City of Sonoma

Proposed Mitigated Negative Declaration

Circulation Date: July 20, 2017

Project Title: Lower Lot 2, Proposed Residence

Project Location: 149 Fourth Street East / APN 018-091-018 (aka Lot 2)

Applicant: Nick Lee Architecture
807 Haight Avenue
Alameda, CA 94501

Project Description: The project involves construction of a ±5,260-square foot residence, ±900-square foot detached garage, ±3,220-square foot accessory structure, and swimming pool in the south/lower portion of the subject property, Slopes across the development site vary, ranging from 5%-25%. The structures employ a modern farmhouse architectural style, utilizing neutral-colored exterior materials including gray vertical siding and brown/charcoal metal roofing and window frames. The residence is designed as a single-story structure with varied roof elements not exceeding 24 feet in height. The detached garage with circular drive is located northeast of the home accessed via an extension off an existing private driveway. The swimming pool and two-story accessory structure are located slightly below the residence to the south. Construction activities associated with the project would include tree removal, grading, excavation and trenching for installation of required improvements (e.g., utilities, driveway extensions, and drainage features), preparation of building pads, and construction of the residential buildings. An arborist report submitted with the application indicates that 38 trees would be removed, the majority being oak trees with a diameter of less than 12 inches. Grading for the project would be balanced with earthwork calculations estimating 1,780 cubic yards of cut and 1,780 cubic yards of fill. The residential home site would be accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street. A separate extension off the existing driveway is provided for fire truck access and turnaround west of the building site.

Pursuant to the State of California Public Resources Code and the *Guidelines for Implementation of the California Environmental Quality Act of 1970* (hereinafter referred to as CEQA), as amended to date, this is to advise you that the City of Sonoma has prepared an Environmental Initial Study Checklist on the Lower Lot 2, Proposed Residence project (see attached). Potential significant impacts were identified relating to air quality (short-term construction dust), biological resources, and cultural resources. Mitigation measures which would reduce the potential impacts to a less-than-significant level have been identified as follows:

Mitigation Measure 3.e: The following dust control measures shall be implemented as necessary during the construction phase of the project: 1) all exposed soil areas (i.e. building sites, unpaved access roads, parking or staging areas) shall be watered at least twice daily or as required by the City's construction inspector; 2) exposed soil stockpiles shall be enclosed, covered, or watered twice daily; and 3) the portions of Fourth Street East and Brazil Street providing construction vehicle access to the project site shall be swept daily, if visible soil material is deposited onto the road.

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Mitigation Measure 4.a: If grading or removal of nesting trees and habitat is proposed to occur within the nesting season (between February 15 and August 15) a pre-construction nesting bird survey of the grassland, shrubs and trees within and around the development site shall be performed by a qualified biologist within 7 days of proposed ground breaking. If no nesting birds are observed no further action is required and grading shall commence within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey. If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist in consultation with CDFG:

Mitigation Measure 4.e-1: Restrictive covenants, including tree protection restrictions, shall be developed subject to review and approval by the City to ensure the long-term preservation and maintenance of trees on the property. A restrictive covenants Declaration shall be recorded on the property and shall include an Exhibit defining the extent of trees/woodlands subject to the tree protection restrictions.

Mitigation Measure 4.e-2: The project shall be constructed in accordance with the following requirements related to tree preservation, mitigation and replacement:

a. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017 (Attachment 6), as amended through any subsequent arborist peer review, shall be adhered to.

b. Trees removed from the project site shall be replaced on-site at a minimum ratio of 1.5:1, consistent with the tree replacement program proposed as part of the project. Replacement trees shall be a minimum 15-gallon size.

c. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017 (Attachment 6), as amended through any subsequent arborist peer review, shall be incorporated into the grading and improvement plans for the project, as applicable. Written confirmation to this effect shall be provided by the project arborist.

d. Tree fencing and any other required protective measures shall remain in place until their removal is authorized by the project arborist.

e. The project arborist shall be on-hand during initial grading and trenching to monitor compliance with tree protection measures.

***Mitigation Measure 5.b*:** If archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar dups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

***Mitigation Measure 5.c*:** If paleontological resources are identified during construction activities, all work in the immediate area will cease until a qualified paleontologist has evaluated the finds in accordance with the standard guidelines established by the Society of Vertebrate Paleontology. If the paleontological resources are considered to be significant, a data recovery program will be implemented in accordance with the guidelines established by the Society of Vertebrate Paleontology.

Mitigation Measure 5.d: If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the County Coroner contacted. If the coroner determined the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

A copy of the Environmental Initial Study Checklist is attached to this proposed Mitigated Negative Declaration. All project file documents referenced in the Environmental Initial Study Checklist may be reviewed in the offices of the Planning Division at City Hall, No. 1 The Plaza, Sonoma, California 95476 during normal business hours.

Finding: On the basis of the Environmental Initial Study Checklist, the City of Sonoma Planning and Community Services Administrator hereby finds that the proposed project could have a significant effect on the environment, however, there would not be a significant effect in this case because mitigation measures summarized above and described in the attached Initial Study have been added to the project.

Public Comment Period: Comments on the adequacy of the environmental document are due by August 10, 2017. Any comments should be in writing and submitted to the following address:

City of Sonoma
Planning Department
No. 1 The Plaza
Sonoma CA, 95476

The Proposed Mitigated Negative Declaration will be considered at a meeting of the Sonoma Planning Commission on August 10, 2017. The hearing will begin at 6:30 PM and will be held in the Community Meeting Room at 177 First Street West, Sonoma, California.

California Environmental Quality Act

Initial Study

(As required by Sec. 15063 of the Public Resources Code)
Prepared: May 2017

1.	**Project Title:**	Lower Lot 2, Proposed Residence
2.	**Lead Agency Name and Address:**	City of Sonoma Planning Department
3.	**Contact Person and Phone Number:**	Rob Gjestland, Senior Planner (707) 938-3681
4.	**Project Location:**	149 Fourth Street East / APN 018-091-018 (aka Lot 2)
5.	**Project Sponsor's Name and Address:**	Nick Lee Architecture 807 Haight Avenue Alameda, CA 94501
6.	**General Plan Designation:**	Hillside Residential
7.	**Zoning:**	**Base:** Hillside Residential (R-HS) **Overlay:** Historic (/H)

8. **Description of Project:**

The project involves construction of a ±5,260-square foot residence, ±900-square foot detached garage, ±3,220-square foot accessory structure, and swimming pool in the south/lower portion of the subject property, Slopes across the development site vary, ranging from 5%-25%. The structures employ a modern farmhouse architectural style, utilizing neutral-colored exterior materials including gray vertical siding and brown/charcoal metal roofing and window frames. The residence is designed as a single-story structure with varied roof elements not exceeding 24 feet in height. The detached garage with circular drive is located northeast of the home accessed via an extension off an existing private driveway. The swimming pool and two-story accessory structure are located slightly below the residence to the south. Construction activities associated with the project would include tree removal, grading, excavation and trenching for installation of required improvements (e.g., utilities, driveway extensions, and drainage features), preparation of building pads, and construction of the residential buildings. An arborist report submitted with the application indicates that 38 trees would be removed, the majority being oak trees with a diameter of less than 12 inches. Grading for the project would be balanced with earthwork calculations estimating 1,780 cubic yards of cut and 1,780 cubic yards of fill. The residential home site would be accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street. A separate extension off the existing driveway is provided for fire truck access and turnaround west of the building site. Additional details are provided in the attached project submittal (Attachment 1).

9. Setting and Context:

The subject property is an interior 2.8-acre parcel with access from an existing private driveway originating at the intersection of Fourth Street East and Brazil Street. The property is undeveloped supporting open grassland, oak woodlands, and rock outcroppings. Surrounding land uses include single-family homes on large, similarly zoned parcels.

10. Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement).

Sonoma County Water Agency/Sonoma County PRMD, Engineering Division (sanitary sewer connection).

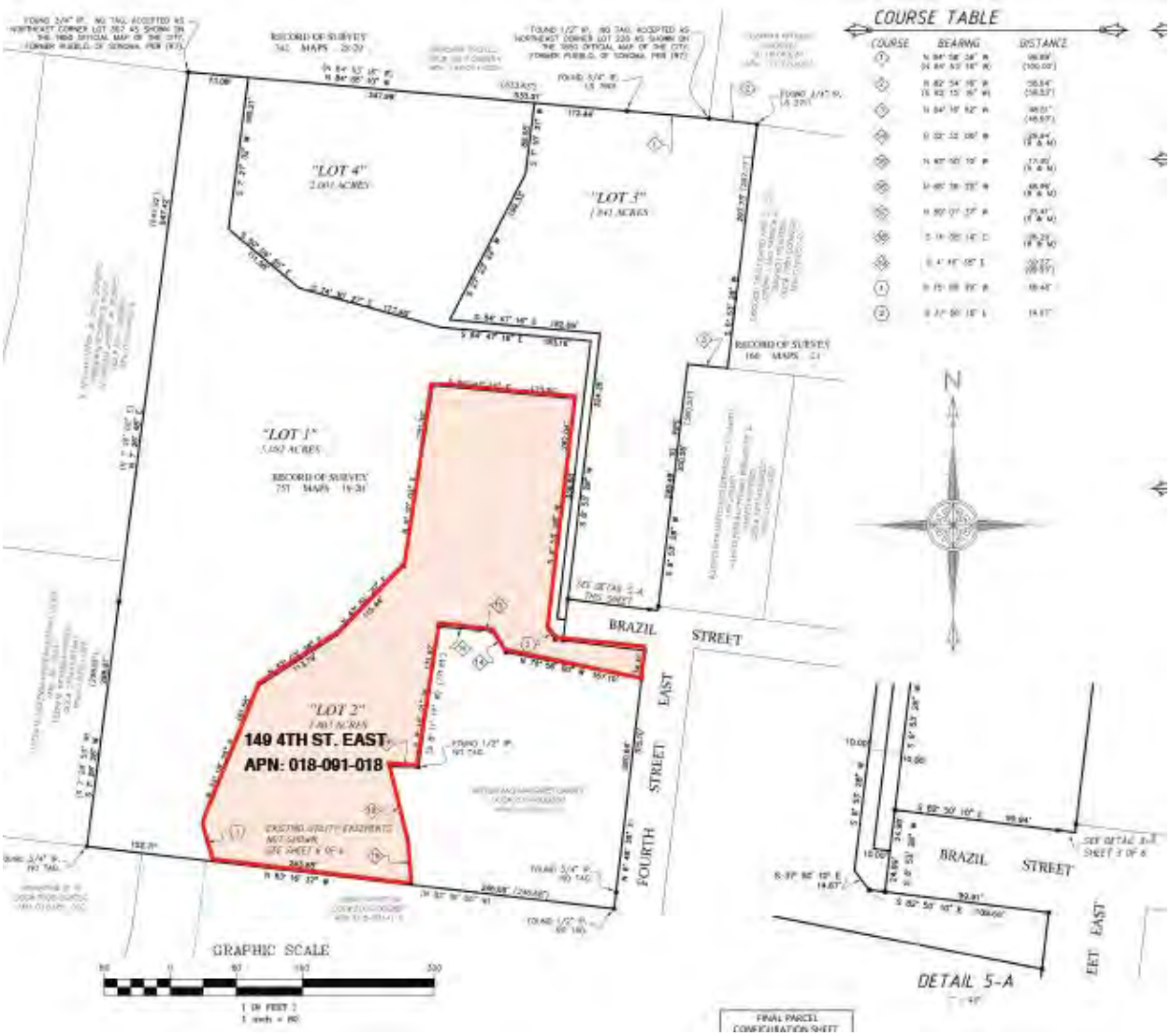
11. Application of CEQA requirements.

This Project is subject to the requirements of the California Environmental Quality Act (CEQA). The City of Sonoma is the CEQA lead agency. Prior to making a decision to approve the Project, the City must identify and document the potential significant environmental effects of the Project in accordance with CEQA. This Initial Study has been prepared under the direction of the City to fulfill the CEQA requirements.

David Goodison, Planning Director

#1 The Plaza
Sonoma, CA 95476
Email: dgoodison@sonomacity.org

Figure 1 – Location Map



The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

☐ Aesthetics	☐ Hazards & Hazardous Materials	☐ Public Services
☐ Agriculture Resources	☐ Hydrology / Water Quality	☐ Recreation
☐ Air Quality	☐ Land Use / Planning	☐ Storm Water
☐ Biological Resources	☐ Mineral Resources	☐ Transportation / Traffic
☐ Cultural Resources	☐ Noise	☐ Utilities / Service Systems
☐ Geology / Soils	☐ Population / Housing	☐ Mandatory Findings of Significance

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation:

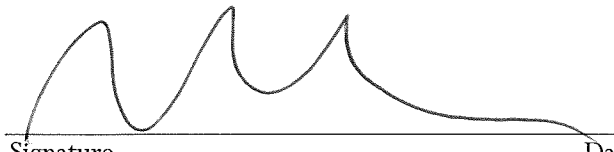
☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☑ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Signature Date 7/14/17

David Goodison, Planning Director City of Sonoma, Planning Department

Printed name For *(Lead Agency)*

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analyses," may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a. Earlier Analysis Used. Identify and state where they are available for review.

   b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a. The significance criteria or threshold, if any, used to evaluate each question; and

b. The mitigation measure identified, if any, to reduce the impact to less than significance.

1. AESTHETICS: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☑	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☑
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☑	☐	☐
d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?	☐	☐	☑	☐

Discussion:

a) Have a substantial adverse effect on a scenic vista?

The property has as General Plan land use designation of Hillside, which is intended to preserve Sonoma's hillside backdrop, while allowing limited residential development. Section 19.40.130 of the Sonoma Municipal Code (SMC) defines "scenic vistas" as a public view, benefiting the community at large, of significant features, including hillside terrain, ridgelines, canyons, geologic features, and community amenities (e.g., parks, landmarks, permanent open space). The view element potentially affected by the project is the hillside area within which the residence and accessory structures would be constructed.

In this regard, the proposed building site is relatively low on the hillside, not in proximity to a ridgeline, and well shielded from public views given the site terrain and surrounding trees that would be preserved. In addition, the residence has been kept at a single-story and exterior building materials and colors have been selected to blend with the natural surroundings. As a result, the proposed improvements would be significantly screened from public view although some elements of the project (i.e., the detached garage and east wing of the home) may be discernable from limited public views to the east. However, as demonstrated by the view perspectives provided within the project submittal (Attachment 1), these public views would be very limited and filtered by other features, notably surrounding trees/foliage and the residence at 131 Fourth Street East. Accordingly, the project would have a ***less-than-significant*** impact on scenic vistas.

b) Substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?

The project site is not located along a Scenic Highway; therefore, the project would have ***no impact*** on scenic resources associated with a Scenic Highway.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

The property is an undeveloped interior 2.8-acre parcel that supports open grassland, oak woodlands, and rock outcroppings. Foremost, as discussed above under Section 1.a, the proposed building site is relatively low on the hillside, not in proximity to a ridgeline, and well shielded from public views given the site terrain and surrounding trees that would be preserved. The residence has also been kept at a single-story and exterior building materials and colors have been selected to blend with the natural surroundings. As a result, the proposed improvements would be significantly screened from public view, although some elements of the project (i.e., the detached garage and east wing of the home) may be discernable from limited public views to the east. However, as demonstrated by the view perspectives provided within the project submittal (Attachment 1), these public views would be very limited and filtered by other features, notably surrounding trees/foliage and the residence at 131 Fourth Street East..

In addition, the proposed development is subject to the Hillside Development chapter of the City's Development Code (SMC 19.40.050), which includes hillside development standards and guidelines intended to preserve and protect views to and from the hillside areas within the City, to preserve significant topographical features and habitats, and to maintain the identity, character, and environmental quality of the City. While the project proposes a substantial amount of floor area and grading, there are property characteristics and aspects of the project design that help to meet many objectives of the City's Hillside Development criteria (SMC 19.40.050) as follows:

- As previously noted. the proposed improvements would be significantly screened from public view, given the site terrain and surrounding trees.
- A significant portion of the development site is gently sloping, including a large open meadow.
- The residence generally follows the contour of the land and has been kept at a single-story to minimize visual impacts on neighbors and the public.
- Elements of the project are stepped on the slope, with the detached garage, residence, terraces/patios, pool and accessory building at different elevations.
- While approximately 38 trees and one rock outcropping would be removed, the majority of trees on the property and around the development site would be preserved and other rock outcroppings have been incorporated and featured in the layout (see further discussion regarding tree removal, replanting and preservation under Section 4.e).
- As previously noted, exterior materials and colors have been selected to blend with the natural surroundings and would be further refined through a subsequent design review process with the City's Design Review & Historic Preservation Commission (DRHPC).

Lastly, as discussed in greater detail under Section 4.e, to offset tree removal the project includes a tree replacement program set forth toward the end of the Preliminary Grading and Drainage Analysis, dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2). Under the tree replacement program, trees that are removed due to construction would be replaced/replanted at a ratio of 1.5 trees to every 1 tree removed (a 1.5:1 tree replacement ratio). Replacement trees would be planted at locations adjacent to proposed improvements to further reduce the visibility of those improvements. In addition, pursuant to the letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017 (Attachment 3), the applicant intends to enact restrictive covenant provisions, which would be implemented through CC&R's applicable to the property, to address tree protection and hillside view preservation. In part, these restrictive covenants would ensure the preservation and maintenance of trees located on the property over the long-term (including trees that screen the proposed improvements from public views) with

oversight by the City and a licensed arborist. This aspect of the proposal and general tree preservation, mitigation, and replacement requirements related to construction are addressed by mitigation Measures 4.e-1 and 4.e-2 set forth under Section 4.e of the Initial Study. A Tree Diagram exhibit (Attachment 4) has been provided that identifies important screening trees (shown in red) that will be preserved, and trees that will require particular care and protection for preservation given their proximity to the development zone (shown in yellow).

Based on the factors discussed above, and with implementation of Mitigation Measures 4.e-1 and 4.e-2, the project would not substantially degrade the existing visual character or quality of the site and its surroundings and would have a ***less-than-significant impact*** in this regard.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Exterior lighting would be necessary for the project, including building light fixtures at all exterior doors for safety as required by the 2016 California Building Code (other exterior light fixtures may also be proposed). However, this lighting would be controlled and typical of similar residential development on other R-HS zoned properties in the vicinity. In addition, all proposed exterior lighting would require review and approval by the City's Design Review and Historic Preservation Commission (DRHPC) and would be subject to the exterior lighting standards of the City's Development Code[1], which specify that exterior light fixtures must be shielded to reduce or eliminate light spillage off-site. Lastly, public and private views of the proposed improvements would be fairly limited as noted under Sections 1.a and 1.b above. For these reasons, the project would not create a new source of substantial light or glare that would adversely affect views in the area. This would be a ***less-than-significant*** impact.

2. AGRICULTURAL RESOURCES: **In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland.** **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☑
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☑
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☑

[1] City of Sonoma Development Code § 19.40.030

Discussion:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The project site is not designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Department of Conservation. The project site is identified as "Other Lands" on the most recent Important Farmland Map maintained by the Department of Conservation[2]. ***No impact*** would occur.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

The subject property is not under a Williamson Act contract and, while the property's Hillside Residential (R-HS) zoning permits agricultural land uses, it also allows for a single-family residence and residential accessory structures as proposed. Accordingly, there is no conflict and ***no impact*** would occur.

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland, to non-agricultural use?

The site is not used for agricultural purposes. Accordingly, the project would have ***no impact*** with regard to the conversion of farmland to non-agricultural use.

