoary Nettle	Subshrub
48.	W_	Bromus carinatus	California Brome	Grass
49.	_	Camissionia cheiranthifolia	Beach Evening Primrose	Perennial subshrub
50.	N	Carissa macracarpa	Green Carpet Natal Plum	Ground cover/shrub
51.	X	Carpibrotus chilensis	Sea Fig Ice Plant	Ground cover
52.	W	Ceanothus gloriosus 'Point Reyes'	Point Reyes Ceanothus	Shrub
53.	W	Ceanothus griseus 'Louise Edmunds'	Louis Edmunds Ceanothus	Shrub
54.	W	Ceanothus griseus horizontalis	Yankee Point	Ground cover
55.	W	Ceanothus griseus var. horizontalis	Carmel Creeper Ceanothus	Shrub
56.	_	Ceanothus megacarpus	Big Pod Ceanothus	Shrub
57.	W_	Ceanothus prostrastus	Squaw Carpet Ceanothus	Shrub
58.	_	Ceanothus spinosus	Green Bark Ceanothus	Shrub
59.	W	Ceanothus verrucosus	Wart-Stem Ceanothus	Shrub
60.	W	Cerastium tomentosum	Snow-in-summer	Ground cover/shrub
61.	W	Ceratonia siliqua	Carob	Tree
62.	W	Cercis occidentalis	Western redbud	Tree/Shrub
63.	X	Chrysanthemum leucanthemum	Oxeye Daisy	Groundcover
64.	W	Cistus hybridus	White Rockrose	Shrub
65.	W	Cistus incanus	Mauve Rockrose	Shrub
66.	W	Cistus incanus salviafolius	Sageleaf Rockkrose	Shrub
67.	W	Cistus purpureus	Orchid Rockrose	Shrub
68.	W_	Citrus species	Citrus	Tree
69.	_	Clarkia bottae	Showy Fairwell to Spring	Annual
70.	_	Cneoridium dumosum	Bushrue, Pt. Reyes Ceanothus	Shrub
71.	_	Collinsia heterophylla	Chinese Houses	Annual
72.	W_	Comarostaphylis diversifolia	Summer Holly	Shrub
73.	N	Convolvulus cneorum	Bush Morning Glory	Shrub
74.	W	Coprosma kirkii	Creeping Coprosma	Ground cover/Shrub
75.	W	Coprosma pumila	Prostrate Coprosma	Low Shrub
76.	_	Coreopsis californica	California coreopsis	Annual
77.	W	Coreopsis lanceolata	Coreopsis	Ground cover

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Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
78.	N	Correa pulchella	Australian Fushia	Ground cover
79.	W	Cotoneaster buxifolius	Grayleaf Cotoneaster	Shrub
80.	W	Cotoneaster congestus Likiang	Likiang Cotoneaster	Ground cover/Vine
81.	X	Crassula lactea	Taylor's Parches	Ground cover
82.	X	Crassula ovata	Jade Tree	Shrub
83.	X	Crassula tetragona	Jade Plant	Shrub
84.	W	Croton californicus	California Croton	Ground cover
85.	X	Delosperma 'alba'	White Trailing Ice Plant	Ground cover
86.	_	Dendromecon rigida	Bush Poppy	Shrub
87.	_	Dichelostemma capitatum	Blue Dicks	Herb
88.	N	Distictis buccinatoria	Blood-Red Trumpet Vine	Vine/Climbing vine
89.	N	Dodonaea viscosa	Hopseed Bush	Shrub
90.	X	Drosanthemum floribundum	Rosea Ice Plant	Ground cover
91.	X	Drosanthemum hispidum	Ice Plant, Showy Dewflower	Ground cover
92.	_	Dudleya lanceolat	Lance Leaved Dudleya	Succulent
93.	_	Dudleya pulverulenta	Chalk Dudleya	Succulent
94.	W	Elaeagnus pungens	Silverberry	Shrub
95.	_	Encelia californica	California Encelia	Small shrub
96.	_	Epilobium canum (Zauschneria californica)	Hoary California Fushia	Shrub
97.	_	Eriastrum sapphirinum	Mojave Wolly Star	Annual
98.	N	Eriobotrya japonica	Loquat	Tree
99.	_	Eriodictycon crassifolium	Thick-Leaf Yerba Santa	Shrub
100.	_	Eriodictycon trichocalyx	Mojave Wooly Star	Annual
101.	W	Eriophyllum confertiflorum	Golden Yarrow	Shrub
102.	W	Erythrina species	Coral Tree	Tree
103.	W	Eschscholzia californica	California Poppy	Flower
104.	X	Eschscholzia mexicana	Mexican Poppy	Herb
105.	N	Euonymus fortunei	Winter Creeper Euonymus	Ground cover
106.	N	Fiejoa sellowiana	Pineapple Guava	Shrub/Tree
107.	N	Fragaria chiloensis	Wild Strawberry/ Sand Strawberry	Ground cover
108.	_	Frankenia salina	Alkali Heath	Ground cover
109.	W	Fremontodendron californicum	California Flannelbush	Shrub
110.	X	Gaillardiaa x grandiflora	Blanketflower	Ground cover
111.	W	Galvezia speciosa	Bush Snapdragon	Shrub
112.	W	Garrya ellipta	Silktassel	Shrub
113.	X	Gazania hybrids	South African Daisy	Ground cover
114.	X	Gazania rigens leucolaena	Trailing Gazania	Ground cover
115.	_	Gilia capitata	Globe Gilia	Perennial
116.	W	Gilia lepthantha	Showy Gilia	Perennial