3. AIR QUALITY: **Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.** **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☑	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☑	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	☐	☐	☑	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☑	☐
e) Create objectionable odors or airborne dust affecting a substantial number of people?	☐	☑	☐	☐

[2] http://maps.conservation.ca.gov/ciff/ciff.html

Discussion:

a) Conflict with or obstruct implementation of the applicable air quality plan?

The Bay Area Air Quality Management District (BAAQMD) is the regional air quality agency for the San Francisco Bay Area Air Basin (SFBAAB), which comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Accordingly, the City is subject to the rules and regulations imposed by the BAAQMD, as well as the California ambient air quality standards adopted by the California Air Resources Board (CARB), and national ambient air quality standards adopted by the United States Environmental Protection Agency (USEPA). On June 2, 2010 the Bay Area Air Quality Management District (BAAQMD) adopted guidelines for analyzing air quality impacts under CEQA that include screening thresholds for development projects. As stated in the BAAQMD Guidelines, the thresholds are intended to provide a *"… conservative indication of whether the proposed project could result in potentially significant air quality impacts. If all of the screening criteria are met by a proposed project, then the lead agency or applicant would not need to perform a detailed air quality assessment of their project's air pollutant emissions. These screening levels are generally representative of new development on greenfield sites without any form of mitigation measures taken into consideration."*

The BAAQMD screening criteria indicate that single-family development projects of less than 451 dwelling units would not exceed the operational threshold for requiring a project-specific analysis with respect to air pollutants. Since only one single-family dwelling is proposed, the project obviously falls well below the applicable screening threshold and therefore would be considered to have a negligible or ***less-than-significant impact*** with respect to air quality or any air quality plans.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

See response 3.a, above. BAAQMD has identified screening thresholds for criteria pollutant emissions and criteria air pollutant precursors, including reactive organic gases (ROG), oxides of nitrogen (NOX), coarse inhalable particulate matter (PM10), and fine inhalable particulate matter (PM2.5). Development projects below the significance thresholds are not expected to generate sufficient criteria pollutant emissions to violate any air quality standard or contribute substantially to an existing or projected air quality violation. This would be considered a ***less-than-significant impact***.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

See response 3.a above.

d) Expose sensitive receptors to substantial pollutant concentrations?

See response 3.a above.

e) Create objectionable odors and/or airborne dust affecting a substantial number of people?

Construction activities associated with the project, particularly grading and other earthmoving activities, may generate airborne dust that could adversely affect residents in vicinity of the project site. With regard to construction impacts, BAAQMD's CEQA Guidelines identify the following construction air quality screening threshold for single-family development:

Construction Air Quality Thresholds		
Land Use Type	**BAAQMD Screening Threshold**	**Project Element**
Single Family	114 dwelling units (ROG)	One (1) dwelling unit

Since only one single-family dwelling is proposed, the project obviously falls well below the applicable screening threshold and would be considered to have a negligible impact with respect to construction air quality. However, to fully assure that this issue is addressed, Mitigation Measure 3.e, below, has been included requiring implementation of dust control measures during the construction phase of the project. Implementation of the specified measures would ensure that potential impacts from airborne dust are ***less-than-significant***.

Mitigation Measure 3.e: The following dust control measures shall be implemented as necessary during the construction phase of the project:

1. All exposed soil areas (i.e. building sites, unpaved access roads, parking or staging areas) shall be watered at least twice daily or as required by the City's construction inspector.
2. Exposed soil stockpiles shall be enclosed, covered, or watered twice daily.
3. The portions of Fourth Street East and Brazil Street providing construction vehicle access to the project site shall be swept daily, if visible soil material is deposited onto the road.

4. BIOLOGICAL RESOURCES – Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☑	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☑
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☑
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☑	☐

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☑	☐	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☑

Discussion:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Rare plant surveys were conducted on April 21 and June 20, 2017 by WRA, Inc. (timed to align with the appropriate bloom period) to determine if any rare plant species are located on the project site. Pursuant to the Memorandum from WRA, Inc. to Ross Edwards, dated June 30, 2017, the surveys found no rare plants species within the project area (Attachment 5**).** Accordingly, the project would have ***no impact*** on any plants identified as a candidate, sensitive, or special status species.

Three special-status bird species (Cooper's hawk, sharp-shinned hawk, and oak titmouse) have the potential to occur on the site. In addition, on-site trees, shrubs and grassland may be used by nesting birds protected by the Migratory Bird Treaty Act of 1918. The proposed residential development would involve grading and tree/shrub removal or pruning on portions of the site that could impact bird species by causing the destruction or abandonment of occupied nests and mortality of young. Given the possibility for nesting birds on the property, a mitigation measure has been included addressing the timing of tree removal. With implementation of Mitigation Measure 4.a below potential impacts to nesting birds and special status bird species would be ***less-than-significant***

Mitigation Measure 4.a: If grading or removal of nesting trees and habitat is proposed to occur within the nesting season (between February 15 and August 15) a pre-construction nesting bird survey of the grassland, shrubs and trees within and around the development site shall be performed by a qualified biologist within 7 days of proposed ground breaking. If no nesting birds are observed no further action is required and grading shall commence within one week of the survey to prevent "take" of individual birds that could begin nesting after the survey. If active bird nests are observed during the pre-construction survey, a disturbance-free buffer zone shall be established around the nest tree(s) until the young have fledged, as determined by a qualified biologist in consultation with CDFG.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

The project site does not support riparian habitat or any other identified sensitive natural community. ***No impact*** would occur.

c) Have a substantial adverse effect on federally-protected wetlands?

There are no wetlands on the project site. Accordingly, ***no impact*** would occur.

d) Interfere substantially with the movement of any fish or wildlife species or on any wildlife corridor, or impede the use of native wildlife nursery sites?

The project site is surrounded by other Hillside Residential (R-HS) zoned parcels that are developed with single-family homes and related accessory structures, similar to what is proposed by the project. In addition, the project site does not adjoin/encompass a stream or other waterway and the property is not used as a native wildlife nursery site. As a result, the project would not substantially interfere with the movement of any fish or wildlife species or any wildlife corridor or nursery site. A ***less-than-significant impact*** would occur.

e) Conflict with any local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance?

While the project is not subject to the requirements of the City's Tree Ordinance (SMC 12.08) regarding new development (as construction of a single-family home on an existing lot is exempt), the City of Sonoma 2020 General Plan includes a broad policy calling for the preservation of existing trees and planting of new trees (Environmental Resource Element Policy 2.6). In addition, the preservation of prominent trees and woodlands is an objective of the City's Development Code in regards to Hillside Development (SMC 19.40.050.F). To address these policies and objectives the applicant commissioned an arborist report for the project (Attachment 6, Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017) and provided a Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2) to evaluate and minimize impacts on trees.

The arborist report indicates that constructing the project would require the removal of 38 trees, the majority of which are oak trees with a diameter of less than 12 inches (of the tree proposed for removal roughly 55% have a diameter of 8 inches or less, and roughly 30% have a diameter between 9 to 12 inches). As noted in the Preliminary Grading and Drainage Analysis, the following steps have been taken to limit tree removal to this number and minimize construction and post-construction impacts on trees.

- The primary goal of the drainage design is to maintain the pre-construction drainage scenario to the maximum extent possible. Proposed drainage improvements have been designed to avoid the re-routing of runoff, over concentration of flows, and oversaturation of existing trees. Grading has been designed to minimize cuts and fills, balance earthwork, avoid grading on severely steep slopes, and avoid creating erosion issues.

- Grading for the residence consists of cut slopes on the uphill side and a fill slope downhill of the pool terrace. The downhill side of the residence is on-grade and does not include any major grading. Retaining walls have been designed to minimize impacts to a grove of trees (trees 44, 45, 46, and 47 in the arborist report).

- The cut slope above the residence has been reduced to minimize impacts to uphill trees. Retaining walls are designed to pull excavation near or outside of the driplines of trees 21, 24, 33 and 34 in the arborist report.

- Small landscape walls have been designed to pull excavation out of driplines where cut slopes would have been shallow cuts. These walls have been designed to reduce grading impacts on trees 21, 24, 31, and 33 in the arborist report.

- As part of the drainage plan, outlets for stormwater runoff have been located in areas that are not directly uphill of existing trees to avoid oversaturation of existing trees.

To offset tree removal the project includes a tree replacement program set forth toward the end of the Preliminary Grading and Drainage Analysis (Attachment 2). Under the tree replacement program, trees that are removed due to construction would be replaced/replanted at a ratio of 1.5 trees to every 1 tree removed (a 1.5:1 tree replacement ratio). Replacement trees would be planted at locations adjacent to proposed improvements to further reduce the visibility of those improvements. Pursuant to the letter from the Inman Law Group, LLP to Ross Edwards, dated June 7, 2017 (Attachment 3), the applicant also intends to enact restrictive covenant provisions, which would be implemented through CC&R's applicable to the property, to address tree protection and hillside view preservation. In part, these restrictive covenants would ensure the preservation and maintenance of trees located on the property over the long-term (including trees that screen the proposed improvements from public views) with oversight by the City and a licensed arborist. Since the specifics of this aspect of the proposal are not fully developed, a mitigation measure has been included below requiring its implementation, along with a separate mitigation measure that requires general tree preservation, mitigation, and replacement requirements related to construction.

Mitigation Measure 4.e-1: Restrictive covenants, including tree protection restrictions, shall be developed subject to review and approval by the City to ensure the long-term preservation and maintenance of trees on the property. A restrictive covenants Declaration shall be recorded on the property and shall include an Exhibit defining the extent of trees/woodlands subject to the tree protection restrictions.

Mitigation Measure 4.e-2: The project shall be constructed in accordance with the following requirements related to tree preservation, mitigation and replacement:

a. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017 (Attachment 6), as amended through any subsequent arborist peer review, shall be adhered to.

b. Trees removed from the project site shall be replaced on-site at a minimum ratio of 1.5:1, consistent with the tree replacement program proposed as part of the project. Replacement trees shall be a minimum 15-gallon size.

c. The recommendations and tree protection measures set forth in the Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017 (Attachment 6), as amended through any subsequent arborist peer review, shall be incorporated into the grading and improvement plans for the project, as applicable. Written confirmation to this effect shall be provided by the project arborist.

d. Tree fencing and any other required protective measures shall remain in place until their removal is authorized by the project arborist.

e. The project arborist shall be on-hand during initial grading and trenching to monitor compliance with tree protection measures.

With implementation of Mitigation Measures 4.e-1 and 4.e-2 above, in conjunction with the proposed tree replacement program, the project would have a ***less-than-significant impact*** on trees.

f) Conflict with the provisions of any adopted or approved local, regional, or state habitat conservation plan?

No habitat conservation plans have been prepared addressing the project site. As a result, the project would not conflict with any adopted or approved habitat conservation plans. ***No impact*** would occur.

5. CULTURAL RESOURCES: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☑
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☑	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☑	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☑	☐	☐

Discussion:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

The City of Sonoma commissioned Tom Origer & Associates to conduct an historical resources study of 12.7 acres of land that encompasses the subject property/project site, and adjoining parcels. The project site is undeveloped, only including part of a private access driveway with adjacent stone alignment. The Historical Resources Study of APNs 018-051-007, 018-051-012, and 018-091-018 prepared by Tom Origer & Associates, dated May 8, 2017 (Attachment 7) found no historical resources on the project site or within the study area. Accordingly, the project would have ***no impact*** on historical resources.

b) Cause a substantial adverse change in the significance of an archaeological resource?

The City of Sonoma commissioned Tom Origer & Associates to conduct an historical resources study of 12.7 acres of land that encompasses the subject property/project site, and adjoining parcels. The project site is undeveloped, only including part of a private access driveway with adjacent stone alignment. The Historical Resources Study (Attachment 7) found no archaeological site indicators or evidence of warm springs on the project site or within the study area; therefore no resource-specific recommendations were warranted. However, there is a very low probability that buried archaeological deposits could be present at the site that could be uncovered during earth-moving activities. Accordingly, consistent with the historic resource survey, the following mitigation measure has been included to address the potential for accidental discovery. Implementation of this mitigation measure would ensure that potentially significant impacts to archeological resources are reduced to a ***less-than-significant*** level.

Mitigation Measure 5.b: If archaeological remains are uncovered, work at the place of discovery should be halted immediately until a qualified archaeologist can evaluate the finds (§15064.5 [f]). Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar dups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire-affected stones. Historic period site indicators generally include: fragments of

glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources (fossils) are the remains or traces of prehistoric animals and plants. The National Resources Conservation Service has classified site soils as belonging to the Goulding-Toomes complex.[3] The Goulding-Toomes complex consists of well-drained, clay loams that have a gravelly clay subsoil with a total depth of one to two feet to rock from the Sonoma Volcanics. Because the Goulding-Toomes complex and the Sonoma Volcanics are not typically associated with fossils, there is a very low probability that fossils would be encountered during construction activities. However, should a paleontological resource be encountered, the following mitigation measure would reduce impacts to a ***less-than-significant level***.

Mitigation Measure 5.c: If paleontological resources are identified during construction activities, all work in the immediate area will cease until a qualified paleontologist has evaluated the finds in accordance with the standard guidelines established by the Society of Vertebrate Paleontology. If the paleontological resources are considered to be significant, a data recovery program will be implemented in accordance with the guidelines established by the Society of Vertebrate Paleontology.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Although impacts to human remains are not anticipated, there is always the remote possibility that human remains are present below the ground surface and could be unearthed during ground disturbing activities. Consistent with the historic resource survey and CEQA Guidelines Section 15064.5(d), implementation of Mitigation Measure 5.d below would reduce this impact to a ***less-than-significant level***.

Mitigation Measure 5.d: If human remains are encountered, excavation or disturbance of the location must be halted in the vicinity of the find, and the County Coroner contacted. If the coroner determined the remains are Native American, the coroner will contact the Native American Heritage Commission. The Native American Heritage Commission will identify the person or persons believed to be most likely descended from the deceased Native American. The most likely descendent makes recommendations regarding the treatment of the remains with appropriate dignity.

6. GEOLOGY AND SOILS: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				

3 *Soil Survey of Sonoma County, California*, National Resources Conservation Service, 1972.

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42.)	☐	☐	☐	☑
ii. Strong seismic ground shaking?	☐	☐	☑	☐
iii. Seismic-related ground failure, including liquefaction?	☐	☐	☑	☐
iv. Landslides?	☐	☐	☑	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☑	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☑	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☑	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☑

Discussion:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The project site would not be subject to surface fault rupture. In general, surface fault rupture occurs along active faults. While the project site is located in a seismically active region, the City of Sonoma, including the project site, is not affected by an Alquist-Priolo Earthquake Fault Zone pursuant to Division of Mines and Geology Special Publication 42[4]. Therefore, ***no impact*** would occur.

ii) Strong seismic ground shaking?

The City of Sonoma is located in the seismically active San Francisco Bay Area, in proximity to several mapped active or potentially active regional faults. The Rodgers Creek fault is nearest to the project site, located approximately five miles to the southwest on the western side of the Sonoma Mountains. As a result, the project could result in the exposure of people, structures, and/or property to seismic ground shaking. While hazards associated with potential ground shaking cannot be eliminated, potential impacts resulting from seismic ground

[4] *Fault-Rupture Hazard Zones in California,* Earl W. Hart and William A. Bryant, California Geological Survey, Special Publication 42, supplements 1 and 2 1999.

shaking would be reduced to the greatest extent feasible through compliance with the City of Sonoma's building code requirements, which requires that new structures be designed and constructed in a manner to maximize seismic safety, in conformance with the 2016 California Building Code. This would be considered a ***less-than-significant*** impact.

iii) Seismic-related ground failure, including liquefaction?

Refer to Section 6.a.ii and 6.c. Potential impacts associated with seismic-related ground failure would be ***less-than-significant.***

iv) Landslides?

Refer to Section 6.c. Potential impacts associated with landslides would be ***less-than-significant.***

b) Result in substantial soil erosion or the loss of topsoil?

The project site is located on hillside terrain with slopes between 5% and 25%. The National Resources Conservation Service has classified site soils as belonging to the Goulding-Toomes complex (GoF), which has a moderate to high hazard of erosion. Given the topography and soil type, there is potential for the project to result in soil erosion, especially during clearing and grading activities necessary to construct driveways and pads for the residence, garage, and patios (earthwork calculations estimate 1,780 cubic yards of cut and 1,780 cubic yards of fill for the project). During this process existing vegetation that currently helps to stabilize site soils would be removed at the development site and construction operations associated with the project could present a threat of erosion by subjecting unprotected bare soil areas to the erosional forces of runoff. However, implementation of the following stormwater/erosion control requirements would apply to the project:

Construction Requirements: The Clean Water Act (CWA) prohibits the discharge of pollutants from point sources to Waters of the U.S. except where those discharges are authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The project applicant would be required to comply with all construction requirements in NPDES Permits CAS000004 (permitting stormwater discharges from the City of Sonoma Municipal Separate Storm Sewer System) and CAS000002 (permitting stormwater discharges from construction sites disturbing more than 1 acre of land) for the construction period.

Under the NPDES program, the applicant would be required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI would include general information on the types of construction activities that would occur on the site. The applicant would also be required to submit a site-specific plan called the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of appropriate erosion control and water quality Best Management Practices (BMPs) to minimize the discharge of pollutants from the site during the construction period. Similarly, under the City's Grading Ordinance (SMC 14.20) and Hillside Development Standards (SMC 19.40.050.D) an Erosion and Sediment Control Plan (ECP) would also be required for the project, likewise identifying measures that would be implemented during construction to appropriately and effectively minimize soil erosion and sedimentation.

Construction-related erosion control and water quality BMPs identified in the SWPPP generally include soil stabilization techniques such as: hydroseeding and short-term biodegradable erosion control blankets; silt fences or some kind of inlet protection at downstream storm drain inlets; post-construction inspection of all drainage facilities for accumulated sediment; and post-construction clearing of all drainage facilities of debris and sediment. Finally, the project applicant would be required to submit a Notice of Termination (NOT) once construction is complete and final stabilization of the site has been achieved.

Post-Construction Requirements: Since the proposed development would create more than 2,500 square feet of new impervious surface, a Storm Water Control Plan (SCP) would be required, subject to review and approval by the City Engineer and Stormwater Compliance Specialist, identifying stormwater BMPs that, when implemented, reduce the quantity of pollutants in stormwater runoff discharging from a project site to the maximum extent practicable. The SCP also outlines BMPs that, when implemented, reduce the total volume of stormwater runoff from the project site (retention) and attenuate peak flows (detention).

With the implementation of these normal requirements, the project would not result in substantial soil erosion and would have a ***less-than-significant*** impact in this regard. See also Sections 9.a, 9.c, 9.d and 9.e.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

The National Resources Conservation Service has classified site soils as belonging to the Goulding-Toomes complex.[5] The Goulding-Toomes complex consists of well-drained, clay loams that have a gravelly clay subsoil with a total depth of one to two feet to rock from the Sonoma Volcanics. Existing residential development around the project site, constructed on similar soils, slopes, and bedrock geology has not experienced landslides, lateral spreading, subsidence, liquefaction, or collapse. Based on site geology and this past experience, it is not anticipated that unstable geologic units or soil would affect the project. In addition, pursuant to Chapter 4 of the California Residential Code (CRC) and Chapter 18 of the California Building Code (CBC), a soils and geotechnical investigation that includes a stabilization study (prepared by a licensed geotechnical engineer) is required for development of the proposed project. As normally required, the recommendations identified in the soils and geotechnical investigation, such as appropriate foundation systems, soil stability measures, on-site soil preparation and compaction levels, must be incorporated into the permits and construction plans for the project (i.e., improvement plans, grading permit, and building permits), which are subject to review and approval by the City Engineer and Plans Examiner prior to the issuance of any building permits for grading or building construction. Incorporation of the recommendations into the plans and permits for the project would ensure that potential impacts relating to unstable geologic units or soils would be ***less-than-significant***.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Refer to Section 6.c. Impacts in this area would be ***less-than-significant***.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal or wastewater?