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Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
117.	W	Gilia tricolor	Bird's Eyes	Perennial
118.	W	Ginko biloba	Maidenhair Tree	Tree
119.	_	Gnaphalium californicum	California Everlasting	Annual
120.	W	Grewia occidentalis	Starflower	Shrub
121.	_	Grindelia stricta	Gum Plant	Ground cover
122.	N	Hakea suaveolens	Sweet Hakea	Shrub
123.	W	Harde bergia comptoniana	Lilac Vine	Shrub
124.	N	Helianthemum mutabile	Sunrose	Ground cover/Shrub
125.	_	Helianthemum scoparium	Rush Rose	Shrub
126.	_	Heliotropium curassavicum	Salt Heliotrope	Ground cover
127.	X	Helix canariensis	English Ivy	Ground cover
128.	W	Hesperaloe parviflora	Red Yucca	Perennial
129.	_	Heteromeles arbutifolia	Toyon	Shrub
130.	X	Hypericum calcycinum	Aaron's Beard	Shrub
131.	N	Iberis sempervirens	Edging Candytuft	Ground cover
132.	N	Iberis umbellatum	Globe Candytuft	Ground cover
133.	_	Isocoma menziesii	Coastal Goldenbush	Small shrub
134.	_	Isomeris arborea	Bladderpod	Shrub
135.	W	Iva hayesiana	Poverty Weed	Ground cover
136.	N	Jublans californica	California Black Walnut	Tree
137.	_	Juncus acutus	Spiny Rush	Perennial
138.	_	Keckiella antirrhinoides	Yellow Bush Penstemon	Subshrub
139.	_	Keckiella cordifolia	Heart Leaved Penstemon	Subshrub
140.	_	Keckiella ternata	Blue Stemmed Bush Penstemon	Subshrub
141.	W	Kniphofia uvaria	Red Hot Poker	Perennial
142.	W	Lagerstroemia patersonii	Crape Myrtle	Tree
143.	X	Lampranthus aurantiacus	Bush Ice Plant	Ground cover
144.	X	Lampranthus filicaulis	Redondo Creeper	Ground cover
145.	X	Lampranthus spectabilis	Trailing Ice Plant	Ground cover
146.	W	Lantana camara cultivars	Yellow Sage	Shrub
147.	W	Lantana montevidensis	Trailing Lantana	Shrub
148.	_	Lasthenia californica	Dwark Goldfields	Annual
149.	W	Lavandula dentataq	French Lavendar	Shrub
150.	W	Leptospermum laevigatum	Australian Tea Tree	Shrub
151.	W	Leucophyllum frutescens	Texas Ranger	Shrub
152.	_	Leymus condensatus	Giant Wild Rye	Large grass
153.	N	Ligustrum japonicum	Texas Privet	Shrub
154.	X	Limonium perezii	Sea Lavender	Shrub
155.	W	Liquidambar styraciflua	American Sweet Gum	Tree
156.	W	Liriodendron tulipifera	Tulip Tree	Tree

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Engineer Smith Choi Date 12/07/22

Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
157.	X	Lonicera japonica 'Halliana'	Hall's Japanese Honeysuckle	Vining Shrub
158.	_	Lonicera subspicata	Wild Honeysuckle	Vining Shrub
159.	X	Lotus corniculatus	Bird's Foot Trefoil	Ground Cover
160.	_	Lotus Heermanii	Woolly Lotus	Perennial
161.	_	Lotus Scoparius	Deerweed	Shrub
162.	W	Lupinus arizonicus	Desert Lupine	Annual
163.	W	Lupinus benthamil	Spider Lupine	Annual
164.	_	Lupinus bicolor	Sky Lupine	Flowering annual
165.	_	Lupinus sparsiflorus	Coulter's Lupine	Annual
166.	W	Lyonothamnus floribundus ssp. Asplenfolius	Fernleaf Ironwood	Tree
167.	W	Macademia Integrifolia	Macadamia Nut	Tree
168.	W	Mahonia aquifolium 'Golden Abundance'	Golden Abundance, Oregon Grape	Shrub
169.	W	Mahonia nevinii	Nevin Mahonia	Shrub
170.	_	Malacothamnus fasciculatus	Chaparral Marrow	Shrub
171.	X	Makephora luteola	Trailing Ice Plant	Ground cover
172.	W	Maytenus boaria	Mayten Tree	Tree
173.	W	Melaleuca nesophila	Pink Melaleuca	Shrub
174.	N	Metrosideros excelsus	New Zealand Christmas Tree	Tree
175.	*	Mimulus species	Monkeyflower	Flower
176.	_	Mirabilis californica	Wishbone Bush	Perennial
177.	N	Myoporum debile	Trailing Myoporum	Shrub
178.	N	Myoporum insulare	Boobialla	Shrub
179.	W	Myoporum parvifolium	Creeping Boobialla	Ground cover
180.	W	Myoporum 'Pacificum'	Trailing Myoporum	Shrub
181.	_	Nassella [stipa] lepida	Foothill Needlegrass	Ground cover
182.	_	Nassella stipa] pulchra	Purple Needlegrass	Ground cover
183.	_	Nemophila menziesii	Baby Blue Eyes	Annual
184.	X	Nerium oleander	Oleander	Shrub
185.	_	Oenothera hookeri	California Evening Primrose	Flower
186.	W	Oenothera speciosa	Showy Evening Primrose	Perennial
187.	X	Ophiopogon japonicus	Mondo Grass	Ground cover
188.	*	Opuntia littoralis	Prickly Pear	Cactus
189.	*	Opuntia oricola	Oracle Cactus	Cactus
190.	*	Opuntia prolifera	Coast Cholla	Cactus
191.	W	Osmanthus fragrans	Sweet Olive	Shrub
192.	X	Osteospermum fruticosum	Trailing African Daisy	Ground cover
193.	X	Parkinsonia aculeata	Mexican Palo Verde	Tree
194.	W	Pelargonium peltatum	Ivy Geranium	Ground cover
195.	X	Penstemon species	Beard Tongue	Shrub

X = Plant Species prohibited in wet and dry fuel modification zones adjacent to native open space lands. Acceptable in all other fuel modification zones and locations.

W = Plant species appropriate for use in wet fuel modification zones adjacent to native open space lands. Acceptable in all other wet and irrigated dry (manufactured slopes) fuel modification zones and locations.

_ = Plant species native to Riverside, Orange and San Diego Counties. Acceptable in all fuel modification (wet or dry zones) in all locations.

N = Plant species acceptable on a limited basis (maximum 30% of the area at time of planting) in wet fuel modification zones adjacent to native open space reserve lands. Acceptable in all other fuel modification zones and locations.

* = If seed collected locally, local seed source.

** = Not native plant species but can be used in all fuel modification zones.

Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
196.	W	Photinia Fraseri	Red Robin	Shrub
197.	W	Pistacia chinensis	Chinese pistache	Tree
198.	X	Pittosporum undulatum	Victorian Box	Tree
199.	_	Plantage erecta	California Plantain	Annual
200.	**	Plantago insularis	Woolly Plantain	Annual
201.	X	Plantago sempervirens	Evergreen Plantain	Ground cover
202.	W	Platanus racemosa	California Sycamore	Tree
203.	W	Plumbago auriculate	Plumbago Cape	Shrub
204.	_	Populus fremontii	Western Cottonwood	Tree
205.	X	Portulacaria afra	Elephant's Foot	Shrub
206.	_	Potentilla glandulosa	Sticky Cinquefoil	Subshrub
207.	X	Potentilla tabernaemontanii	Spring Cinquefoil	Ground cover
208.	X	Prunus caroliniana	Carolina Cherry Laurel	Shrub/Tree
209.	_	Prunus ilicifolia ssp. Ilicifolia	Holly Leaved Cherry	Shrub
210.	X	Prunus lyonii	Catalina Cherry	Shrub/Tree
211.	N	Punica granatum	Pomegranate	Shrub/Tree
212.	W	Puya species	Puya	Succulent/shrub
213.	W	Pyracantha species	Firethorn	Shrub
214.	_	Quercus agrifolia	Coast Live Oak	Shrub
215.	*	Quercus berberdifolia	California Scrub Oak	Shrub
216.	*	Quercus dumosa	Coastal Scrub Oak	Shrub
217.	X	Quercus engelmannii	Engelmann Oak	Tree
218.	X	Quercus suber	Cork Oak	Tree
219.	X	Rhamnus alaternus	Italian Buckthorn	Shrub
220.	_	Rhamnus californica	California Coffee Berry	Shrub
221.	_	Rhamnus crocea	Redberry	Shrub
222.	_	Rhamnus crocea ssp. Ilicifolia	Hollyleaf Redberry	Shrub
223.	N	Rhaphiolepis species	Indian Hawthorn	Shrub
224.	_	Rhus integrifolia	Lemonade Berry	Shrub
225.	N	Rhus lancea	African Sumac	Tree
226.	_	Rhus ovataa	Sugarbush	Shrub
227.	_	Ribes aureum	Golden Currant	Shrub
228.	_	Ribes indecorum	White Flowering Currant	Shrub
229.	_	Ribes speciosum	Fuschia Flowering Gooseberry	Shrub
230.	W	Ribes viburnifolium	Evergreen Currant	Shrub
231.	*	Romneya coulteri	Matilija Poppy	Shrub
232.	X	Romneya coulteri 'White Cloud'	White Cloud Matilija Poppy	Shrub
233.	W	Rosmarinus officinalis	Rosemary	Shrub
234.	W	Salvia greggii	Autumn Sage	Shrub

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Defensible Space Landscaping – Plant Pallet for Fuel Modification in Riverside, Orange and San Diego Counties

	Code	Botanical Name	Common Name	Plant Form
235.	W_	Salvia sonomensis	Creeping Sage	Ground cover
236.	_	Sambucus mexicana	Mexican Elderberry	Tree
237.	W	Santolina chamaecyparissis	Lavender Cotton	Ground cover
238.	W	Santolina virens	Green Lavender Cotton	Shrub
239.	_	Satureja chandleri	San Miguel Savory	Perennial
240.	_	Scirpus acutus	Hard-Stem Bulrush	Perennial
241.	_	Scirpus californicus	California Bulrush	Perennial
242.	X	Sedum acre	Goldmoss Sedum	Ground cover
243.	X	Sedum album	Green stonecrop	Ground cover
244.	X	Sedum confusum	Stonecrop	Ground cover
245.	X	Sedum x rubrotinctum	Pork & Beans	Ground cover
246.	X	Senecio serpens	Dusty Miller	Ground cover
247.	_	Sisyrinchium bellum	Blue-Eyed Grass	Ground cover
248.	_	Solanum douglasii	Douglas Nightshade	Shrub
249.	_	Solanum xantii	Purple Nightshade	Perennial
250.	W	Stenocarpus sinuatus	Firewheel Tree	Tree
251.	W	Strelitzia nicolai	Giant Bird of Paradise	Perennial
252.	W	Strelitzia reginae	Bird of Paradise	Perennial
253.	_	Symphoricarpos mollis	Creeping Snowberry	Shrub
254.	W	Tecoma stans [stenolibium stans]	Yellow Bells	Shrub/small tree
255.	X	Tecomaria capensis	Cape Honeysuckle	Ground cover
256.	N	Teucrium chamaedrys	Germander	Ground cover
257.	N	Thymus serpyllum	Lemon Thyme	Ground cover
258.	N	Trachelospermum jasminoides	Star Jasmine	Shrub
259.	_	Trichostems lanatum	Wolly Blue-Curls	Shrub
260.	X	Trifolium hirtum 'Hyron'	Hyron Rose Clover	Ground cover
261.	X	Trifolium fragiferum 'O'Connor's'	O'Connor's Legume	Ground cover
262.	_	Umbellularia californica	California Laurel	Tree
263.	_	Verbena Lasiostachys	Western Vervain	Perennial
264.	N	Verbena peruviana	Peruvian Verbena	Ground cover
265.	X	Verbena species	Verbena	Ground cover
266.	X	Vinca minor	Dwarf Periwinkle	Ground cover
267.	_	Vitis Girdiana	Desert Wild Grape	Vine
268.	X	Vulpia myuros 'Zorro'	Zorro Annual Fescue	Grass
269.	W	Westringia fruticosa	Coast Rosemary	Shrub
270.	W	Xanthorrhoea species	Grass Tree	Perennial / shrub
271.	W	Xylosma congestum	Shiny Xylosma	Shrub
272.	X	Yucca species	Yucca	Shrub
273.	_	Yucca whippiei	Yucca	Shrub