The proposed single-family home would be connected to the local sewer system managed by the Sonoma Valley County Sanitation District. Use of septic tanks or alternative wastewater disposal systems is not proposed as part of the project. ***No impact*** would occur.

5 *Soil Survey of Sonoma County, California,* National Resources Conservation Service, 1972.

7. GREENHOUSE GAS EMISSIONS: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☑	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☑

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

On June 2, 2010 the Bay Area Air Quality Management District (BAAQMD) adopted guidelines for analyzing air quality impacts under CEQA, including screening thresholds for the analysis of greenhouse gas (GHG) impacts from development projects. Under the BAAQMD guidelines, which were updated in May 2017, land use development projects that generate GHG emissions below 1,100 metric tons of carbon dioxide equivalent (MTC2e) per year are considered to have a less than significant impact. The BAAQMD screening criteria indicate that single-family development projects of less than 56 dwelling units would not exceed this GHG operational threshold of 1,100 MTC_2e per year. Since only one single-family dwelling is proposed, the project falls well below the applicable GHG screening threshold and therefore would be considered to have a negligible or ***less-than-significant impact*** with respect to GHG emissions.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed single-family home project would be consistent with the following State and local plans, policies, and requirements addressing GHG reduction:

State Regulations Addressing GHG Reduction:

California Building Code – Building and Energy Efficiency Standards: Energy conservation standards for new residential and non-residential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 and most recently revised in 2008 (Title 24, Part 6, of the California Code of Regulations [CCR]). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods. On May 31, 2012, the CEC adopted the 2013 Building and Energy Efficiency Standards, which went into effect on July 1, 2014. Residential buildings that are constructed in accordance with the 2013 Building and Energy Efficiency Standards are 25 percent more energy efficient than the 2008 standards as a result of better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption in homes. Most recently, the CEC adopted the 2016 Building and Energy Efficiency Standards. The 2016 Standards improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. These standards went into effect on January 1, 2017. Under the 2016 Standards, residential buildings are required to be 28 percent more energy efficient than the 2013 Standards. The project would be subject to these latest standards.

California Building Code – CALGreen: The California Green Building Standards Code (Part 11, Title 24, known as "CALGreen") establishes planning and design standards for sustainable site development, energy efficiency (in excess

of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of the California Green Building Code Standards became effective January 1, 2011, were updated in 2013, and became effective January 1, 2014. The project would be subject to CALGreen requirements.

2006 Appliance Efficiency Regulations: The 2006 Appliance Efficiency Regulations (Title 20, CCR Sections 1601 through 1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. Though these regulations are often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Local Plans, Policies, and Regulations addressing GHG Reduction:

City of Sonoma General Plan: The City of Sonoma 2020 General Plan sets forth policies promoting sustainable practices such as not using renewable resources faster than they can regenerate, not consuming non-renewable resources faster than renewable alternatives can be substituted for them, and ensuring that pollution and waste are not emitted faster or in greater volumes than natural systems can absorb, recycle, or render them harmless. As part of the implementation of these policies, the City adopted the State of California Green Building Code (see above), which raised the level of construction standards in the City in order to encourage water and resource conservation, reduce water generated by construction projects, increase energy efficiency in buildings, provide durable buildings that are efficient and economical to own and operate, and promote the health and productivity of residents, workers, and visitors to the City.

City of Sonoma Municipal Code: Beginning January 1, 2014, the 2013 California Green Building Standards Code (CALGreen) became effective for new buildings and certain addition or alteration projects throughout California. The City of Sonoma has adopted and amended CALGreen as part of the City's Municipal Code to require CALGreen+Tier 1 level of compliance for all new buildings (except the Tier 1 Energy Efficiency measures). The City of Sonoma requires that project applicants hire a third-party green building special inspector to verify compliance with CALGreen requirements as amended by the City of Sonoma. Revisions to CALGreen became effective on July 1, 2015.

2016 Climate Action Plan Measures: Beginning in May of 2013, the City began participating in the development of a County-wide Greenhouse Gas Reduction Implementation Program, subsequently renamed Climate Action 2020. Climate Action 2020 is a collaborative effort among all nine cities and the County of Sonoma to take coordinated action in reducing GHG emissions on a county-wide basis. Through the implementation of this program, participating jurisdictions would achieve compliance with Bay Area Air Quality Management District (BAAQMD) guidelines and other related policies that establish reduction targets for GHG emissions, including AB 32, CEQA, and local GHG reduction goals. The development of the draft Plan was led by the Regional Climate Protection Authority (RCPA), with the assistance of a Working Group comprised of planning staff from each of the 10 jurisdictions of Sonoma County, including the City of Sonoma.

On August 15, 2016, the City Council began its review of the draft Climate Action 2020 Plan (CAP). For Sonoma, a total of 22 Climate Action Measures were recommended for Council consideration. Although the County-wide adoption of Climate Action 2020 Plan was subsequently postponed as a result of litigation brought against the RCPA, the City Council decided to take separate action to begin implementation of the measures identified in the CAP planning process. On November 21, 2016, the City Council adopted Resolution 40-2016, adopting the local measures identified for Sonoma through the CAP planning process.

Because the project would be subject to and not conflict with applicable State and local plans, policies, and requirements addressing GHG reduction, it would have ***no impact*** in this area.

8. HAZARDS AND HAZARDOUS MATERIALS: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	☑
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐	☑
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☑
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☑
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☑
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☑
h) 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?	☐	☐	☑	☐

Discussion:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The proposed single-family home project would not involve the routine transport, use, or disposal of hazardous materials. Thus, ***no impact*** would occur.

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials (including, but not limited to, oil, pesticides, chemicals, or radiation) into the environment?

The proposed single-family home project at this rural location would not reasonably be expected to create a hazard from the release of hazardous materials into the environment. ***No impact*** would occur.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Refer to Section 8.a. and 8.b. above. Furthermore, there are no existing or proposed schools within one-quarter-mile of the site. ***No impact*** would occur.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The project site is not identified on the Hazardous Waste and Substances Site List (Cortese List) for Sonoma County. Therefore, the proposed development would not create a significant hazard to the public or environment due to site contamination, and ***no impact*** would occur.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

The project site is not located within an airport land use plan or within two miles of a public airport. ***No impact*** would occur.

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

The project site does not lie within an Airport Clear Zone or Accident Potential Zone. The nearest private airport, Sonoma Skypark, is over two miles away. Therefore, the project would not reasonably be expected to result in a safety hazard, and thus ***no impact*** would occur.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project would not interfere with any adopted emergency response or evacuation plan. Therefore, ***no impact*** would occur.

h) 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 project site is located within a wildland-urban interface Fire Area. As a result, the project will be subject to the wildland interface requirements set forth under Chapter 7A of the Building Code, including the use of fire-resistant

exterior building materials and vegetation management. Compliance with these Building Code requirements will reduce potential impacts from wildland fires to a ***less-than-significant*** level

9. HYDROLOGY AND WATER QUALITY: **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☐	☑
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☑	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☑	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☑	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☑	☐
f) Otherwise substantially degrade water quality?	☐	☐	☑	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☑
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☑
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☑
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☑

Discussion:

a) Violate any water quality standards or waste discharge requirements?

Construction Requirements: The Clean Water Act (CWA) prohibits the discharge of pollutants from point sources to Waters of the U.S. except where those discharges are authorized by a National Pollutant Discharge Elimination System (NPDES) permit. The project applicant would be required to comply with all construction requirements in NPDES Permits CAS000004 (permitting stormwater discharges from the City of Sonoma Municipal Separate Storm Sewer System) and CAS000002 (permitting stormwater discharges from construction sites disturbing more than 1 acre of land) for the construction period.

Under the NPDES program, the applicant would be required to submit a Notice of Intent (NOI) with the State Water Resource Control Board's (SWRCB) Division of Water Quality. The NOI would include general information on the types of construction activities that would occur on the site. The applicant would also be required to submit a site-specific plan called the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP would include a description of appropriate erosion control and water quality Best Management Practices (BMPs) to minimize the discharge of pollutants from the site during the construction period. Similarly, under the City's Grading Ordinance (SMC 14.20) and Hillside Development Standards (SMC 19.40.050.D) an Erosion and Sediment Control Plan (ECP) would also be required for the project, likewise identifying measures that would be implemented during construction to appropriately and effectively minimize soil erosion and sedimentation.

Construction-related erosion control and water quality BMPs identified in the SWPPP generally include soil stabilization techniques such as: hydroseeding and short-term biodegradable erosion control blankets; silt fences or some kind of inlet protection at downstream storm drain inlets; post-construction inspection of all drainage facilities for accumulated sediment; and post-construction clearing of all drainage facilities of debris and sediment. Finally, the project applicant would be required to submit a Notice of Termination (NOT) once construction is complete and final stabilization of the site has been achieved.

Post-Construction Requirements: Since the proposed development would create more than 2,500 square feet of new impervious surface, a Storm Water Control Plan (SCP) would be required, subject to review and approval by the City Engineer and Stormwater Compliance Specialist, identifying stormwater BMPs that, when implemented, reduce the quantity of pollutants in stormwater runoff discharging from a project site to the maximum extent practicable. The SCP also outlines BMPs that, when implemented, reduce the total volume of stormwater runoff from the project site (retention) and attenuate peak flows (detention).

As identified in the Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2), proposed drainage improvements and BMPs for the project would include the following:

- Drainage around the residence includes an interceptor swale located on the uphill side of the pathway between the garage and residence entry. A second interceptor swale is located uphill of the residence and auxiliary structure that extends southerly. Stormwater collected in the swales would be conveyed through a storm drain (SD-2) for release at a rock riprap outlet located below the residence, and would ultimately flow to a bio-retention planter located below the residence (Stormwater BMP-1).

- Roof and patio drainage at the residence would be conveyed to two bio-retention planters located below the home (Stormwater BMP-1 and Stormwater BMP-2). Stormwater runoff directed to the bio-retention

planters would be retained and allowed to infiltrate, with the overflow spread out over a 40-foot wide zone to maintain the pre-construction sheet flow condition below the proposed improvements.

- Drainage around the driveway extension and circular turnaround serving the garage includes an interceptor swale located on the uphill side of the pathway and driveway. Stormwater collected in the swale would be conveyed to a drain inlet and through a storm drain (SD-1) for release through a tee pipe storm drain dissipater below/east of the garage, and would ultimately flow to a bio-retention planter located below the driveway extension (Stormwater BMP-3). A secondary interceptor swale is located between the residence and circular drive that would convey runoff southeasterly to a rock riprap dissipater.

With the implementation of the normal construction and post-construction requirements noted above, the project would not violate any water quality standards or waste discharge requirements and ***no impact*** would occur.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

The Department of Water Resources (DWR) defines groundwater basins based on geologic and hydrogeological conditions. According to the DWR, the project site is located within the Sonoma Valley groundwater sub-basin. Natural recharge in the sub-basin predominantly occurs where stream channels cut into the alluvial fan deposits. Areas of low relief and sufficiently permeable soil also allow for some slow infiltration from precipitation. While the project would increase the amount of impervious surface on the subject property, the project site is hillside terrain and does not include a stream channel. In addition, site soils (Goulding-Toomes complex) are classified as Hydrologic group D, which means they have a very slow infiltration rate and thus would not allow for a significant amount of infiltration of runoff into the underlying groundwater basin. Regardless, a Storm Water Control Plan would be required for the project (as noted in Section 9.a above) to allow for the treatment and infiltration of surface run-off. For these reasons, the project would not significantly interfere with groundwater recharge. In addition, the project would not involve the construction of new groundwater wells for project water supplies. Water for the proposed project would be supplied by the City of Sonoma. The City of Sonoma obtains its water from the Sonoma County Water Agency (SCWA) and City wells. The majority of water used in the City is supplied by SCWA and is derived from surface water. City wells are considered a secondary water source used only to supplement deliveries from SCWA during peak demands. As a result, the proposed project would not result in the substantial depletion of groundwater supplies. Project impacts on groundwater resources are considered ***less-than-significant***.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

As noted in the Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2), the project site is located on hillside terrain with slopes between 5% and 25%. Soils on the project site consist of clay loams with high rock content that are well-drained. The existing drainage pattern consists of sub-surface flow and sheet flow on the surface through the property. There are no rivers, streams, creeks, or any significant concentrations of runoff on the project site. Drainage from the site is eventually collected by a roadside swale located along the west side of Fourth Street East.

The Preliminary Grading and Drainage Analysis indicates that proposed drainage improvements are intended to maintain the existing drainage scenario to the maximum extent possible. In general, proposed drainage improvements would consist of interceptor swales, drain inlets with culverts, sub-drains, bio-retention planters, rock riprap dissipaters, and tee pipe dissipaters with the following functions:

- Interceptor swales are designed to accept uphill runoff from a building or driveway and convey it to the downhill side of the improvement. Swales are triangular or trapezoidal in shape and approximately 9-inches deep.
- Drain inlets accept runoff from swales, landscape areas or patios and convey runoff through a storm drain downhill of improvements. Inlets are used where surface swales are not feasible.
- Sub-drains are required for building foundations, and areas with constructed fill slopes. They consist of perforated pipe and gravel trenches that collect sub-surface runoff and release it downhill of proposed improvements.
- Bio-retention planters have been designed on the downhill side of the residence to receive runoff directly from roofs and patios. A bio-retention planter is a depression that detains and treats runoff through infiltration of a gravel bed or filtration with plant media. Bio-retention planters will be used to treat runoff in accordance with local stormwater guidelines.
- Rock riprap dissipaters are designed at the end of drainage swales or storm drains to disperse the erosive energy of the runoff and change concentrated flow of the swale to sheet flow, which is similar to the pre-construction condition.
- Tee pipe storm drain dissipaters are designed for release from storm drains. These dissipaters consist of approximately 20-feet of lager diameter pipe with perforation in the crown of the pipe. Runoff from the storm drain fills the dissipater and bubbles out of the top in a manner that spreads out the flow similar to sheet flow.

Pursuant to the Preliminary Grading and Drainage Analysis proposed drainage improvements and BMPs specific to the proposed project would include the following:

- Drainage around the residence includes an interceptor swale located on the uphill side of the pathway between the garage and residence entry. A second interceptor swale is located uphill of the residence and auxiliary structure that extends southerly. Stormwater collected in the swales would be conveyed through a storm drain (SD-2) for release at a rock riprap outlet located below the residence, and would ultimately flow to a bio-retention planter located below the residence (Stormwater BMP-1).
- Roof and patio drainage at the residence would be conveyed to two bio-retention planters located below the home (Stormwater BMP-1 and Stormwater BMP-2). Stormwater runoff directed to the bio-retention planters would be retained and allowed to infiltrate, with the overflow spread out over a 40-foot wide zone to maintain the pre-construction sheet flow condition below the proposed improvements.
- Drainage around the driveway extension and circular turnaround serving the garage includes an interceptor swale located on the uphill side of the pathway and driveway. Stormwater collected in the swale would be conveyed to a drain inlet and through a storm drain (SD-1) for release through a tee pipe storm drain dissipater below/east of the garage, and would ultimately flow to a bio-retention planter located below the driveway extension (Stormwater BMP-3). A secondary interceptor swale is located between the residence and circular drive that would convey runoff southeasterly to a rock riprap dissipater.

With implementation of the proposed drainage improvements noted above, the project would not substantially alter the existing drainage pattern of the site or area. In addition, with implementation of the normally required construction and post-construction erosion control and stormwater control measures/BMPs discussed under

Subsections 9.a and 6.b (including the project Storm Water Pollution Prevention Plan, Erosion Control Plan, and Storm Water Control Plan), the project would not result in substantial erosion or siltation on- or off-site and have a ***less-than-significant impact*** in this regard.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

As noted in the Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2), the project site is located on hillside terrain with slopes between 5% and 25%. Soils on the project site consist of clay loams with high rock content that are well-drained. The existing drainage pattern consists of sub-surface flow and sheet flow on the surface through the property. There are no rivers, streams, creeks, or any significant concentrations of runoff on the project site. Drainage from the site is eventually collected by a roadside swale located along the west side of Fourth Street East.

The Preliminary Grading and Drainage Analysis indicates that proposed drainage improvements are intended to maintain the existing drainage scenario to the maximum extent possible. In general, proposed drainage improvements would consist of interceptor swales, drain inlets with culverts, sub-drains, bio-retention planters, rock riprap dissipaters, and tee pipe dissipaters with the following functions:

- Interceptor swales are designed to accept uphill runoff from a building or driveway and convey it to the downhill side of the improvement. Swales are triangular or trapezoidal in shape and approximately 9-inches deep.
- Drain inlets accept runoff from swales, landscape areas or patios and convey runoff through a storm drain downhill of improvements. Inlets are used where surface swales are not feasible.
- Sub-drains are required for building foundations, and areas with constructed fill slopes. They consist of perforated pipe and gravel trenches that collect sub-surface runoff and release it downhill of proposed improvements.
- Bio-retention planters have been designed on the downhill side of the residence to receive runoff directly from roofs and patios. A bio-retention planter is a depression that detains and treats runoff through infiltration of a gravel bed or filtration with plant media. Bio-retention planters will be used to treat runoff in accordance with local stormwater guidelines.
- Rock riprap dissipaters are designed at the end of drainage swales or storm drains to disperse the erosive energy of the runoff and change concentrated flow of the swale to sheet flow, which is similar to the pre-construction condition.
- Tee pipe storm drain dissipaters are designed for release from storm drains. These dissipaters consist of approximately 20-feet of lager diameter pipe with perforation in the crown of the pipe. Runoff from the storm drain fills the dissipater and bubbles out of the top in a manner that spreads out the flow similar to sheet flow.

Pursuant to the Preliminary Grading and Drainage Analysis proposed drainage improvements and BMPs specific to the proposed project would include the following:

- Drainage around the residence includes an interceptor swale located on the uphill side of the pathway between the garage and residence entry. A second interceptor swale is located uphill of the residence and

auxiliary structure that extends southerly. Stormwater collected in the swales would be conveyed through a storm drain (SD-2) for release at a rock riprap outlet located below the residence, and would ultimately flow to a bio-retention planter located below the residence (Stormwater BMP-1).

- Roof and patio drainage at the residence would be conveyed to two bio-retention planters located below the home (Stormwater BMP-1 and Stormwater BMP-2). Stormwater runoff directed to the bio-retention planters would be retained and allowed to infiltrate, with the overflow spread out over a 40-foot wide zone to maintain the pre-construction sheet flow condition below the proposed improvements.

- Drainage around the driveway extension and circular turnaround serving the garage includes an interceptor swale located on the uphill side of the pathway and driveway. Stormwater collected in the swale would be conveyed to a drain inlet and through a storm drain (SD-1) for release through a tee pipe storm drain dissipater below/east of the garage, and would ultimately flow to a bio-retention planter located below the driveway extension (Stormwater BMP-3). A secondary interceptor swale is located between the residence and circular drive that would convey runoff southeasterly to a rock riprap dissipater.

With implementation of the proposed drainage improvements noted above, the project would not substantially alter the existing drainage pattern of the site or area. In addition, with implementation of the normally required construction and post-construction erosion control and stormwater control measures/BMPs discussed under Subsections 9.a and 6.b (including the project Storm Water Pollution Prevention Plan, Erosion Control Plan, and Storm Water Control Plan), the project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. In particular, implementation of BMPs required as part of the Storm Water Control Plan, such as the bio-retention planters proposed downhill of the improvements, would retain runoff and allow it to infiltrate. Accordingly, the project would have a ***less-than-significant impact*** with regard to increased surface runoff and potential flooding.