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Engineer Smith Choi Date 12/07/22

APPENDIX 'C'
Literature References
Literature References

1. *Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model,* General Technical Report RMRS-GTR-153. June 2005. Joe H. Scott, Robert E. Burgan, United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

2. *BEHAVEPlus: Fire Modeling System, version 5.0.5: Variables.* General Technical Report RMRS-GTR-213WWW Revised. September 2009. Patricia L. Andrews, United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

3. *BEHAVEPlus Fire Modeling System, Version 5.0.0* General Technical Report RMRS-GRT-106WWW Revised. June 2008. Patricia L. Andrews, Collin D. Bevins and Robert C. Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

4. *BEHAVEPlus Fire Modeling System, Version 5.0 User's Guide.* General Technical Report RMRS-GRT-106WWW Revised. July, 2009. Patricia L. Andrews, Collin D. Bevins, Robert C. Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula, Montana.

5. The 2019 California Fire Code Chapter 49

6. The 2019 California Fire Code with Local Amendments

7. The 2019 California Residential Code, Section R337.

8. Chapter 7A-California of the 2019 Building Code

9. National Fire Protection Association - NFPA 13 Standard for the Installation of Sprinkler Systems in One – and Two-Family Dwellings and Manufactured Homes, 13-R &13-D, 2019 Editions

10. National Fire Protection Association - NFPA 1144 *Standard for Reducing Structure Ignition Hazards from Wildfire (*2018).

11. National Fire Protection Association - NFPA 1142, 2012 Edition. Table C.11 (b) Time-Distance Table Using an Average Speed of 35 mph

12. *The California State and Local Responsibility Area Fire Hazard Severity Zone Map – Fire and Resource Assessment Program of CAL FIRE*

15. Western Region Climate Center. *Historic Climate Data from Remote Automated Weather Stations.* RAWS USA Climate Archive. Reno, NV. Data for all Remote Automated Weather Stations is available at: http://www.raws.dri.edu/index.html

CITY OF RIVERSIDE FIRE DEPT.

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Engineer Smith Choi **Date** 12/07/22

APPENDIX 'D'
Ignition Resistant Construction

Vinyl windows and other Architectural features must meet California Building Code chapter 7A requirement and must be approved by City of Riverside Building and Safety plan check engineer

The following is a summary of the current requirements for ignition resistant construction for high fire hazard areas under Chapter 7A of the California Building Code (CBC) 2019 edition. However the requirements listed below are not all inclusive and all exterior building construction including roofs, eaves, exterior walls, doors, windows, decks, and other attachments must meet the current CBC Chapter 7A ignition resistance requirements, the California Fire Code, and any additional County and/or City codes in effect at the time of building permit application. See the currrent applicable codes for a detailed description of these requirements and any exceptions.

1. All structures will be built with a Class A Roof Assembly and shall comply with the requirements of Chapter 7A and Chapter 15 of the California Fire Code. Roofs shall have a roofing assembly installed in accordance with its listing and the manufacturer's installation instructions.

2. Roof valley flashings shall be not less than 0.019-inch (0.48 mm) No. 26 gage galvanized sheet corrosion-resistant metal installed over not less than one layer of minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909, at least 36-inch-wide (914 mm) running the full length of the valley.

3. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall be covered with a minimum of 1/16-inch and shall not exceed 1/8-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection.

4. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to resist the intrusion of flames and embers, be firestopped with approved materials or have one layer of a minimum 72 pound (32.4 kg) mineral-surfaced nonperforated cap sheet complying with ASTM D3909 installed over the combustible decking.

5. Enclosed roof eaves and roof eave soffits with a horizontal underside, sloping rafter tails with an exterior covering applied to the under-side of the rafter tails, shall be protected by one of the following:
   - noncombustible material
   - Ignition-resistant material
   - One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside of the rafter tails or soffit
   - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the rafter tails or soffit including assemblies using the

gypsum panel and sheathing products listed in the Gypsum Association Fire Resistance Design Manual

- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in Section 707A.10 when tested in accordance with the test procedures set forth in ASTM E2957.
- Boxed-in roof eave soffit assemblies with a horizontal underside that meet the performance criteria in accordance with the test procedures set forth in SFM Standard 12-7A-3.

Exceptions: The following materials do not require protection:
1. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
2. Fascia and other architectural trim boards.

6. The exposed roof deck on the underside of unenclosed roof eaves shall consist of one of the following:
   - Noncombustible material, or
   - Ignition-resistant material, or
   - One layer of 5/8-inch Type X gypsum sheathing applied behind an exterior covering on the underside exterior of the roof deck, or
   - The exterior portion of a 1-hour fire resistive exterior wall assembly applied to the underside of the roof deck designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Association fire Resistance Design Manual.

   Exceptions: The following materials do not require protection:
   1. Solid wood rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
   2. Solid wood blocking installed between rafter tails on the exposed underside of open roof eaves having a minimum nominal dimension of 2 inch (50.8 mm).
   3. Gable end overhangs and roof assembly projections beyond an exterior wall other than at the lower end of the rafter tails.
   4. Fascia and other architectural trim boards.