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

As discussed under 9.d, the project would not substantially alter the existing drainage pattern of the site/area or substantially increase the rate or amount of surface runoff in a manner that would exceed the capacity of existing or planned stormwater drainage systems.

In addition, with implementation of the normally required construction and post-construction erosion control and stormwater control measures/BMPs discussed under Subsections 9.a and 6.b (including the project Storm Water Pollution Prevention Plan, Erosion Control Plan, and Storm Water Control Plan), the project would not provide substantial additional sources of polluted runoff. In particular, implementation of BMPs required as part of the Storm Water Control Plan, such as the bio-retention planters proposed downhill of the improvements, would retain and treat runoff through infiltration of a gravel bed or filtration with plant media. Accordingly, the project would have a ***less-than-significant impact*** with regard to increased polluted runoff.

f) Otherwise substantially degrade water quality?

The proposed single-family home project would not otherwise substantially degrade water quality. See responses to Items 9.a, 9.c, and 9.e. Impacts would be ***less-than-significant.***

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

According to the applicable Flood Insurance Rate Map (Map Number 06097C0937E, Panel 937 of 1150), the project site is not located within a 100-year flood hazard area. The property is located within an area designated as "Other Areas, Zone X," which are areas determined to be outside of the 0.2% annual chance floodplain. Housing would not be placed within a 100-year flood hazard area. ***No impact*** would occur.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

The project would not place structures within a 100-year flood hazard area (refer to Section 9.g above). ***No impact*** would occur.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

The project would not place people or structures within a 100-year flood hazard zone (refer to Section 9.g above). The project site is not located below a levee or dam. As a result, the project would not expose people or structures to a significant risk of loss, injury, or death involving flood hazards. ***No impact*** would occur.

j) Expose people or structures to inundation by seiche, tsunami, or mudflow?

Sonoma is not located in the vicinity of a large inland water body, along coastal waters, or in the path of a potential mudflow. ***No impact*** would occur.

10. LAND USE AND PLANNING: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☑
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☑	☐
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☑

Discussion:

a) Physically divide an established community?

The subject property is located toward the northern edge of the City surrounded by other Hillside Residential (R-HS) zoned parcels that are developed with single-family homes and accessory structures, similar to what is proposed by the project. As a result, the project would not physically divide the community. ***No impact*** would occur.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

As discussed in the other sections of the Initial Study, the project would not conflict with any land use plan, policy or regulation adopted to avoid or mitigate environmental effects. A ***less-than-significant impact*** would occur.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No habitat conservation plans or natural community conservation plans have been prepared addressing the site and adjoining lands. Therefore, ***no impact*** would occur.

11. MINERAL RESOURCES: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☑
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☑

Discussion:

a) Result in the loss of availability of a known mineral resource that would be of future value to the region and the residents of the state?

The project site is not identified as containing any valuable mineral resources. The National Resources Conservation Service has classified site soils as belonging to the Goulding-Toomes (GoF) complex.[6] The Goulding-Toomes complex consists of well-drained, clay loams that have a gravelly clay subsoil with a total depth of one to two feet to rock from the Sonoma Volcanics. The project would have **no impact** on mineral resources.

b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

Refer to Section 11.a. ***No impact*** would occur.

6 *Soil Survey of Sonoma County, California*, National Resources Conservation Service, 1972.

12. NOISE: Would the project result in:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exposure of persons to, or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐	☑
b) Exposure of persons to, or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐	☑
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☑	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity due to construction activities above levels existing without the project?	☐	☐	☑	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☑

Discussion:

a) Exposure of persons to, or generation of noise levels in excess of, standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

According to the Noise Element of the General Plan, the primary source of noise locally is traffic on major streets, especially arterial and collector streets such as Highway 12 (i.e., Broadway, West Napa Street, and Sonoma Highway), Leveroni Road, Napa Road, Fifth Street West, East Napa Street, West Spain Street, Verano Avenue, East MacArthur Street, and West MacArthur Street. Traffic volumes on the rural street sections in proximity to the site (Brazil Street and Fourth Street East) are far below those levels and would not be expected to result in excessive noise levels at the proposed residence. The project site is also an interior parcel setback substantially from the Fourth Street East and Brazil Street. In addition, as a single-family home the project would not be expected to generate or expose other residents in vicinity of the site to noise levels in excess of standards established within the Noise Element of the *City of Sonoma 2020 General Plan,* or the City's Noise Ordinance (Chapter 9.56 of the Sonoma Municipal Code). Thus, ***no impact*** would occur. Refer to Section 12.d below for a discussion of construction noise impacts.

b) Exposure of persons to, or generation of excessive groundborne vibration or groundborne noise levels?

The proposed development would not expose persons to or generate excessive groundborne vibration or groundborne noise levels. There would be ***no impact.***

c) A substantial permanent increase in ambient noise levels in the project vicinity?

Due to the nature of the proposed land use (i.e., a single-family home), any permanent increase in ambient noise levels resulting from the project would be minimal and ***less-than-significant*** with respect to existing ambient noise levels in the area.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity due to construction activities above levels existing without the project?

Construction activities typically associated with new development, including grading, excavation, paving, material deliveries, and building construction, would result in a substantial temporary increase in ambient noise levels in the project vicinity. Although this impact is temporary in nature, increased noise levels during the construction period may adversely affect residents in the area. However, compliance with the City's Noise Ordinance (Chapter 9.56 of the Sonoma Municipal Code) as normally required, would ensure that potential impacts from construction noise are reduced to a ***less-than-significant level***. Pursuant to the City's Noise Ordinance, construction activities and material deliveries are restricted to the hours between 8 a.m. and 6 p.m. Monday through Friday, between 9 a.m. and 6:00 p.m. on Saturday, and between 10 a.m. and 6 p.m. on Sundays and holidays; however, the noise level at any point outside of the property plane of the project shall not exceed (90) dBA. In addition, the City's Noise Ordinance requires sign postings at all site entrances upon commencement of construction to inform contractors and subcontractors, their employees, agents, and materialmen of the allowable construction hours.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The project site is not located within an airport land use plan or within two miles of a public airport. ***No impact*** would occur.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The nearest private airport, Sonoma Skypark, is over two miles away. ***No impact*** would occur.

13. POPULATION AND HOUSING: **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☑
b) Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☑

Discussion:

a) Induce substantial population growth in an area, either directly or indirectly?

The project would create one single-family home, which would not be considered growth inducing. ***No impact*** would occur.

b) Displace substantial numbers of existing housing units?

The site is undeveloped. Accordingly, no housing would be displaced by the project. ***No impact*** would occur

c) Displace substantial numbers of people?

See response 13.b, above. ***No impact*** would occur.

14. PUBLIC SERVICES: **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i. Fire protection?	☐	☐	☐	☑
ii. Police protection?	☐	☐	☐	☑
iii. Schools?	☐	☐	☑	☐
iv. Parks?	☐	☐	☐	☑
v. Other public facilities?	☐	☐	☐	☑

Discussion:

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

i. Fire protection?

Fire protection services are provided by Sonoma Valley Fire & Rescue Authority (SVFRA). According to the Fire Marshall, the project, which involves development of one single-family residence, would not require new or physically altered fire department facilities. ***No impact*** would occur.

ii. Police protection?

The Sonoma County Sheriff's Department currently provides police services for the City of Sonoma. According to Police Department staff, the project, which involves development of one single-family residence, would not require new or physically altered police department facilities. ***No impact*** would occur.

iii. Schools?

The project site is located within the Sonoma Valley Unified School District (SVUSD), which operates five elementary schools, two middle schools, and one comprehensive high school. As normally required, the applicant/developer would have to pay school impact fees to offset potential impacts to the SVUSD. As set forth in California Government Code Section 65995, the payment of development fees mitigates any impact to school districts, and no additional mitigation beyond the payment of these fees is permitted. This would be a ***less-than-significant impact***.

iv. Parks?

Based on the Environmental Resources Element of the 2020 General Plan, a sufficient number of parks exist within the city to serve the existing and projected population. The project, which involves development of one single-family residence, would not require the provision or construction of new public parks. ***No impact*** would occur. See also Section 15 below.

v. Other Public Facilities?

The project, which involves development of one single-family residence, would not require the provision or construction of other public facilities. ***No impact*** would occur.

15. RECREATION	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☑
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☑	☐

Discussion:

a) Would the project increase the use of existing neighborhood or regional parks, or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

The project would create one single-family home, which would not be expected to result in a substantial deterioration of local/regional recreational facilities. Furthermore, in combination with State and County parks that are maintained within and adjacent to the city limits, the City of Sonoma has roughly 250 acres of parkland and other recreational facilities. With the acquisition of the Montini Preserve, an additional 95 acres of open space developed with hiking trail systems has become available to the public. The project site is in proximity to several of these facilities, including the Sonoma Overlook Trail, the Sonoma City Trail Class 1 bicycle/pedestrian path, Depot Park, Sonoma State Historic Park, and the Plaza. There are currently a sufficient number of parks and recreational facilities within the city and region to serve residents of the proposed home. ***No impact*** would occur.

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

A private swimming pool is proposed in conjunction with the single-family home. However, this residential accessory feature does not raise the prospect of creating an adverse physical impact on the environment. A ***less-than-significant impact*** would occur.

16. TRANSPORTATION/TRAFFIC: **Would the project:**	**Potentially Significant Impact**	**Less Than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☑
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☑
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☑
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☑
e) Result in inadequate emergency access?	☐	☐	☐	☑

f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☑

Discussion:

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

The project involves development of one single-family residence accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street. The portions of Fourth Street East and Brazil Street in vicinity of the project site are classified as rural roadways that carry low traffic volumes, and the intersection of Fourth Street East and Brazil Street currently operates at an acceptable Level of Service (LOS). The project would add a negligible amount of vehicle trips to the roadway system and would not conflict with any applicable plan, ordinance, or policy related to the performance of the circulation system. ***No impact*** would occur.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways?

The project involves development of one single-family residence accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street. The portions of Fourth Street East and Brazil Street in vicinity of the project site are classified as rural roadways that carry low traffic volumes, and the intersection of Fourth Street East and Brazil Street currently operates at an acceptable Level of Service (LOS). The project would add a negligible amount of vehicle trips to the roadway system and would not conflict with any applicable congestion management program. ***No impact*** would occur.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed single-family home would have no effect on air traffic patterns. ***No impact*** would occur.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The proposed single-family home would be accessed by an existing private driveway that originates at the intersection of Fourth Street East and Brazil Street (the private driveway would serve a maximum of four homes). In addition, the subject property adjoins other R-HS-zoned parcels, most of which are developed with single-family homes similar to what is proposed by the project. The project would not substantially increase hazards due to a design feature or incompatible uses. ***No impact*** would occur**.**

e) Result in inadequate emergency access?

The proposed single-family home would be accessed by an existing, shared private driveway that originates at the intersection of Fourth Street East and Brazil Street. The project includes an extension off the private driveway with a firetruck turnaround (located west of the home site) for compliance with Sonoma Valley Fire & Rescue Authority

(SVFRA) emergency access requirements. Accordingly, adequate emergency access would be provided and ***no impact*** would occur.

f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks)?

The project involves development of a single-family residence off an existing private driveway that would not conflict with policies, plans and programs supporting alternative transportation. ***No impact*** would occur.

17. UTILITIES AND SERVICE SYSTEMS: Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☑
b) Require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☑
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☑	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☑	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☑	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☑
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☑

Discussion:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

The project site is located within the Sonoma Valley County Sanitation District (SVCSD). The SVCSD's service area extends from the unincorporated community of Glen Ellen in the north to Schellville in the south. The wastewater collection system consists of approximately 188 miles of pipeline and two lift stations. The collection system conveys wastewater to the District's treatment facility located in the southern portion of the Sonoma Valley. The treatment facility currently provides tertiary level treatment of wastewater. The SVCSD treatment plant operates under a

National Pollutant Discharge Elimination System (NPDES) permit which was granted by the San Francisco Regional Water Quality Control Board. While the estimated maximum capacity of the treatment plant is 20 MGD, the NPDES permit limits the permitted average dry weather flow (ADWF) of the treatment plant to 3.0 million gallons per day (MGD). According to the most recent inspection report prepared by the RWQCB, the average dry weather flow through the facility in 2016 amounted to 1.78 MGD[7].

Each equivalent single-family dwelling (ESD) in the existing service area is assigned a sewer flow of 200 gallons per day to calculate the average dry weather flow. The project involves development of one single-family residence that would add a negligible amount of flow to the sewer system (1 ESD or 200 gallons per day), and would be well within the permitted capacity of the treatment plant. Because this level of increased treatment would not exceed the permitted treatment capacity of the plant, ***no impact*** would occur.

b) Require or result in the construction of new or expanded wastewater treatment facilities?

See response 17.a. The project would not require or result in the construction of new or expanded wastewater treatment facilities. ***No impact*** would occur.

c) Require or result in the construction of new or expanded storm water drainage facilities, the construction of which could cause significant environmental effects?

As identified in the Preliminary Grading and Drainage Analysis dated May 25, 2017, prepared by Bear Flag Engineering (Attachment 2), proposed drainage improvements and BMPs for the project would include the following:

- Drainage around the residence includes an interceptor swale located on the uphill side of the pathway between the garage and residence entry. A second interceptor swale is located uphill of the residence and auxiliary structure that extends southerly. Stormwater collected in the swales would be conveyed through a storm drain (SD-2) for release at a rock riprap outlet located below the residence, and would ultimately flow to a bio-retention planter located below the residence (Stormwater BMP-1).

- Roof and patio drainage at the residence would be conveyed to two bio-retention planters located below the home (Stormwater BMP-1 and Stormwater BMP-2). Stormwater runoff directed to the bio-retention planters would be retained and allowed to infiltrate, with the overflow spread out over a 40-foot wide zone to maintain the pre-construction sheet flow condition below the proposed improvements.

- Drainage around the driveway extension and circular turnaround serving the garage includes an interceptor swale located on the uphill side of the pathway and driveway. Stormwater collected in the swale would be conveyed to a drain inlet and through a storm drain (SD-1) for release through a tee pipe storm drain dissipater below/east of the garage, and would ultimately flow to a bio-retention planter located below the driveway extension (Stormwater BMP-3). A secondary interceptor swale is located between the residence and circular drive that would convey runoff southeasterly to a rock riprap dissipater.

As is presently the case, drainage from the project site would eventually be collected by a roadside swale located along the west side of Fourth Street East.

[7] Sonoma Valley County Sanitation District Wastewater Treatment Plant (NPDES No. CA0037800) Compliance Evaluation Inspection Report, December 2, 2016.

The proposed on-site drainage improvements noted above would not cause significant environmental affects in that they are intended to maintain the existing drainage condition to the maximum extent possible and include stormwater BMPs designed to reduce the total volume of stormwater runoff from the project site (retention), attenuate peak flows (detention), and reduce the quantity of pollutants in stormwater runoff discharging from the project site (see Sections 9.a, 9.c, 9.d, and 9.e). With respect to potential impacts associated with the actual construction of the proposed drainage improvements, such as erosion during grading and/or earthmoving activities, these would be reduced to a ***less-than-significant*** level through implementation of the erosion control measures required during construction by the City's Grading Ordinance and included the Storm Water Pollution Prevention Plan (SWPPP) for the project (see Sections 9.a, 9.c, 9.e, and 6.b).

d) Have sufficient water supplies available to serve the project from existing entitlements and resources?

The City of Sonoma supplies potable water to a population of approximately 10,800 people and approximately 300 businesses. The City's potable water supply is primarily water purchased from the Sonoma County Water Agency (SCWA) and water pumped from six groundwater wells owned and operated by the City. The SCWA water supply is delivered to the City through the SCWA aqueduct system and is supplied with water from the natural flow of the Russian River. The City is one of eight water contractors under contract with the SCWA, known as the Restructured Agreement for Water Supply. Under the Restructured Agreement, the SCWA is obligated to deliver up to 6.3 million gallons of water per day (mgd) during any month and 3,000 acre-feet of water during a fiscal year. The term of the agreement is through 2037 and can be extended by amendment.

The City's water service area encompasses the city limits, as well as portions of Sonoma County to the east of the city limits, as well as pocket areas that have outside service area agreements with the City along Thornsberry Road, Lovall Valley Road, East Napa Road, East MacArthur Street, and Denmark Street. The City's service area is approximately 2.5 square miles. The City's water distribution system contains three pressure zones that are each served by one or more storage tanks. The principal water mains in the distribution system range in size from 6 to 16 inches. Most of the distribution grid piping in the older sections of the City range in size from 1½ to 4 inches, while the newer areas are served by pipes 6 to 8 inches in diameter.

In compliance with the SB X7-7 and the Urban Water Management Planning Act, the City of Sonoma has a water management plan that evaluates water demands over a 25-year planning horizon. This analysis addresses a variety of scenarios, including years with normal water conditions, single-dry years, and multiple dry year conditions. Additionally, the UWMP attempts to accomplish the following:

- Identify measures to be implemented or projects to be undertaken to reduce water demands and address water supply shortfalls;
- Identify stages of action to address up to 50 percent reduction in water supplies during dry water years;
- Identify actions to be implemented in the event of a catastrophic interruption in water supplies;
- Assess the reliability of the sources during normal, single-dry, and multiple-dry water years; and
- Identify when, how, and what measures the City could undertake in order to meet the State Legislature's call for a 20 percent per capita reduction in urban water use statewide by 2020.

Overall, the City's UWMP, which was updated in 2015[8], determined that the City's combined projected water supplies are sufficient to meet projected demands during normal and multiple-year dry year conditions. Moreover, in

[8] 2015 Urban Water Management Plan Water Demand Analysis and Water Conservation Measures Update, City of Sonoma, July 1, 2015.

compliance with State mandates to reduce water usage, the city of Sonoma has reduced its water use by 29 percent from July 2015 through November 2015, when compared to the same period in 2013. In addition, the City can produce more groundwater on a short-term basis during peak summer months to supplement the SCWA supply.

Given the factors noted above and because development of the parcel with a single-family is anticipated in the water demand projections of the City's UWMP, the project would have a ***less-than-significant impact*** with respect to water supply.

e) Result in a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The project site is located within the Sonoma Valley County Sanitation District (SVCSD), which is managed by the Sonoma County Water Agency (SCWA). As noted under Section 17.a above, the project involves development of one single-family residence that would add a negligible amount of flow to the sanitary sewer system (1 ESD or 200 gallons per day), and would be well within the permitted capacity of the SVCSD's treatment facility. As a result, the project would not be expected to result in a determination by SVCSD/SCWA that there is inadequate capacity to serve the project's low wastewater treatment demand in addition to existing commitments. This would be considered a ***less-than-significant impact.***

f) Be served by a landfill with sufficient permitted capacity to accommodate the project?

The County of Sonoma owns the Central Disposal Site and four other transfer stations located throughout Sonoma County. The Central Disposal Site landfill, located at 500 Mecham Road in Petaluma, California, accommodates solid waste from the City of Sonoma. The Central Disposal Site has a permitted capacity of 19.59 million tons (32.65 million cubic yards). This site includes two landfills, including Landfill 1, which has a permitted capacity of 18.27 million tons (25.65 million cubic yards), and Landfill 2, which has a permitted capacity of 4.98 million tons (7.0 million cubic yards). Landfill 1 currently contains approximately 12.83 million tons (21.38 million cubic yards) of solid waste, and Landfill 2 currently has 1.12 million tons (1.87 million cubic yards) of solid waste. Therefore, remaining capacity at Landfill 1 is 5.44 million tons (4.27 million cubic yards), and remaining capacity at Landfill 2 is 3.86 million tons (5.13 million cubic yards). Further, permitted daily tonnage at the Central Disposal Site is 2,500 tons; however, average daily tonnage is 1,250 tons. Therefore, the landfill is currently receiving less than its permitted daily tonnage of solid waste. Accordingly, the project, which involves development of one single-family residence, would be served by landfills with sufficient permitted capacity to accommodate the project's solid waste disposal needs and thus ***no impact*** would occur.

g) Comply with federal, state, and local statutes and regulations related to solid waste?

In order for Sonoma County to help meet the diversion requirements of the California Integrated Waste Management Act of 1989 (AB939), Chapter 22 of the Sonoma County Code (Section 2207A) explicitly bans the disposal at County disposal sites of yard debris, recyclable wood waste, scrap metal and corrugated cardboard. The project would be subject to these limitations. All applicable federal, state, and local regulations related to solid waste would be complied with as part of the project. As a result, ***no impact*** would occur.

17. MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☑	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☑	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☑	☐	☐

Discussion:

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The implementation of measures identified in this Initial Study Environmental Checklist would reduce the severity of potential impacts on biological and cultural resources to ***less-than-significant*** levels. No further mitigation beyond Mitigation Measures 4.a, 4.e-1, 4.e-2, 5.b, 5.c, and 5.d would be required.

b) Does the project have impacts that are individually limited, but cumulatively considerable ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

The proposed project would not result in cumulative impacts deemed considerable. Impacts on air quality, biological resources, and cultural resources could contribute incrementally, but the combined effect would not be significant. As described in this Initial Study Environmental Checklist, implementation of Mitigation Measures 3.e, 4.a, 4.e-1, 4.e-2, 5.b, 5.c, 5.d would reduce the magnitude of these cumulative impacts to a ***less-than-significant*** level.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

The project could have temporary short-term air quality effects on people in vicinity of the site during construction which, with implementation of Mitigation Measures 3.e would be ***less-than-significant.*** With implementation of standard practices required of all projects approved in the City (compliance with the California Building Code, etc.), the project would not pose a hazard to future residents through exposure to geologic hazards.

Attachments:

1. Project Submittal
2. Preliminary Grading and Drainage Analysis prepared by Bear Flag Engineering, dated May 25, 2017
3. Letter from the Inman Law Group, LLP to Ross Edwards
4. Tree Diagram Exhibit
5. Memorandum from WRA, Inc. to Ross Edwards, dated June 30, 2017
6. Tree Preservation and Mitigation Report prepared by Horticultural Associates, dated June 7, 2017
7. Historical Resources Study of APNs 018-051-007, 018-051-012, and 018-091-018 prepared by Tom Origer & Associates, dated May 8, 2017

ATTACHMENT 1

PROJECT SUBMITTAL

PROJECT NARRATIVE

Project Name: 149 Fourth Street East (Lot 2)
Project Architect: Nick Lee Architecture
Zoning: Sonoma R-HS (Residential Hillside)

PROJECT OVERVIEW

- The proposed project is a single-family dwelling and detached, two-car garage on an individual, entitled lot of over 2.8 acres.
- The project is located approximately one-half mile from Sonoma's historic Plaza and the Sebastiani Winery.

PLANNING

- The proposed project's planning and design approach is consistent with the Sonoma General Plan and Development Code policies and guidelines.
- No exceptions or variances are required for this project.
- Visibility and visual impact of the proposed structures from neighbors and from the valley below have been carefully considered.
- The existing topography and mature native trees have guided the development of the proposed driveway extensions, grading, and siting of the proposed structures.
- A certified arborist and licensed civil engineer are among the consultants retained to assist in these endeavors.

LOT

- The lot was both created in 1850 and originally owned by the founder of the Sonoma, Mariano Guadalupe Vallejo.
- The site is part of lands currently held by Bill Jasper.
- The lot is zoned Sonoma R-HS Residential Hillside.
- The lot is also within the Historic Overlay Zone.
- Following the lot line adjustment, the lot will be over 2.8 acres or over 120,000 square feet.

SITE ACCESS

- **Driveway**: Access to the lot is through an existing private driveway entrance located adjacent to the intersection of Brazil Street and Fourth Street East. A paved extension of the existing shared private driveway will lead to this lot. This proposed extension was calculated to retain natural rock features, minimize grading, minimize tree removal, and other environmental considerations.

- **Garage:** The garage has been located close to the existing driveway to minimize the amount of driveway required for the project. The proposal to use the existing private driveway entrance eliminates the negative impact that more driveway encroachments would have to the public thoroughfares of brazil street and fourth street east.

- **Emergency Access:** Proper emergency vehicle access will be provided and required maximum distances, roadway widths, overhead clearances, and minimum radii curves will be observed. The proposed swimming pool will double as an emergency water source.

BUILDING SITE

- The existing buildable area on the lot is a nearly level coastal oak woodland habitat. It exhibits evidence that it may have been previously used as pasture, as it features a large area of grassland or savannah. Aside from fencing, there are no existing structures on the lot.

- The proposed building site on this lot was chosen because it is mostly grassy and already clear of trees, reducing the need for major tree pruning or tree removal.

- The natural woodlands of oak and bay trees, as well as some non-native trees, around the selected site will remain virtually untouched.

- Key are the rock outcroppings on the site, which will be featured and will largely be retained.

- This building site is also free of surface drainage waterways or swales, and any other notable natural features. Instead of tree removal, by selecting this building site, the stands of mature trees will be utilized to minimize the visual impact of the project from neighbors.

- This selected building area on the lot is relatively level compared to other areas on the property. Avoiding construction on the steeper areas of the lot reduces the amount of grading and retaining wall structures that would otherwise be required. This further

reduces the impact upon adjacent neighbors by minimizing grading and site work, thus reducing construction time, equipment noise, dust creation, and vehicular traffic.

PROPOSAL

3 structures are proposed for the property -- Main House, Detached Accessory Structure, and Detached Garage.

To respect the hillside design guidelines the project has been designed to fit the landscape, conforming to the existing, undulating nature of the topography to minimize terrain alteration. Detached structures with varying forms and heights have be created to help blend with with the terrain. Structures and patios also step with the terrain to reduce grading.

Main House

- **Size**: 5,263 sf single-level house

- **Style**: Contemporary farmhouse style, featuring wood and stone siding, and metal gable and shed roofs.

- **Colors and Materials:** The roof and siding colors will be natural and blend with the hillside vegetation.

- **Siting:** The Great Room and Master Bedroom is proposed on the eastern portion of the lot. The Bedroom Wing is sited towards the west to utilize the relatively flat portion of the lot. The Pool and Patio have been located at the southern, flat, sunny area on the lot.

- **Single Story:** 2 story design options were explored that provided views from the second story, but a single-story house design was chosen and developed in order to minimize visual impact to neighbors and to blend with the landscape. A single story house requires more grading than a 2 story house but the one level design better suites the site.

- **Cluster of Structure:** The house is designed as a cluster of structures rather than one large volume to better fit the landscape. The idea is also to mimic traditional farm structures that can be found in Sonoma.

- **Pool area steps down with terrain:** The pool area is located 7 feet below the floor level of the main house, connected with intermediate terraces that step with the natural topography of the land. This southern location for the pool is also the sunniest part of the site. Placing the pool in this location also provides space between the proposed main house and the existing house to the south at 175 4th Street.

Accessory Structure

- **Size: 3,219 sf**

- **Style:** Barn-Type Structure

- **Colors and Materials:** The roof and siding colors will be natural and blend with the hillside vegetation.

- **Siting:** The accessory structure has been located on the southwest corner of the property to minimize potential visual impact to adjacent properties and the public views from Fourth Street East. The proposed location is on the uphill side of the property, farthest from 4th Street. To the south, there is an existing grove of tall trees that will screen the accessory structure from the neighboring house at 175 4th Street. It will have minimal to no visibility from the property to the east due to its distance from that property and the existing trees that provide visual screening.

- **Use:** Flexible-use space, with office above.

Detached Garage

- **Size:** 898 sf (including storage area)

- **Colors and Materials:** The roof and siding colors will be natural and blend with the hillside vegetation.

- **Located in 30 ft Setback:** The garage located in the 30 foot setback, but is allowed as it meets the requirements for a reduced setback to be 5 feet from the property line.

- **Detached to Preserve Trees:** The initial house design had an attached garage. The design was changed to the current design in order to preserve prominent oak trees that would have needed to be removed. The current driveway design and garage location features a mature oak by placing it at the center the driveway turn-around. This featured oak along with the other mature oaks that remain help to visually screen the house and garage.

Grading: Grading required for the proposed project is consistent with grading of neighboring properties.

Visual Impact

- **Minimal Visibility:** The site has minimal visibility from Fourth Street East and the valley floor below. Neighboring views are minimally affected by the proposed development.

- **Site Screened by Existing House on 4th Street:** While the proposed site may be viewed locally from Fourth Street East, the existing house located at 131 Fourth Street East actually provides a largely effective visual screen to what little can actually be seen of the property. In addition, arrangements have been made and agreed upon with the neighbor at 131 Fourth Street East to provide evergreen landscape screening between lots to further protect protect the neighbor's uphill views.

- **Screened by Mature Trees:** The property is also screened by mature trees on and around the property that make it virtually non-visible from adjacent neighborhood streets. These trees will remain.

Utilities

- **Electricity and Natural Gas:** To be furnished by connection to the Pacific Gas & Electricity network.
- **Water:** To be furnished by connection to The City of Sonoma Water Division.
- **Sewer:** Service to be provided by connection to the Sonoma Valley County Sanitation District.
- **Utility Easement:** An existing utility easement will be realigned to allow for the accessory structure to be located in its proposed location. The sole beneficiary of this easement is Mr. N. William Jasper and is used for his PG&E and Comcast services. Mr. Jasper supports the realignment of this easement. Further, communication has been initiated with PG&E and Comcast, and it has been determined that realignment of the easement and its contents is feasible.

Trees

- **Arborist:** The expert services of a certified arborist was included from the beginning stages of planning and will be retained throughout the project until completion. Their report is attached.

- **Minimize Tree Removal:** The siting and design processes were driven by the desire to minimize tree pruning or removal. Careful consideration was given to the existing tree assets in developing the alignment of the driveway extensions, house and garage design, structure siting, and utilities. The garage and driveway have been sited to feature an existing oak in the driveway turn-around. Another existing tree is featured on the patio just north of the pool.

Due Diligence
Certified Arborist's Report

CEQA
This project is categorically exempt from CEQA.

Adjacent Neighbors
95 Brazil Street, Lot 1
131 Fourth Street East (APN 018-091-019)
175 Fourth Street East (APN 018-091-016)

Specific Project Data
Site Parcel Address: 149 Fourth Street East (Lot 2), Sonoma, CA

Assessor's Parcel Number: 018-091-018

Zoning: Sonoma R-HS.

Allowable Setbacks:
-Primary Structure: 30 feet min.
-Accessory Structure: 5 feet min.
(requires 9 foot max wall height and 15 foot max structure height)

Building height limit: 30' maximum

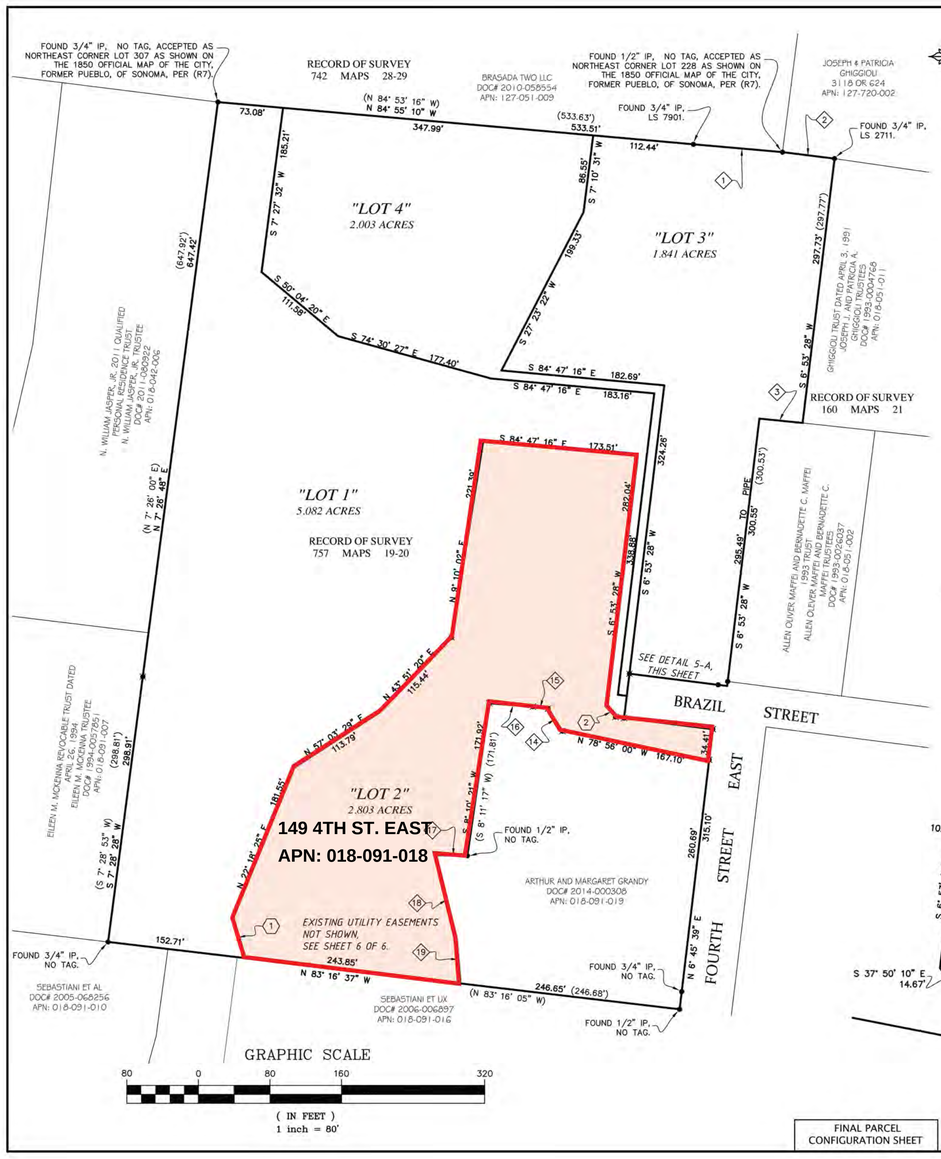
Total Lot Area: 2.803 acres (122,099 square feet)

Proposed House: 5,263 sf
Proposed Garage: 898 sf
(including storage)
Proposed Accessory Structure: 3,219 sf

Allowable lot coverage: 15% (18,315 square feet)
Proposed lot coverage: 6.3% (7,651 square feet)

Allowable FAR: 10% (12,210 square feet)
Proposed FAR: 7.4% (8,980 square feet)

VOLUME _____ OF MAPS, PAGE _____



COURSE TABLE

COURSE	BEARING	DISTANCE
1	N 84° 58' 36" W (N 84° 53' 16" W)	99.89' (100.00')
2	N 82° 54' 16" W (S 82° 15' 16" W)	58.64' (58.53')
3	N 84° 16' 52" W	48.51' (48.60')
4	N 32° 32' 00" W	29.94' (R & M)
5	N 82° 50' 10" W	17.00' (R & M)
6	N 85° 36' 25" W	48.96' (R & M)
7	N 89° 01' 37" W	35.41' (R & M)
8	S 14° 05' 14" E	96.29' (R & M)
9	S 4° 46' 35" E	50.27' (99.95')
1	N 15° 08' 49" W	46.48'
2	S 37° 50' 10" E	14.67'

BASIS OF BEARINGS

BEARINGS FOR THIS SURVEY ARE BASED UPON THE CALCULATED TIE BETWEEN FOUND MONUMENTS AT THE SOUTHWEST CORNER OF THAT PARCEL DESCRIBED IN (R2) AND THE NORTHWEST CORNER OF THAT PARCEL DESCRIBED IN (R3), AS SHOWN HEREON AND ON THAT RECORD OF SURVEY FILED IN VOLUME 757 MAPS, PAGES 19 & 20, OFFICIAL RECORDS OF SONOMA COUNTY.

LEGEND

- ● Found iron pipe survey monument, as noted.
- ■ Found iron pipe survey monument per (R7) with 1-1/4" diameter galvanized iron pipe layperson's witness driven over the top of the monument.
- ○ Set 1/2" x 30" galvanized iron pipe, tagged LS 8750.

———	Surveyed boundary line
— — — —	Edge new private easement dedicated by this map
——— – ———	Center Line of new private easement dedicated by this map
— — — —	Edge of exist easement
——— – ———	Center Line of exist easement
( )	Record data per (R7), unless noted otherwise
IP	Iron Pipe survey monument
(R & M)	Record and Measured

All distances shown are in feet and decimals thereof.