7. Vents - ventilation openings for enclosed attics, enclosed eave soffit spaces, enclosed rafter spaces formed where ceilings are applied directly to the underside of roof rafters, and underfloor ventilation openings shall be fully covered with metal wire mesh, vents, other materials or other devices that meet one of the following requirements:
   A. Vents listed to ASTM E2886 and complying with all the following:
      i. There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
      ii. There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
      iii. The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).

   B. Vents shall comply with all of the following:
      i. The dimensions of the openings therein shall be a minimum of $^{1}/_{16}$-inch (1.6 mm) and shall not exceed $^{1}/_{8}$-inch (3.2 mm).
      ii. The materials used shall be noncombustible.

      Exception: Vents located under the roof covering, along the ridge of roofs,

with the exposed surface of the vent covered by noncombustible wire mesh, may be of combustible materials.

iii. The materials used shall be corrosion resistant.

8. Vents shall not be installed on the underside of eaves and cornices.
   Exceptions:
   1. Vents listed to ASTM E2886 and complying with all the following:
      - There shall be no flaming ignition of the cotton material during the Ember Intrusion Test.
      - There shall be no flaming ignition during the Integrity Test portion of the Flame Intrusion Test.
      - The maximum temperature of the unexposed side of the vent shall not exceed 662°F (350°C).
   2. The enforcing agency shall be permitted to accept or approve special eave and cornice vents that resist the intrusion of flame and burning embers.
   3. Vents complying with the requirements of Section 706A.2 shall be permitted to be installed on the underside of eaves and cornices in accordance with either one of the following conditions:
      3.1. The attic space being ventilated is fully protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or,
      3.2. The exterior wall covering and exposed underside of the eave are of noncombustible materials, or ignition-resistant materials, as determined in accordance with SFM Standard 12-7A-5 Ignition-Resistant Material and the requirements

9. All chimney, flue or stovepipe openings that will burn solid wood will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, having a heat and corrosion resistance equivalent to 12-gauge wire, 19-game galvanized steel or 24-gage stainless steel. or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks nor block spheres having a diameter less than 3/8 inch (9.55 mm). It shall be installed to be visible for the purposes of inspection and maintenance and removeable to allow for cleaning of the chimney flue.

10. All residential structures will have automatic interior fire sprinklers installed according to the National Fire Protection Association (NFPA) 13D 2019 edition - *Standard for the Installation of Sprinkler Systems in One and Two-family Dwellings and Manufactured Homes*. Fire sprinklers are not required in unattached non-habitable structures greater than 50 feet from the residence.

11. The exterior wall covering or wall assembly shall comply with one of the following requirements:
    - Noncombustible material, or
    - Ignition resistant material, or
    - Heavy timber exterior wall assembly, or
    - Log wall construction assembly, or
    - Wall assemblies that have been tested in accordance with the test procedures for a 10-minute direct flame contact expose test set forth in ASTM E2707 with the conditions of acceptance shown in Section 707A.3.1 of the California Building Code, or

- Wall assemblies that meet the performance criteria in accordance with the test procedures for a 10-minute direct flame contact exposure test set forth in SFM Standard 12-7A-1.
  Exception: Any of the following shall be deemed to meet the assembly performance criteria and intent of this section including;
    - One layer of 5/8-inch Type X gypsum sheathing applied behind the exterior covering or cladding on the exterior side of the framing, or
    - The exterior portion of a 1-hour fire resistive exterior wall assembly designed for exterior fire exposure including assemblies using the gypsum panel and sheathing products listed in the Gypsum Associate Fire Resistance Design Manual.

12. Exterior walls shall extend from the top of the foundation to the roof and terminate at 2-inch nominal solid blocking between rafters at all roof overhangs, or in the case of enclosed eaves, terminate at the enclosure.

13. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris within the gutter that contribute to roof edge ignition.

14. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

15. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.

16. Deck Surfaces shall be constructed with one of the following materials:
    - Material that complies with the performance requirements of Section 709A.4 when tested in accordance with both ASTM E2632 and ASTM E2726, or
    - Ignition-resistant material that complies with the performance requirements of 704A.3 when tested in accordance with ASTM E84 or UL 723, or
    - Material that complies with the performance requirements of both SFM Standard 12-7A-4 and SFM Standard 12-7A-5, or
    - Exterior fire retardant treated wood, or
    - Noncombustible material, or
  - Any material that complies with the performance requirements of SFM Standard 12-7A-4A when the attached exterior wall covering is also composed of noncombustible or ignition-resistant material.

17. Accessory structures attached to buildings with habitable spaces and projections shall be in accordance with the Building Code. When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas and exterior wall construction in accordance with Chapter 7A of the Building Code.

18. Exterior windows, skylights and exterior glazed door assemblies shall comply with one of the following requirements:
    - Be constructed of multiplane glazing with a minimum of one tempered pane meeting the requirements of Section 2406 Safety Glazing, or
    - Be constructed of glass block units, or
    - Have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 257, or
    - Be tested to meet the performance requirements of SFM Standard 12-7A-2.

19. All eaves, fascia and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section, heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.

20. Detached accessory buildings that are less than 120 square feet in floor area and are located more than 30 feet but less than 50 feet from an applicable building shall be constructed of noncombustible materials or of ignition-resistant materials as described in Section 704A.2 of the California Building Code.
    Exception: Accessory structures less than 120 square feet in floor area located at least 30 feet from a building containing a habitable space.

21. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies.

22. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustable material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

23. Exterior garage doors shall resist the intrusion of embers from entering by preventing gaps between doors and door openings, at the bottom, sides and tops of doors, from exceeding 1/8 inch. Gaps between doors and door openings shall be controlled by one of the methods listed in this section.
    - Weather-stripping products made of materials that:
      (a) have been tested for tensile strength in accordance with ASTM D638 (Standard Test Method for Tensile Properties of Plastics) after exposure to ASTM G155 (Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials) for a period of 2,000 hours, where the maximum allowable difference in tensile strength values between exposed and non-exposed samples does not exceed 10%; and (b) exhibit a V-2 or better flammability rating when tested to UL 94, Standard for Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.
    - Door overlaps onto jambs and headers.
    - Garage door jambs and headers covered with metal flashing.

24. Exterior doors shall comply with one of the following:
    1. The exterior surface or cladding shall be of noncombustible material or,
    2. The exterior surface or cladding shall be of ignition-resistant material or,

3. The exterior door shall be constructed of solid core wood that complies with the following requirements:

3.1. Stiles and rails shall not be less than 1-3/8 inches thick.

3.2. Panels shall not be less than 1-1/4 inches thick, except for the exterior perimeter of the panel that shall be permitted to taper to a tongue not less than 3/8 inch thick.

4. The exterior door assembly shall have a fire-resistance rating of not less than 20 minutes when tested according to NFPA 252 or,

5. The exterior surface or cladding shall be tested to meet the performance requirements of Section 707A.3.1 when tested in accordance with ASTM E2707 or,

6. The exterior surface or cladding shall be tested to meet the performance requirements of SFM Standard 12-7A-1.

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Engineer Smith Choi **Date** 12/07/22

APPENDIX 'E'
AM&M APPLICATION

CITY OF RIVERSIDE FIRE DEPT.

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Engineer Smith Choi **Date** 12/07/22

City of Riverside Fire Department

Application for Alternate Materials & Methods Of Design and Construction

Distribution
- ☐ Owner
- ☐ Petitioner
- ☐ Plan Reviewer
- ☐ Inspection
- ☐ Fire Prevention

Project Address: Mt Vernon Ave, Riverside, CA (APN-257-160-003)

Plan Check #: /GP-2022-02837

Petitioner: (Print Name): Yang Hu

Relation to the project: (check one)
- ☐ Architect of Record
- ☒ Engineer of Record
- ☐ Designer of Record
- ☐ Owner
- ☐ Contractor

Street Address: 1411 Rimpau Ave, Ste 109, Corona, CA 92879

Daytime Phone: 949-427-9560

Structure Information:

Use: Residential

Occupancy Class: R-3

Construction Type: V-B

No. of Stories: 1

Fire Sprinklered? yes- NFPA 13D

Architect/Engineer Seal & Signature:

REGISTERED PROFESSIONAL ENGINEER
YANG MING HU
No. 81754
EXP. 3/31/24
CIVIL
STATE OF CALIFORNIA

Email: (Please print) info@pearlcityinc.com

Alternate Contact Name and Phone Number:

REQUEST: Provide a brief description of the proposed modification or the alternate material or method being proposed. (You may attach additional document if necessary but this section must be completed)

The location of the pad does not meet 100 feet of defensible space as required by California Building Code. Distance to the SFR is 61.2 feet, distance to the ADU is 54.1 feet. East side of pad at access

Alternate methods proposed with 2 measures:

1) 6-ft tall masonry wall as designated on the attached exhibit along the east PL to protect the structures from, convected/radiant heat and blowing ground embers.

2) A 2-hour exterior rated wall assembly for those surfaces facing the reduced Fuel Modification Area

Code Section(s):	Section 4907.1 of 2019 CFC	**Issue(s):** 100 feet defensible space cannot be maintained

JUSTIFICATION: Explain how the proposed modification or alternate meets the intent of the applicable code sections while maintaining equivalent protection in suitability, strength, effectiveness, fire resistance, durability, safety, and sanitation (as applicable). Include any relevant practical difficulties for strict compliance. (You may attach additional documentation if necessary but this section must be completed)

~~The Project is unable to mitigate off site to obtain the required 100 ft of fuel treatment, so a standard mitigation measure is the use of a barrier to stop the forward progress of the fire, deflect any radiant heat, and stop blowing ground embers from impacting adjacent structures.~~

~~The addition of the 2-hour wall assembly will provide equivalency added to those code requirements for construction in a VHFHSZ. See attached specifications.~~

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Engineer: Smith Choi Date 12/07/22

Petitioner's Signature:	**Title:**	**Date:**
[signature]	Principal Engineer	6/29/22

Project Address:	Plan Check Number:
Mt. Vernon Avenue, Riverside, CA (APN-257-160-003)	GP-2022-02837

FOR STAFF USE ONLY

Assigned to : Smith Choi Staff Signature: S. Choi Date: 11/17/2022	Project Status: ☑ Preliminary Design ☐ Plan Review ☐ Under Construction ☐ Construction Complete	Staff Recommendation: ☑ Approve Request as Stated ☐ Approve Request with Conditions ☐ Deny Request as Stated

Fire Department Staff Comments:

Block wall and Fire Resistive construction is typically acceptable mitigation measures when they cannot meet defensible space requirement.

Fire Department Conditions of Approval/Reasons for Denial:

1) 6-ft tall masonry wall as designated on the attached exhibit along the east PL to protect the structures from, convect/radiant heat and blowing ground embers.

2) A 2-hour exterior rated wall assembly for those surfaces facing the reduced Fuel Modification Area

Determination of Fire Marshal: C. Kit Authorized Signature Date: 11.17.22	☐ Approve Request as Stated ☐ Approve Request with Conditions ☐ Deny Request as Stated

Fire Protection Conditions of Approval/Reasons for Denial:

CITY OF RIVERSIDE FIRE DEPT.
This is to certify that plans have been approved by the Fire Official and no change or deviation therefrom shall be permitted. However, this approval does not authorize violation or cancellation of any law of the city nor does it prevent requiring correction of any error on the plans. This is not an approval of any work requiring a separate permit under the laws of the city.