REFERENCE DOCUMENTS

(R1)	DOC# 2012-040186
(R2)	DOC# 2012-040187
(R3)	DOC# 2013-093772
(R4)	DOC# 2014-000308
(R5)	CERTIFICATE OF COMPLIANCE: DOC# 2016-_____
(R6)	"MAP OF SONOMA", 1850, UNRECORDED MAP FOLDER #69, SONOMA COUNTY RECORDER'S OFFICE
(R7)	RECORD OF SURVEY: VOL. 757 MAPS, PAGES 19 & 20
(R8)	RECORD OF SURVEY: VOL. 742 MAPS, PAGES 28 & 29
(R9)	RECORD OF SURVEY: VOL. 160 MAPS, PAGE 21
(R10)	DOC# 2009-065359
(R11)	VOL. 2326 OFFICIAL RECORDS, PAGE 544 ET. SEQ.
(R12)	DOC# 1981-003638

PARCEL MAP

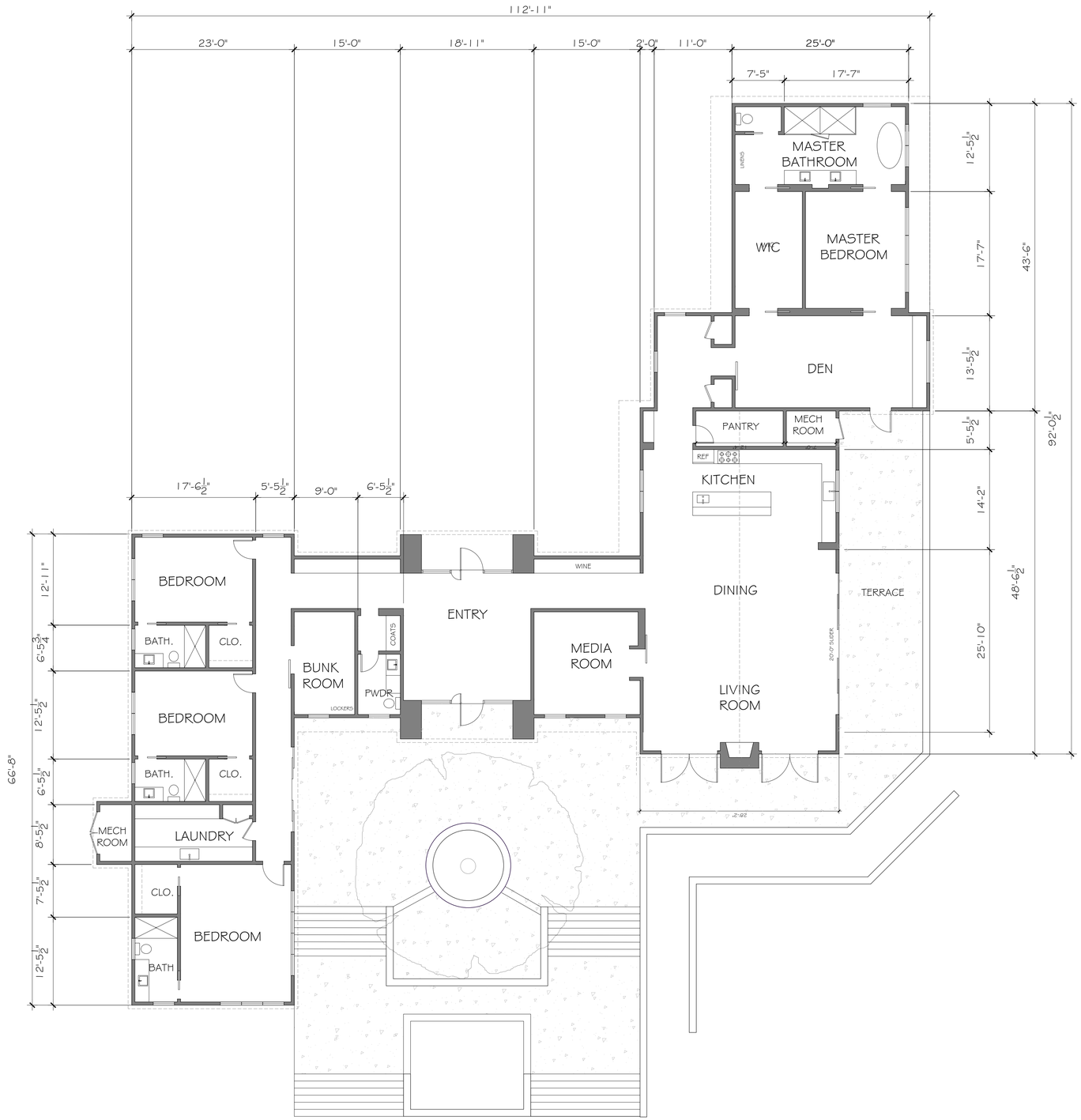
BEING A BOUNDARY LINE ADJUSTMENT

OF THOSE LANDS OF NORVAL W. JASPER, JR., TRUSTEE OF THE N. WILLIAM JASPER, JR. 2004 IRROVOCABLE TRUST, AS DESCRIBED IN THOSE GRANT DEEDS RECORDED AS DOCUMENT NO. 2012040186 (INCLUDING THOSE LANDS KNOWN AS LOT 227 AS SHOWN ON THE OFFICIAL 1850 MAP OF THE CITY, FORMER PUEBLO, OF SONOMA AND DESCRIBED IN THAT CERTIFICATE OF COMPLIANCE NO._____, RECORDED AS DOCUMENT NO._____, OFFICIAL RECORDS OF SONOMA COUNTY) AND DOCUMENT NO. 2012040187, RESPECTIVELY, OFFICIAL RECORDS OF SONOMA COUNTY; AND ALSO OF THOSE LANDS OF N. WILLIAM JASPER, JR., TRUSTEE OF THE N. WILLIAM JASPER JR. 2004 TRUST DATED MARCH 29, 2004, AS DESCRIBED IN THAT GRANT DEED RECORDED AS DOCUMENT NO. 2013093772, OFFICIAL RECORDS OF SONOMA COUNTY; SAID LANDS BEING SHOWN ON THAT RECORD OF SURVEY FILED IN VOLUME 757 MAPS, PAGES 19 AND 20, OFFICIAL RECORDS OF SONOMA COUNTY.

CITY OF SONOMA STATE OF CALIFORNIA

FINAL PARCEL CONFIGURATION SHEET

BEAR FLAG ENGINEERING, INC.
PO BOX 2193, SONOMA, CA 95476
PHONE: (707) 996-8449



CALCULATIONS	
LOT SIZE:	122,099 SF = 2.803 ACRE
HOUSE SIZE:	5,263 SF
GARAGE (w/ storage)**:**	898 SF
ACCESSORY:	
UPPER LEVEL	923 SF
MAIN LEVEL	2,296 SF
TOTAL CONDITIONED	3,219 SF
SCREENED PORCH	360 SF
FAR	
ALLOWABLE:	10% = 12,209.90 SF
PROPOSED:	7.35% = 8,980 SF
COVERAGE	
ALLOWABLE:	15% = 18,314.85 SF
PROPOSED:	6.27% = 7,651 SF

NICK LEE ARCHITECTURE
CONTACT:
NICHOLAS LEE
807, HAIGHT AVE
ALAMEDA, CA, 94501
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

FLOOR PLAN
1/8"=1'-0"

NORTH ELEVATION

SOUTH ELEVATION

WEST ELEVATION

EAST ELEVATION

N I C K L E E
ARCHITECTURE
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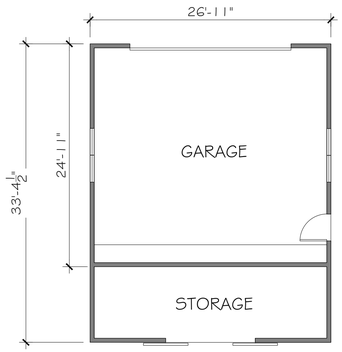
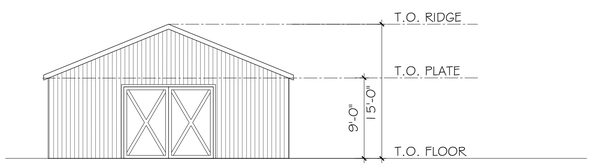
149 4th Street East , Sonoma CA
APN: 018-091-018

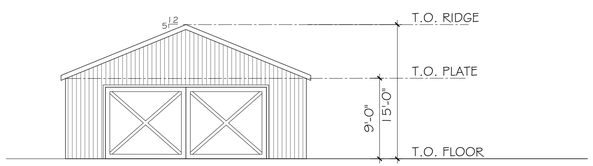
MAIN HOUSE ELEVATIONS
1/8"=1'-0"



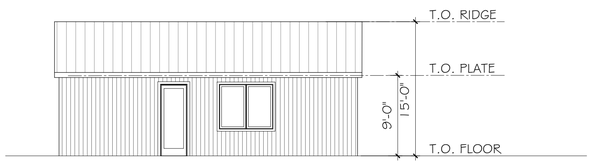
FLOOR PLAN



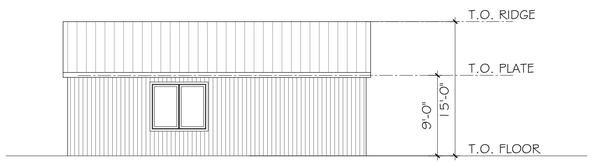
SOUTH ELEVATION



NORTH ELEVATION



EAST ELEVATION



WEST ELEVATION

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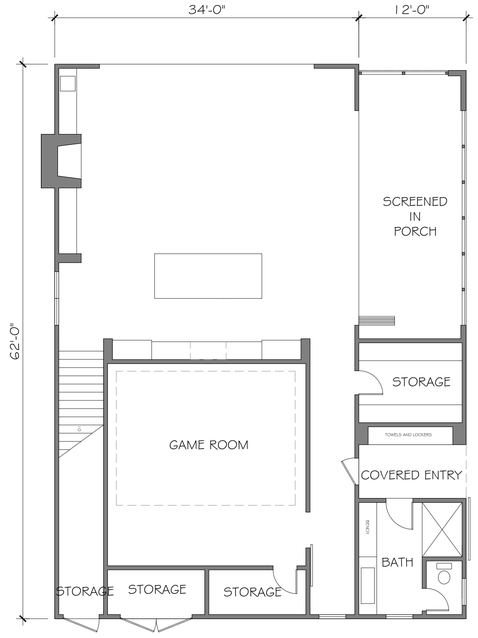
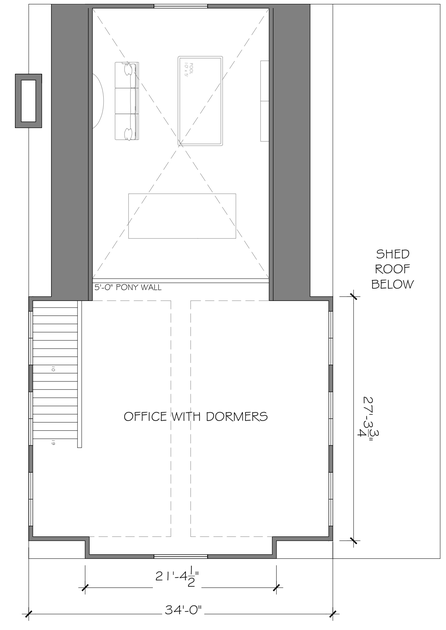
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

GARAGE PLAN/ELEVATIONS
1/8"=1'-0"

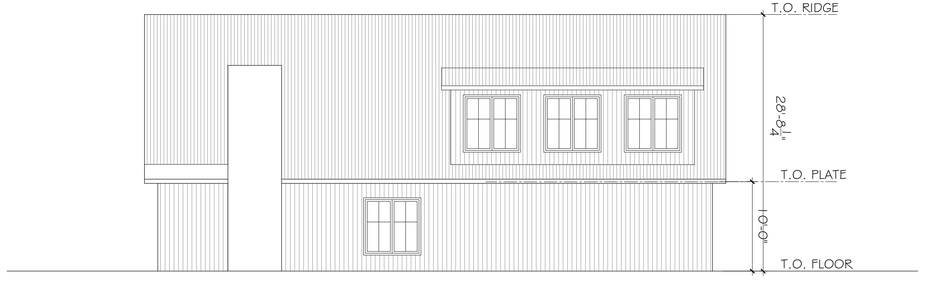


MAIN FLOOR PLAN

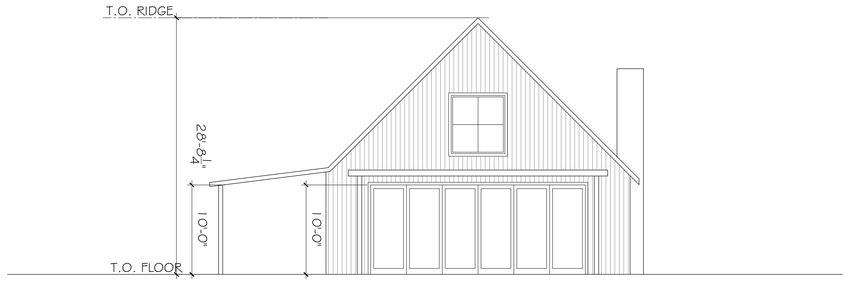


LOWER FLOOR PLAN

EAST ELEVATION



WEST ELEVATION



NORTH ELEVATION

SOUTH ELEVATION

NICK LEE ARCHITECTURE
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ALAMEDA, CA, 94501
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

ACCESSORY STRUCTUREPLAN/ELEVATIONS
1/8"=1'-0"

SITE ELEVATION

N I C K L E E
ARCHITECTURE
CONTACT:
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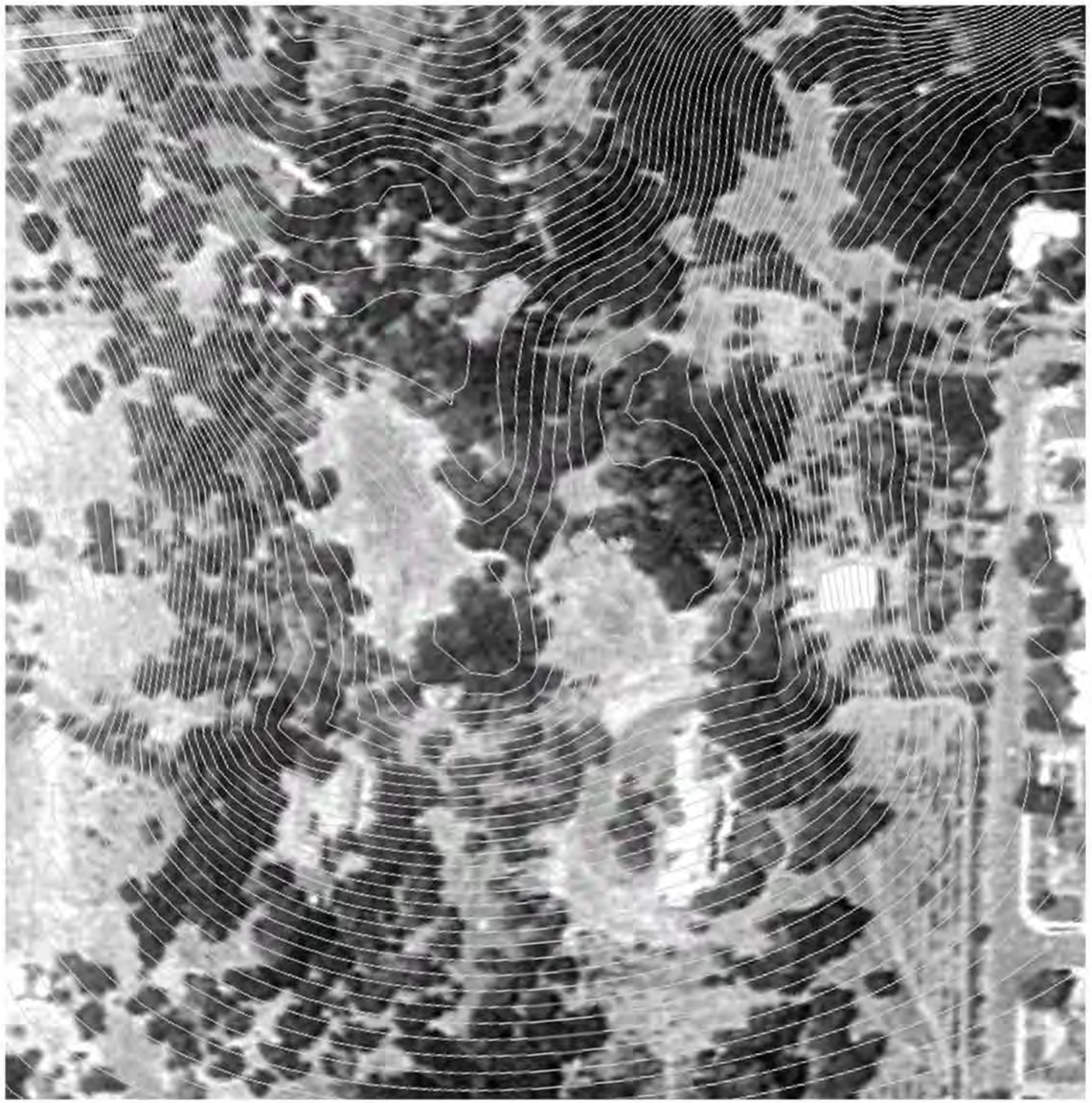
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

SITE ELEVATION
3/32"=1'-0"

1993



2017

4th STREET RESIDENCE

NICK LEE ARCHITECTURE
CONTACT:
NICHOLAS LEE
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ALAMEDA, CA, 94501
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

NEIGHBORING PROPERTIES

1- EST. AREA OF STRUCTURAL FOOTPRINT : 10,650 SF
EST. AREA OF GRADED LAND: 19,688 SF

2- EST. AREA OF STRUCTURAL FOOTPRINT : 4,250 SF
EST. AREA OF GRADED LAND: 33,998 SF

3- EST. AREA OF STRUCTURAL FOOTPRINT : 2,980 SF
EST. AREA OF GRADED LAND: 17,320 SF

4- EST. AREA OF STRUCTURAL FOOTPRINT : 7,610 SF
EST. AREA OF GRADED LAND: 101,140 SF

5- EST. AREA OF STRUCTURAL FOOTPRINT : 7,240 SF
EST. AREA OF GRADED LAND: 13,950 SF

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149 4th Street East , Sonoma CA
APN: 018-091-018

2017.04.14

4th STREET RESIDENCE

1

NICK LEE ARCHITECTURE
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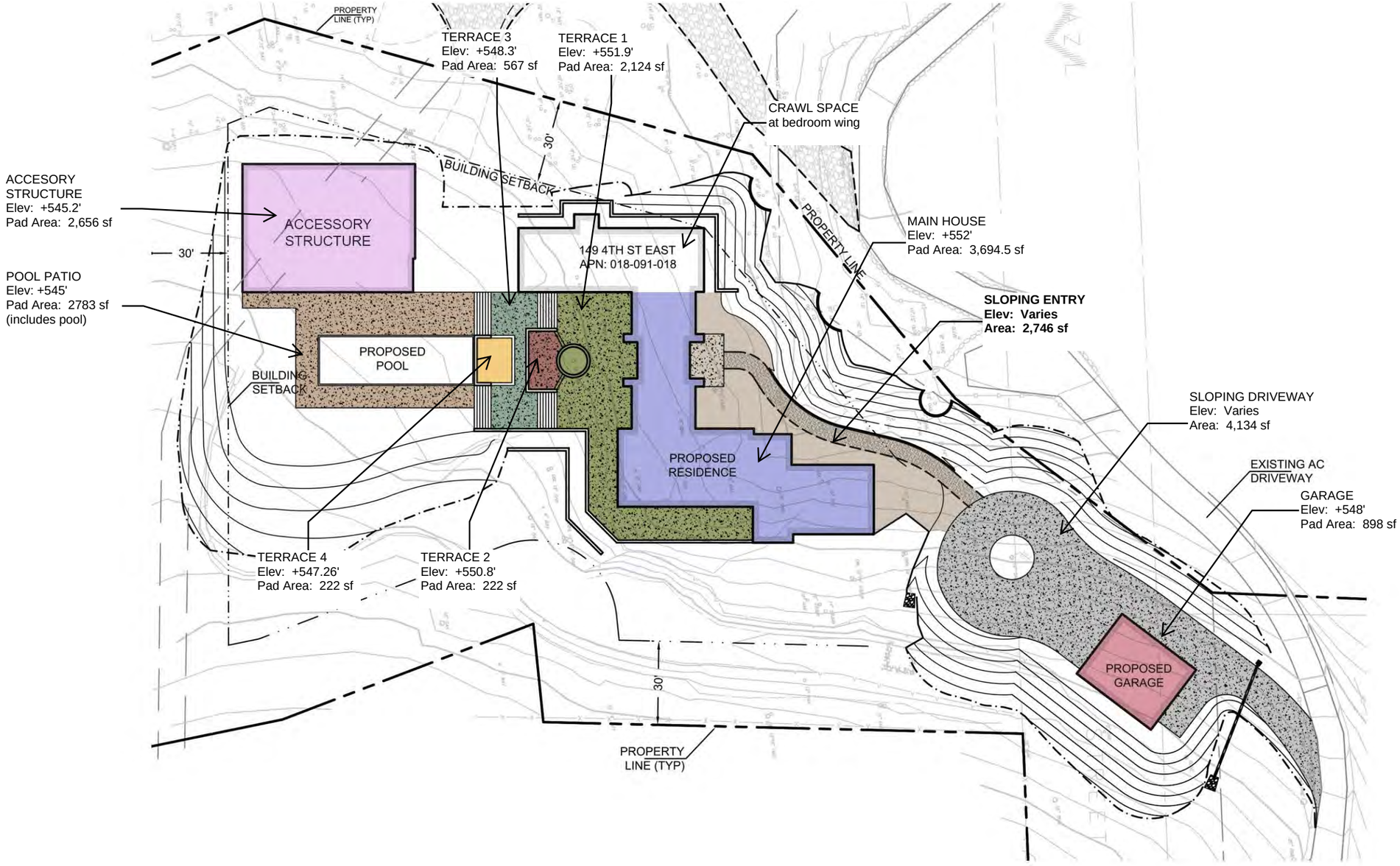
ALAMEDA, CA, 94501
PH: 415.378.4337

149 4th Street East , Sonoma CA
APN: 018-091-018

SITE PLAN

1" = 80'



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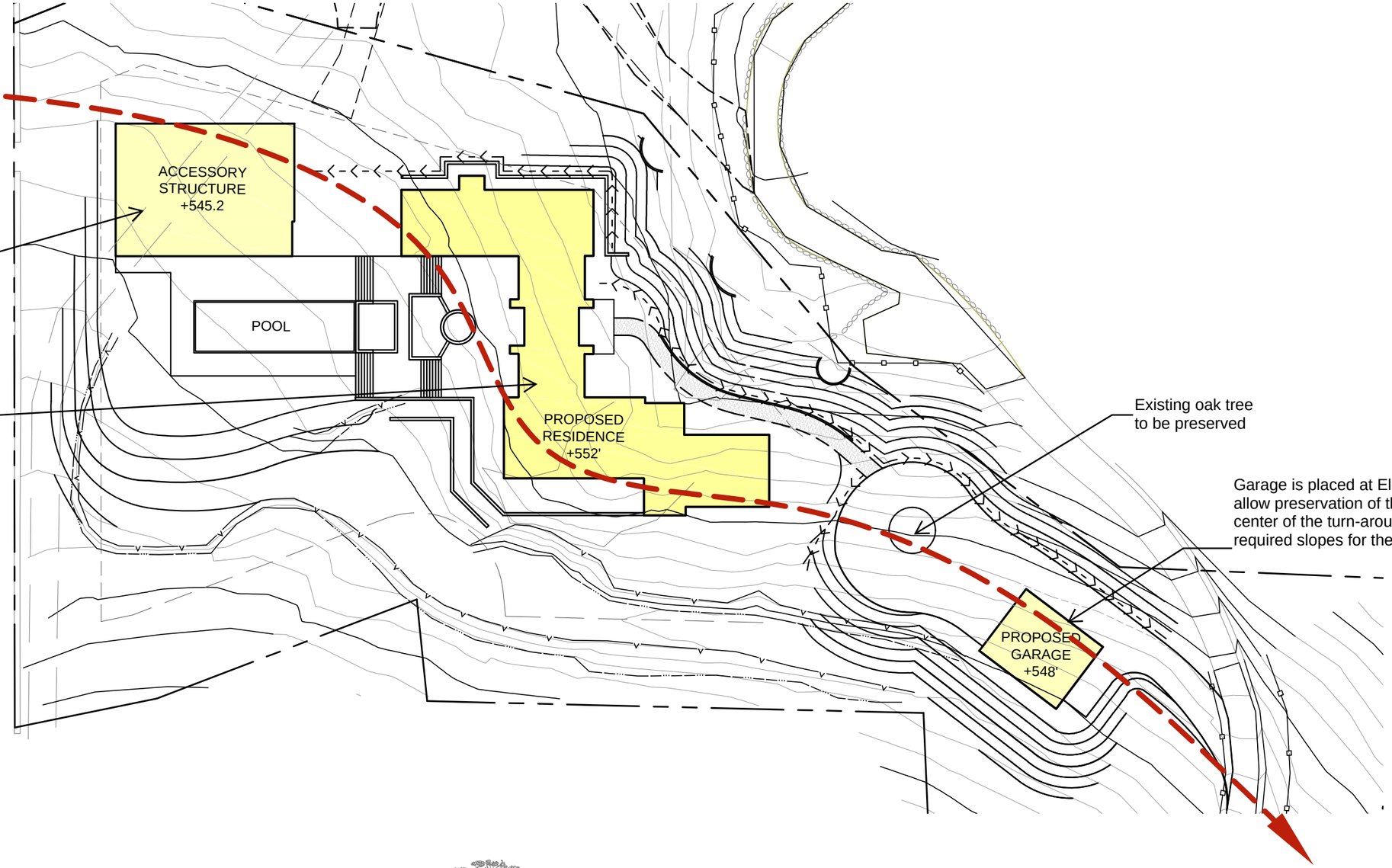
149 4th Street East , Sonoma CA
APN: 018-091-018

PAD AREA DIAGRAM
1" = 80'

RED ARROW
Red arrow represents the general direction of existing contours.
Orientation and siting of structures correspond to natural contours of land.

Accessory structure is placed 6.89 feet below level of main house to step down with the existing grade.

Main house is placed at Elev. +552' to sit at the average elevation on the existing land.



Existing oak tree to be preserved

Garage is placed at Elev. +548' to allow preservation of the tree at the center of the turn-around with the required slopes for the driveway.

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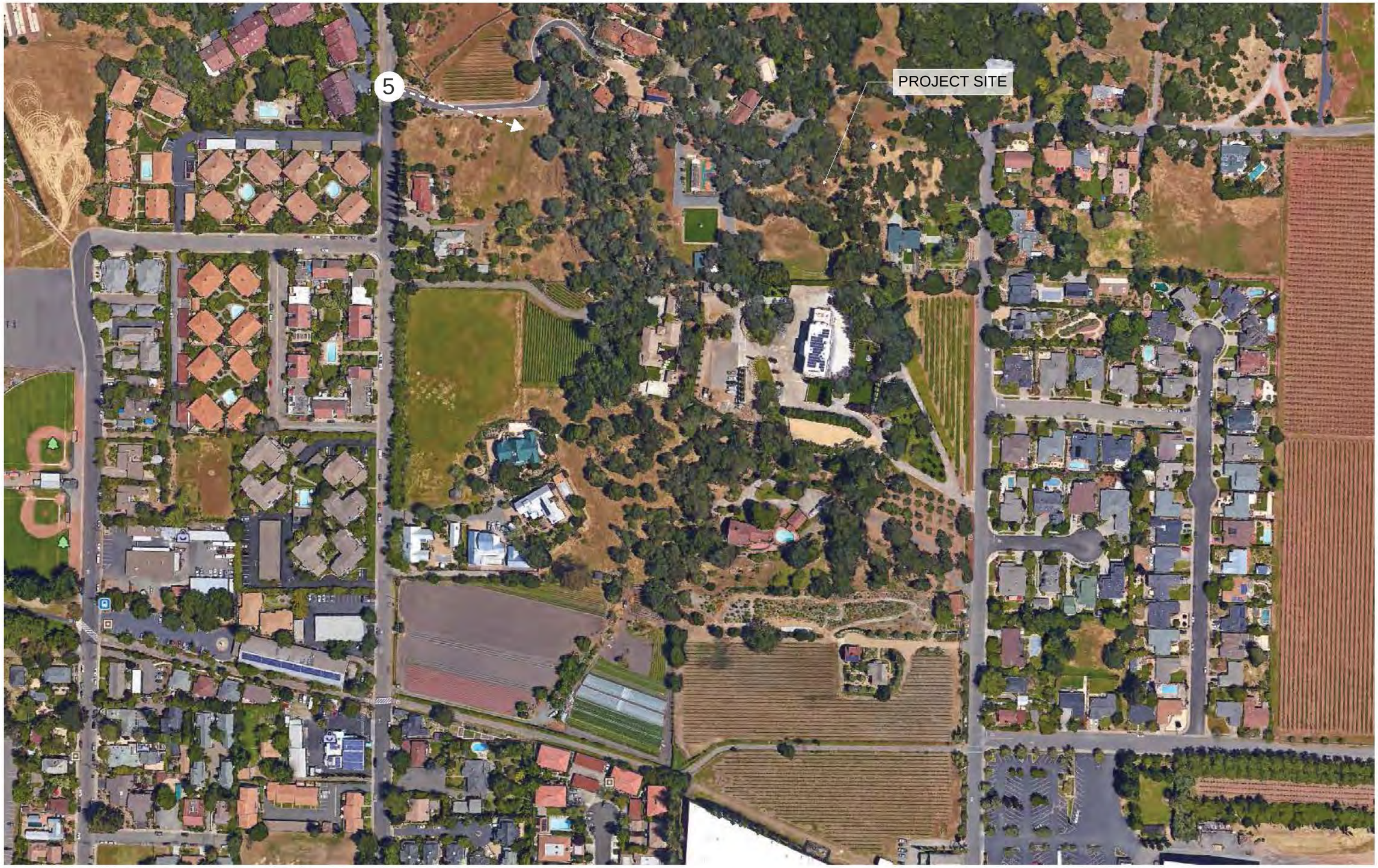
149 4th Street East , Sonoma CA
APN: 018-091-018

SITING DIAGRAM



4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

KEY MAP

4th STREET RESIDENCE

NICK LEE ARCHITECTURE
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149 4th Street East , Sonoma CA
APN: 018-091-018

VIEW 5

4th STREET RESIDENCE

NICK LEE ARCHITECTURE
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ALAMEDA, CA, 94501
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149 4th Street East , Sonoma CA
APN: 018-091-018

KEY MAP

4th STREET RESIDENCE

NICK LEE ARCHITECTURE
CONTACT:
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149 4th Street East , Sonoma CA
APN: 018-091-018

VIEW 1

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

VIEW 2

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

VIEW 3

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

VIEW 4

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

RENDERINGS

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
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RENDERINGS

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149 4th Street East , Sonoma CA
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RENDERINGS

4th STREET RESIDENCE

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149 4th Street East , Sonoma CA
APN: 018-091-018

RENDERINGS

ATTACHMENT 2

PRELIMINARY GRADING AND DRAINAGE ANALYSIS

PRELIMINARY
GRADING AND DRAINAGE ANALYSIS

149 4th STREET RESIDENCE
LOT 227 RESIDENCE
LOT 228 RESIDENCE &
DRIVEWAY PROJECT

149 4th Street East, Sonoma, CA 95476
Brazil Street, Sonoma, CA 95476
APN 018-091-018 & 018-051-007

Date: May 25, 2017

Bear Flag Engineering
Civil Engineering - Land Development - wastewater
Project management – stormwater – FORENSIC ENGINEERING
527 Broadway #202, Sonoma, Ca 95476
Phone: (707) 481-9472

TABLE OF CONTENTS

Bear Flag Engineering
Civil Engineering - Land Development - wastewater
Project management – stormwater – FORENSIC ENGINEERING
527 Broadway #202, Sonoma, Ca 95476
Phone: (707) 481-9472

EX GRASS DOG RUN

EX SPORT COURT

FIRE DEPT TURNAROUND

PROPERTY LINE (TYP)

149 4TH STREET RESIDENCE PROJECT

30'

BUILDING SETBACK

ACCESSORY STRUCTURE

EX PGE AND COMCAST EASEMENT TO BE RELOCATED

149 4TH ST EAST APN: 018-091-018

PROPERTY LINE

95 BRAZIL ST APN: 018-051-012

PROPOSED POOL

BUILDING SETBACK

PROPOSED RESIDENCE

EXISTING AC DRIVEWAY

FIRE DEPT TURNOUT

PROPOSED GARAGE

95 BRAZIL ST APN: 018-051-012

PROPERTY LINE (TYP)

LOT 227 RESIDENCE PROJECT

LOT 227 RESIDENCE

95 BRAZIL ST APN: 018-051-012

PROPERTY LINE (TYP)

LOT 227 GARAGE

PROPERTY LINE (TYP)

149 4TH ST EAST APN: 018-091-018

PROPOSED DRIVEWAY

FIRE DEPT TURNAROUND

149 4TH ST EAST APN: 018-091-018

MUNICIPAL WATER SYSTEM ACCESS EASEMENT

FIRE DEPT TURNOUT

PROPOSED DRIVEWAY FOR LOTS 227 AND 228

DRIVEWAY PROJECT

LOT 228 GARAGE

95 BRAZIL ST APN: 018-051-012

LOT 227 APN: TBD

0 BRAZIL STREET APN: 018-051-007

TO 4TH STREET EAST

LOT 228 RESIDENCE

FIRE DEPT TURNOUT

0 BRAZIL STREET APN: 018-051-007

MUNICIPAL WATER SYSTEM EASEMENT

LOT 228 RESIDENCE PROJECT

PROPERTY LINE (TYP)

4TH STREET EAST

BRAZIL STREET

OVERALL SITE PLAN

0 15 30 60 120

SCALE: 1" = 30'

N

Google earth

feet 1000
meters 300

GRADING AND DRAINAGE SUMMARY

3. General

This report has been prepared to demonstrate a preliminary concept of grading and drainage improvements and coordinate impacts to existing trees for three separate residential projects. Three projects are the 149 4th Street Residence, Lot 227 Residence and Lot 228 Residence. They are located uphill of the intersection between 4th Street East and Brazil Street in Sonoma, California. The proposed projects include construction of a residence, detached garage, driveway, pool, landscape and utility improvements on vacant properties. The 149 4th Street Residence also includes an auxiliary structure.

4. Existing Property

The existing properties are located on hillside terrain with slopes between 5 and 25-percent. Residences have been designed with locations in open areas that have the relatively flattest existing terrain and to minimize tree removal. Soils on all three properties consist of loam with high rock content, which are well drained. Existing drainage patterns consist of sub-surface flow and sheet flow on the surface through the property. There are no creeks or any significant concentrations of runoff. Drainage eventually is collected by a roadside swale along 4th Street East at the frontage of the property.

5. Proposed Drainage Improvements

It is our intent to maintain the existing drainage scenario to the maximum extent possible. Proposed drainage improvements consist of interceptor swales, drain inlets with culverts, sub-drains and bio-retention planters.

- Interceptor swales are designed to accept uphill runoff from a building or driveway and convey it the downhill side of the improvement. Swales are triangular or trapezoidal in shape and approximately 9-inches deep.
- Drain inlets accept runoff from swales, landscape area or patio and convey runoff through a storm drain downhill of improvements. Inlets are used where surface swales are not feasible.
- Sub-drains will be required for building foundations, and areas with constructed fill slopes. They consist of perforated pipe and gravel trenches that collect sub-surface runoff and release it downhill of proposed improvements.
- Bio-retention planters have been designed on the downhill side of the residences and will receive runoff directly from roofs and patios. A bio-retention planter is a depression that detains and treats runoff through infiltration of a gravel bed or filtration with plant media.

Bio-retention planters will be used to treat runoff in accordance with local stormwater guidelines.

Rock riprap energy dissipaters are designed at the end of drainage swales to disperse erosive energy of the runoff and change concentrated flow of the swale to sheet flow, which is similar to pre-construction conditions. Tee pipe storm drain dissipaters are designed for release from storm drains. These dissipaters consist of approximately 20-feet of larger diameter pipe with perforation on the crown of the pipe. Runoff from the storm drain fills the dissipater, and bubbles out the top in a manner that spreads out the flow similar to sheet flow.

6. Proposed Grading Improvements

Grading improvements are required to construct driveways and pads for residences, garages and patios. It is our design goal to reduce grading impacts to the maximum extent possible and balance the earthwork quantity to avoid import or off-haul to city streets. Proposed grading improvements include:

- Cut and Fill for pads for building foundations
- Compaction of existing terrain in preparation of driveway construction
- Cut slopes uphill of improvements
- Fill slopes downhill of improvements

7. Grading and Drainage Impacts on Trees

It is the primary goal of drainage design to maintain the pre-construction drainage scenario to the maximum extent possible. Proposed drainage improvements have been designed to avoid re-routing of runoff, over concentration of flows, and oversaturation of existing trees. Grading has been designed to minimize cuts and fills, balance earthwork, avoid grading on severely steep slopes, and avoid creating erosion issues. Below is a breakdown of grading and drainage impacts to existing trees separated into four separate projects. For purposes of this report, we have separated projects between the 149 4th Street Residence, Driveway up to the upper lots, Lot 227 Residence and Lot 228 Residence.

a. 149 4th Street East Residence –

Layout of the proposed residence has been designed to minimize removal of significant trees, maintain a close relationship to contour, and areas of the flattest slopes within the building area.

- Grading for the residence consists of cut slopes on uphill side and a fill slope downhill of the pool terrace. The downhill side of the residence is on-grade and does not include any major grading. Retaining walls have been designed to minimize impacts to a grove of trees (trees 44, 45, 46 and 47 in arborist report).
- The cut slope above the residence has been reduced to minimize impacts to uphill trees. Retaining walls are designed to pull excavation near or outside of the driplines.

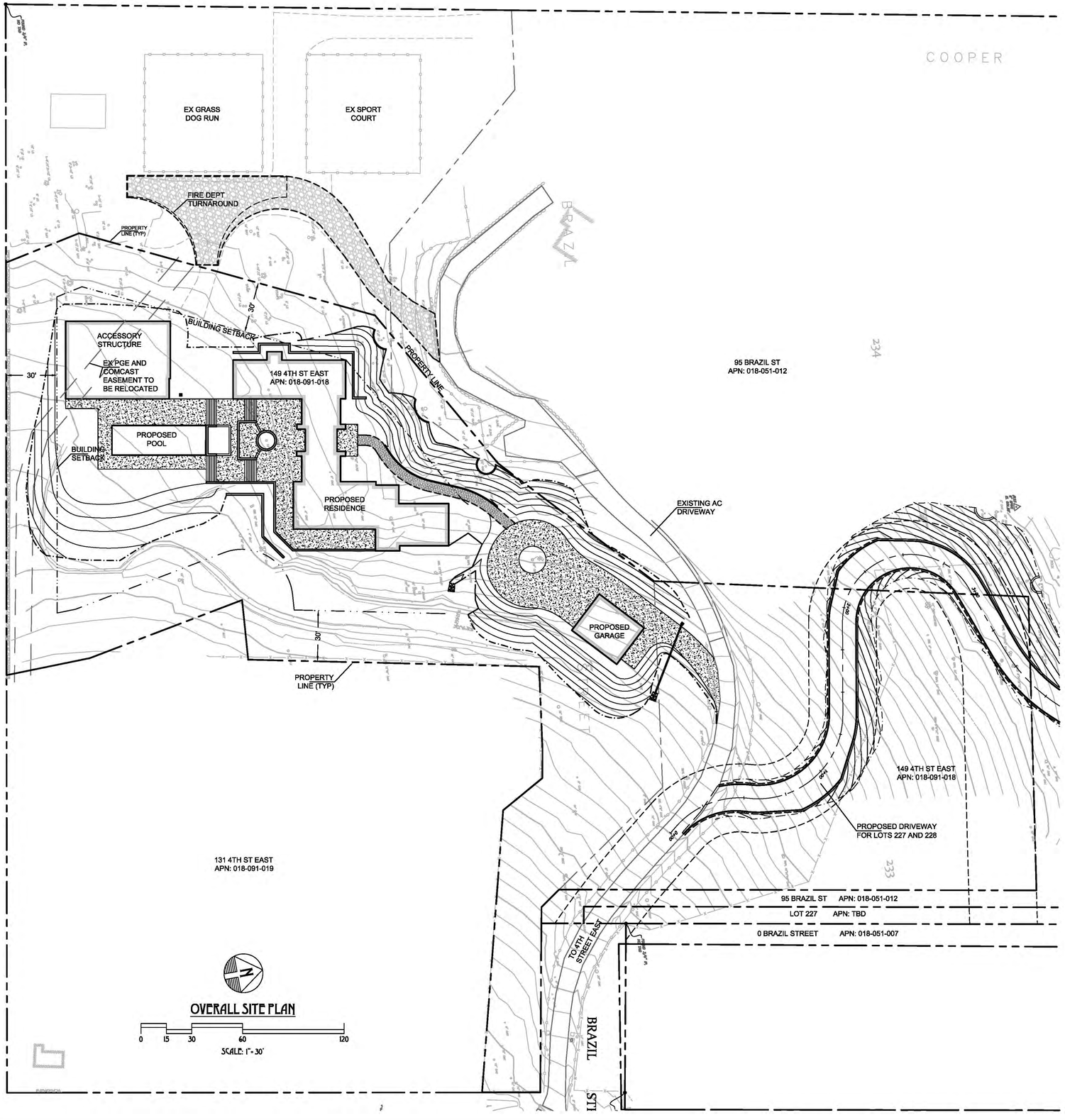
- Small landscape walls have been designed to pull excavation out of driplines, where cut slopes would have been shallow cuts. These walls have been designed to reduce grading impacts for trees 21, 24, 31 and 33 from the arborist report.
- Majority of the earthwork for the middle terrace pool terrace and auxiliary structure is proposed on existing grade that is sloped between 5 and 8-percent, which wouldn't qualify for hillside grading.
- Grading for this project is balanced. This means that the soil generated by cut excavation will be used up for fill placement. No extra soil will be required to be imported to the site or off-hauled from the site.
- Drainage concept specific to the residence includes an interceptor swale on the uphill side of the pathway between the garage and residence entry. A swale also extends southerly uphill of the residence and auxiliary structure. It will be released through a rock riprap outlet below the residence.
- Roof and patio drainage will be conveyed to two bio-retention planters below the residence. Runoff will be detained, infiltrated, and overflow will be spread out over 40-feet to maintain a sheet flow nature below the proposed improvements.