Engineer Smith Choi Date 12/07/22

MEMO

DATE: June 18, 2022

TO: CITY OF RIVERSIDE FIRE DEPARTMENT 3900 MAIN STREET, 3RD FLR RIVERSIDE, CAC 92522

FROM: Pearl City Engineering
1411 Rimpau Ave, Ste 109
Corona, CA 92879

RE: Landeros Residence, Mt Vernon Ave Riverside, CA

I acknowledge that this letter is being written under the AM&M application form in conjunction with a Fire Protection Plan for Landeros Residence. The project will have less than the required 100' buffer to adjacent uncontrolled open space.
We are proposing a 6' tall CMU wall/barrier on the north side of the parcel as designated on the exhibit. AND a 2-hour rated exterior wall surfaces of the SFR and ADU with walls facing the exposed open area with reduced separation.

The proposed alternate protection measures have been utilized in other projects within the city and state.

1) The proposed wall has generally been accepted as an alternate mitigation measure when projects have less than a 100-foot buffer as it provides a barrier for radiant heat at the leading edge of a fire and reduces/stops wind-blown ground embers. The heat flux at the barrier is only momentary. In this case the flame lengths are less than the distance to the structure envelope. See attached additional information on site wall design and site images for locations.

2) In conjunction with the added site fire walls, the exterior wall surface of the homes facing reduced buffered areas will be built with 2-hour fire rated surfaces at the vertical walls on the exterior fire exposed sides (exempt of windows and door which will comply with typical fire zone requirements of the WUI). See attached additional information on the tested 2-hour wall design "GA FILE NO. WP 8207" comprised on 2 layers of 5/8" type X gypsum wall board behind the exterior finish and site images for locations.

Sincerely,

Yang Hu, PE
Principal Engineer

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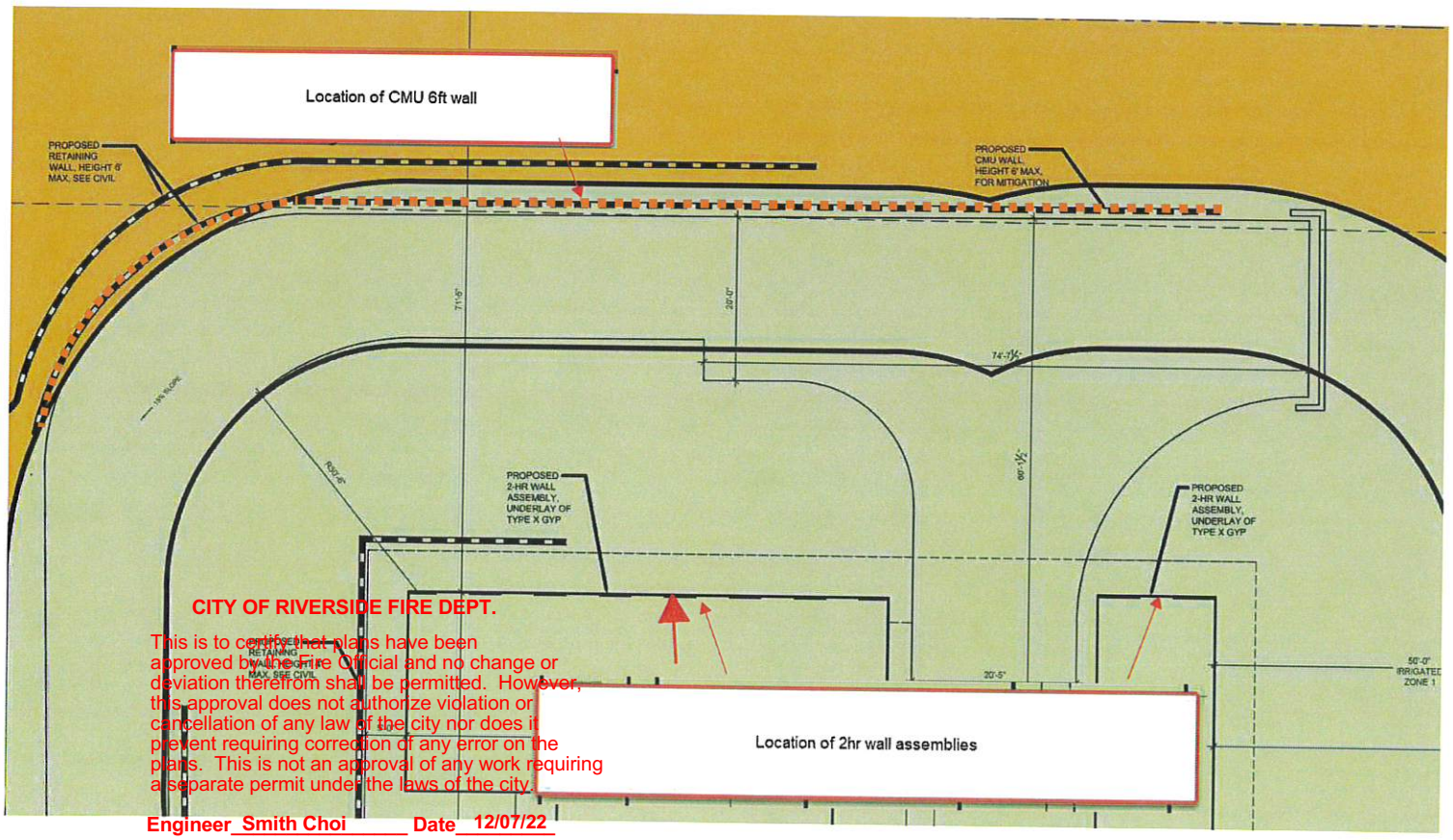

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EXTERIOR WALLS

GA FILE NO. WP 8206 | PROPRIETARY' | 2HOUR FIRE

GYPSUM WALLBOARD, GLASS MAT GYPSUM SUBSTRATE, STEEL STUDS

EXTERIOR SIDE: Base layer SIS- proprietary type X gypsum sIleatlIng or glass mat gypsum substrate (sheatiling) applied parallel or at right angles to 3-1/2", 33 mil (20 ga.), sleet studs 24' -with1•Type S-12 drywall screws 16" -Face **layer 5/8" proprietary type X gypsum sheathing or g1ass mat gypsum substrate** (sheatlIng) applied I or at right angles lo studs wIlh 1-518" Type S-12 dlyval screws 16" -

INTERIOR SIDE: Base layer S/8" proprietary type X gypsum wallboard or gypsum veneer base applied parallel or at right angles lo studs with1• Type S-12 drywall screws 16"**ace** layer 518" proprietary type X gypsum wallboard or gypsum **veneer base applied parallel or at right angles to studs with 15/8" Type S-12** drywall screws 16"

Face laye, horizontal joints need not be staggered or backed frombase layer or on oppos e sides (LOAD-BEARING)

thICKness- o-11<!"
Approx.Weight: 7
Frre Test: UL R1319, 08CA62192, S.15-09; 08NK23546, 6-2-08:
UL Oesion U423

PROPRIETARY GYPSUM PANEL PRODUCT

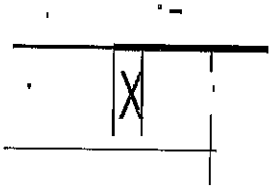
United StatesGypsum Company• . 518" SECUROOK® Glass-Mat Sheathing Panels
518" SHEETROCK® Brand Ultralight Panels X

GA FILE NO. WP 8207 | PROPRIETARY' | 2HOUR FIRE

GYPSUM WALLBOARD, GLASS MAT GYPSUM SUBSTRATE, WOOD STUDS

'EXTERIOR SIDE: Base layer 518" proprietary type X glass mat gypsum substrate (sheathing) applied parallel or al right angles to 2 x 4 wood studs 1S- **with1-** 1/4', Type W drywall screws 8" Q,<;,-face layer 518" proprietary type X glass mat gypsum svbslrate (sheathing) applied parallel or at right angles to studs witll 1-718" Type W drywall screw 8" Q,<;,-Exterior cladding to be attached tllrough glass **matgypsum panel to studs**

INTERIOR SIDE: Base layer S/8" proprietary type X gypsum wallboard applied parallel or al right angles to 2 x 4 wood sluds 16"-,vith 1-1/4", Type W drywall screws S- - Face layer 518" proprietary type X gypsum wallboard applied parallel or at right angles to studs to with1-718" Type W drywallscrew8" - .Jointsstaggered16" eachlayer and side. (LOAD-BEARING)



Thickness: 6-118"
Approx.Weight
FireTest $^{1}U^{2}$LR14196, /
11NK04002, 3-3-11,
UL Design U301/

PROPRIETARY GYPSUM PANEL PRODUCTS

· ypsum Company LLC..... SIS ** TypeX Gypsum Boatd
S/S-M-Gfass® TypeX Exterior Gypsum Sheathing

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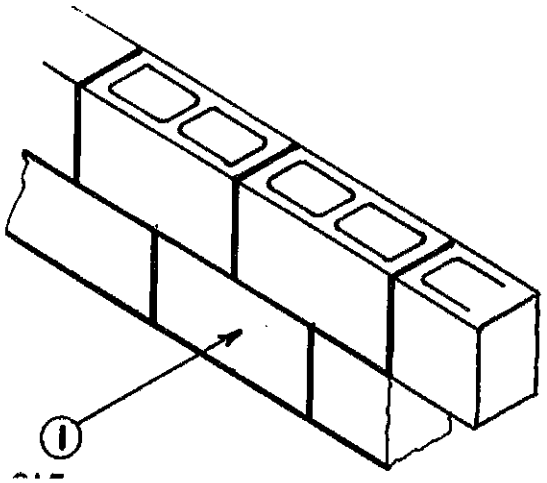
1 HOUR FIRE RATING — 6 inch C.M.U.

FIRE RATING: 1 hour **No. 6-1-215**



T215

ASSEMBLY DETAILS

1. Rinker Type T-215 C.M.U., 6" x 8" x 16" nominal

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"Rinker Materials Corporation accepts no responsibility for the proper application of the rated wall assembly shown. Additionally we accept no responsibility for the construction of said assemblies."

APPENDIX 'F'
Site Plan and Fuel Treatment Exhibit

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ATTACHMENT 4
APPLICANT PREPARED GRADING EXCEPTION JUSTIFICATIONS

1. Will the strict application of the provisions of this title result in practical difficulties or unnecessary hardships inconsistent with the general purpose and intent of Title 17 of the Riverside Municipal Code (Grading)?

Yes, the fire code requires the driveway to be at least 20ft wide. The maximum allowable width of the driveway using title 17 is 15ft. Without the exemption the project does not pass the fire code requirements.

2. Are there exceptional circumstances or conditions applicable to the property involved or the intended use or development of the property that do not apply generally to other properties in the same zone or neighborhood?

Yes, this project must meet additional fire code and city regulation because it is in a very high fire hazard zone. There are other properties that surround the proposed project, do not follow the same fire code or city regulations. The other properties are in the same zone, but do not require additional regulation because they are older units. Example, one of the neighboring properties is two stories building which is not allowed under Title 17. Some of the older properties do not require sprinkler systems, but this project will require sprinkler systems and additional actions.

3. Will the granting of a waiver be materially detrimental to the public welfare or injurious to the property or improvements in the some of neighborhood in which the property is located?

No, if granted the project will not be materially detrimental to the public welfare of the neighborhood. The project will not be injurious to the property or improvements of the neighborhood in which the property is located.