The proposed driveway starts at the existing asphalt driveway. It is short and generally parallel to contour.

- An interceptor swale from the pathway towards the driveway and garage conveys runoff to a drainage inlet and is released through a tee pipe storm drain dissipater in the open area west below the garage. Runoff is released in a location that is not directly above any existing trees.
- Drainage from the roadside swale will be collected in drainage inlets and conveyed to tee pipe storm drain dissipaters through storm drain. Locations for the outlets have been selected to areas that are not directly uphill of existing trees.

Proposed improvements will significantly impact 37 trees for the entire 149 4th Street Residence project according to the arborist report tree inventory. Significant impacts include close proximity to construction or location within footprint of construction and cannot be saved. 34 of the significantly impacted trees are planned for removal.

- Diameter – (21) trees are less than 8-inch diameter, (14) trees have a diameter between 9 and 12-inches, (4) trees are between 13 and 17-inches. (1) 18 and (1) 20-inch tree are also proposed to be impacted.
- Health – (3) trees have been determined as marginal health. (10) trees have fair health and the remaining (24) trees are good health. (0) trees were in excellent health.
- Species – (4) olive trees are proposed to be impacted, (1) almond tree, (2) bay trees, and the remaining (30) are different varietals of oak trees.



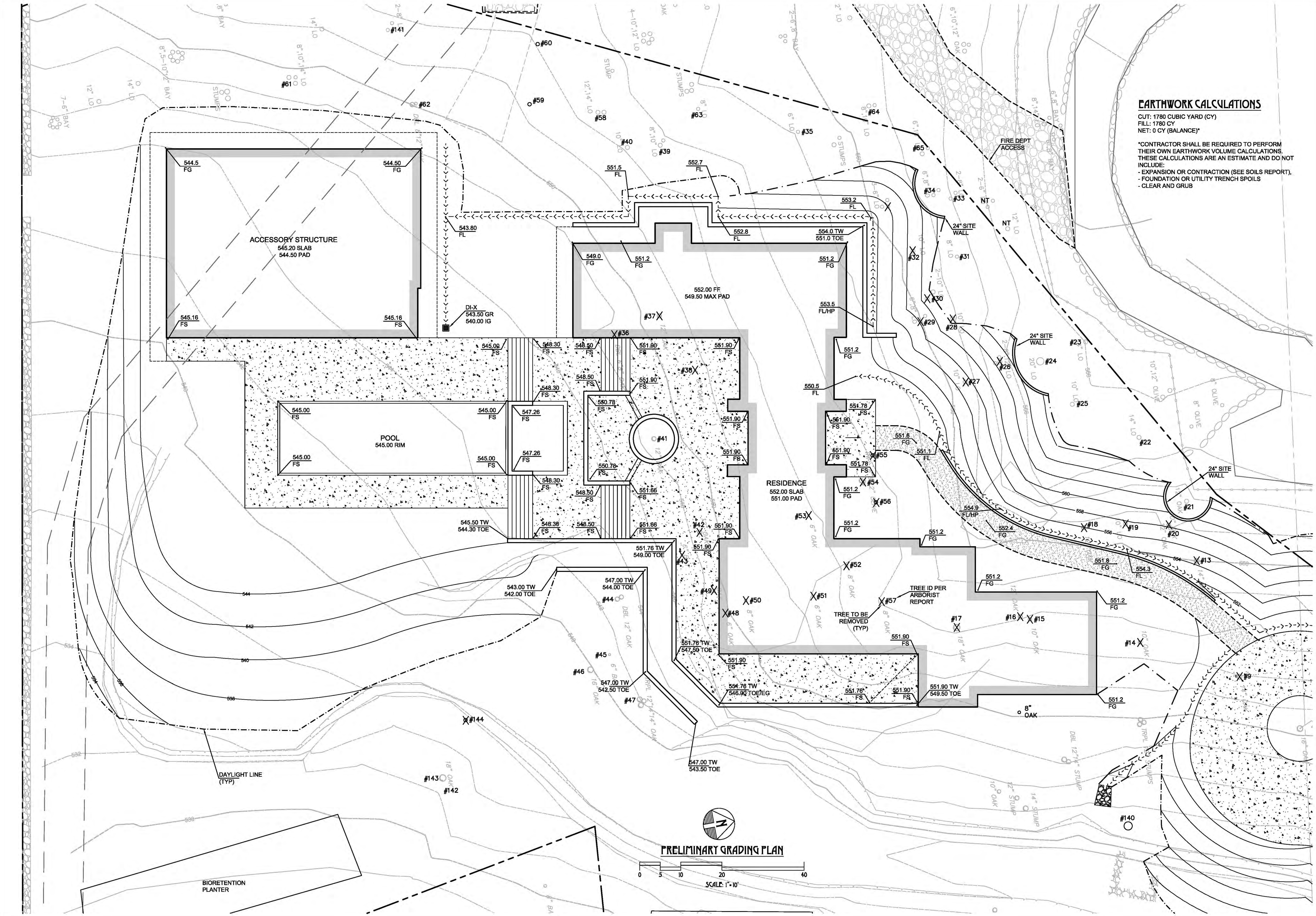
BEAR FLAG ENGINEERING INC
CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN
PO BOX 2193, SONOMA, CA 95476
PHONE: (707) 481-9472
BEARFLAGCIVIL@GMAIL.COM

PRELIMINARY SITE PLAN
149 4TH STREET RESIDENCE
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16002

SHEET
C1
OF 3 SHEETS



EARTHWORK CALCULATIONS

CUT: 1780 CUBIC YARD (CY)
FILL: 1780 CY
NET: 0 CY (BALANCE)*

*CONTRACTOR SHALL BE REQUIRED TO PERFORM THEIR OWN EARTHWORK VOLUME CALCULATIONS. THESE CALCULATIONS ARE AN ESTIMATE AND DO NOT INCLUDE:
- EXPANSION OR CONTRACTION (SEE SOILS REPORT),
- FOUNDATION OR UTILITY TRENCH SPOILS
- CLEAR AND GRUB

BEAR FLAG ENGINEERING INC
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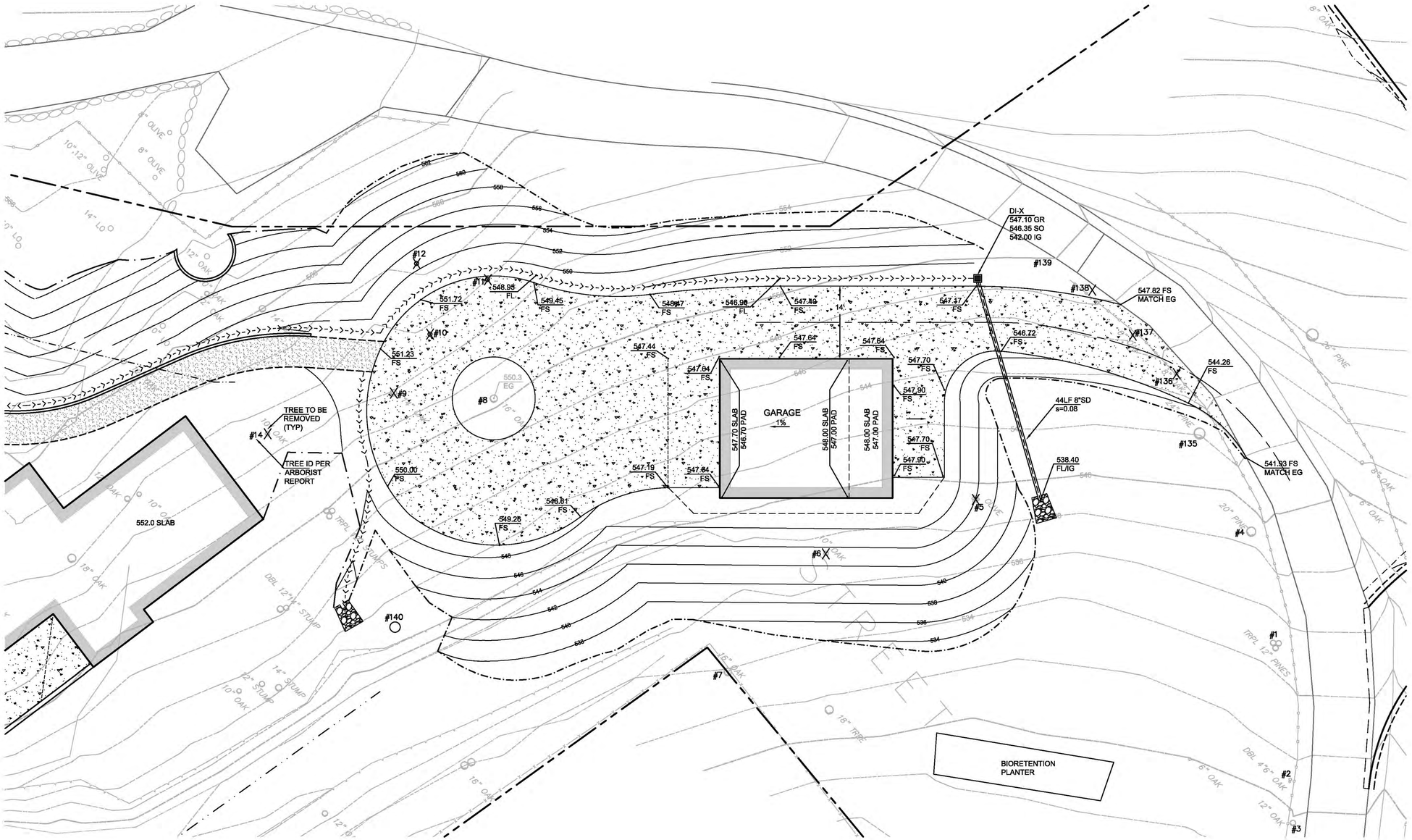
PRELIMINARY GRADING PLAN
149 4TH STREET RESIDENCE
149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16002

SHEET
C2
OF 3 SHEETS



PRELIMINARY DRIVEWAY GRADING PLAN

0 5 10 20 40

SCALE: 1"=10'

N

BEAR FLAG ENGINEERING INC

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

PO BOX 2193, SONOMA, CA 95476
PHONE: (707) 481-9472
BEARFLAGCIVIL@GMAIL.COM

PRELIMINARY DRIVEWAY GRADING PLAN

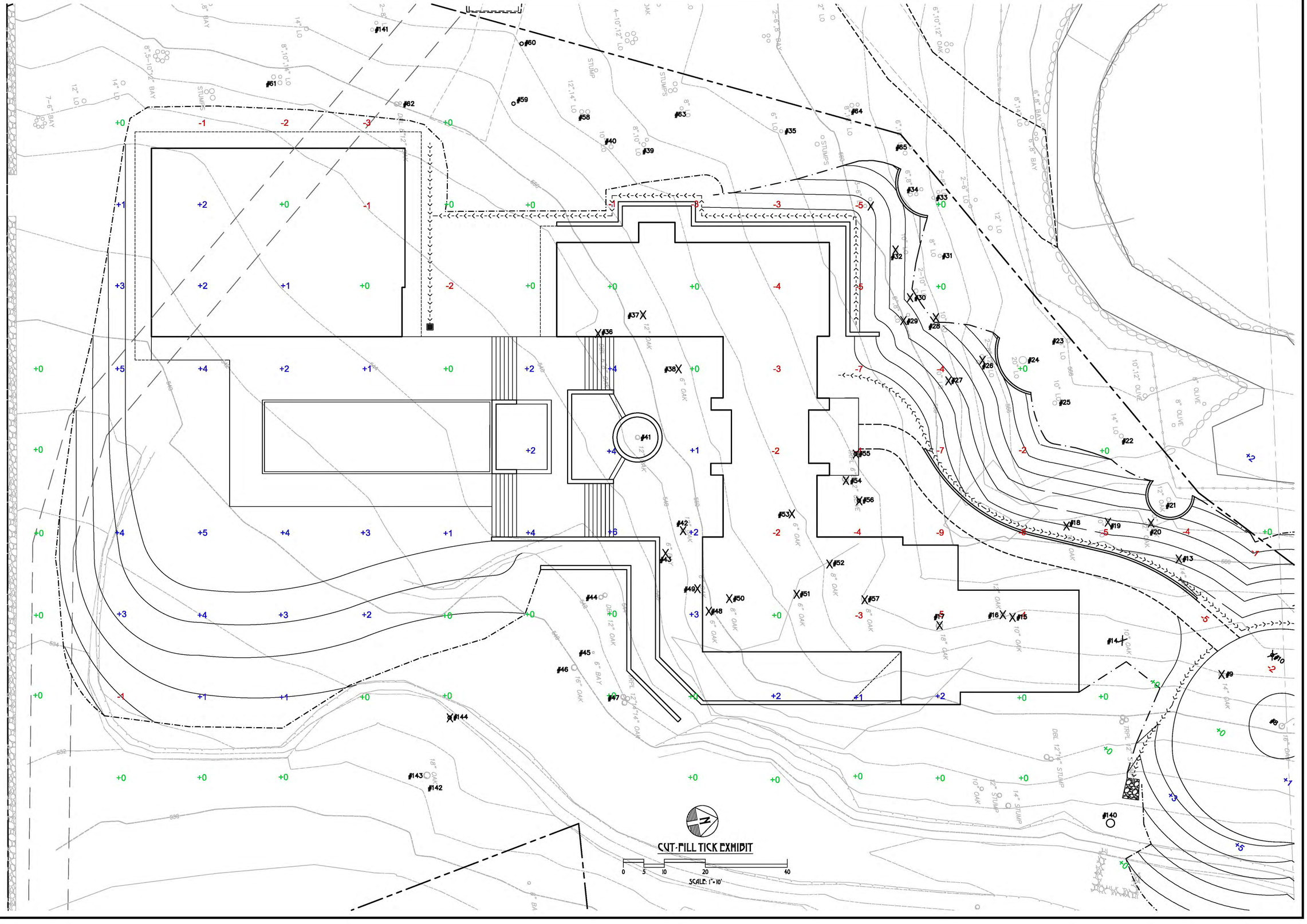
149 4TH STREET EAST, SONOMA, CA

APN: 018-091-018

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16002

SHEET
C3
OF 3 SHEETS



BEAR FLAG ENGINEERING INC
CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN
PO BOX 2193, SONOMA, CA 95476
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CUT-FILL TICK EXHIBIT

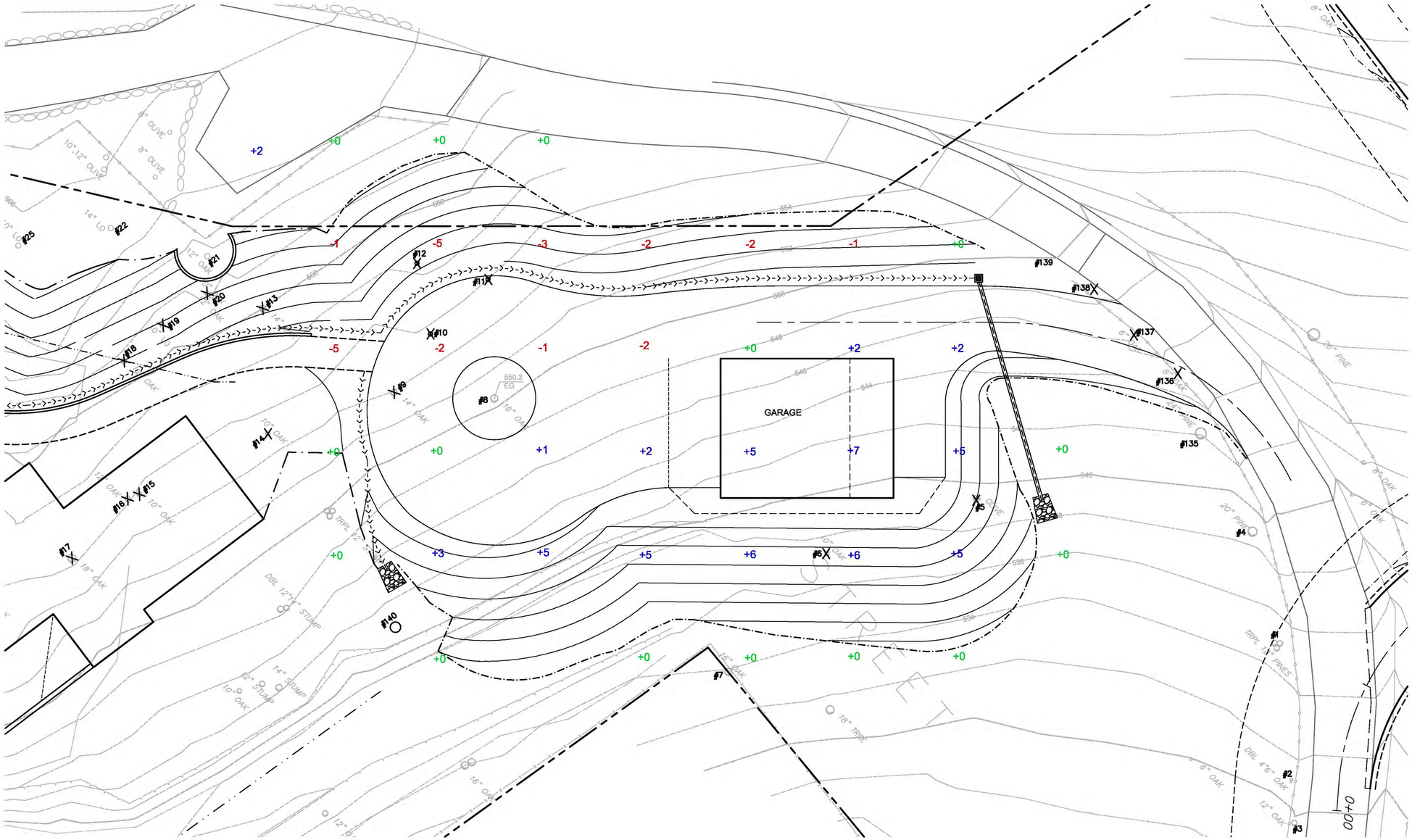
149 4TH STREET RESIDENCE

149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16002

SHEET 1 OF 2 SHEETS



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LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

PO BOX 2193, SONOMA, CA 95476
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CUT-FILL TICK EXHIBIT

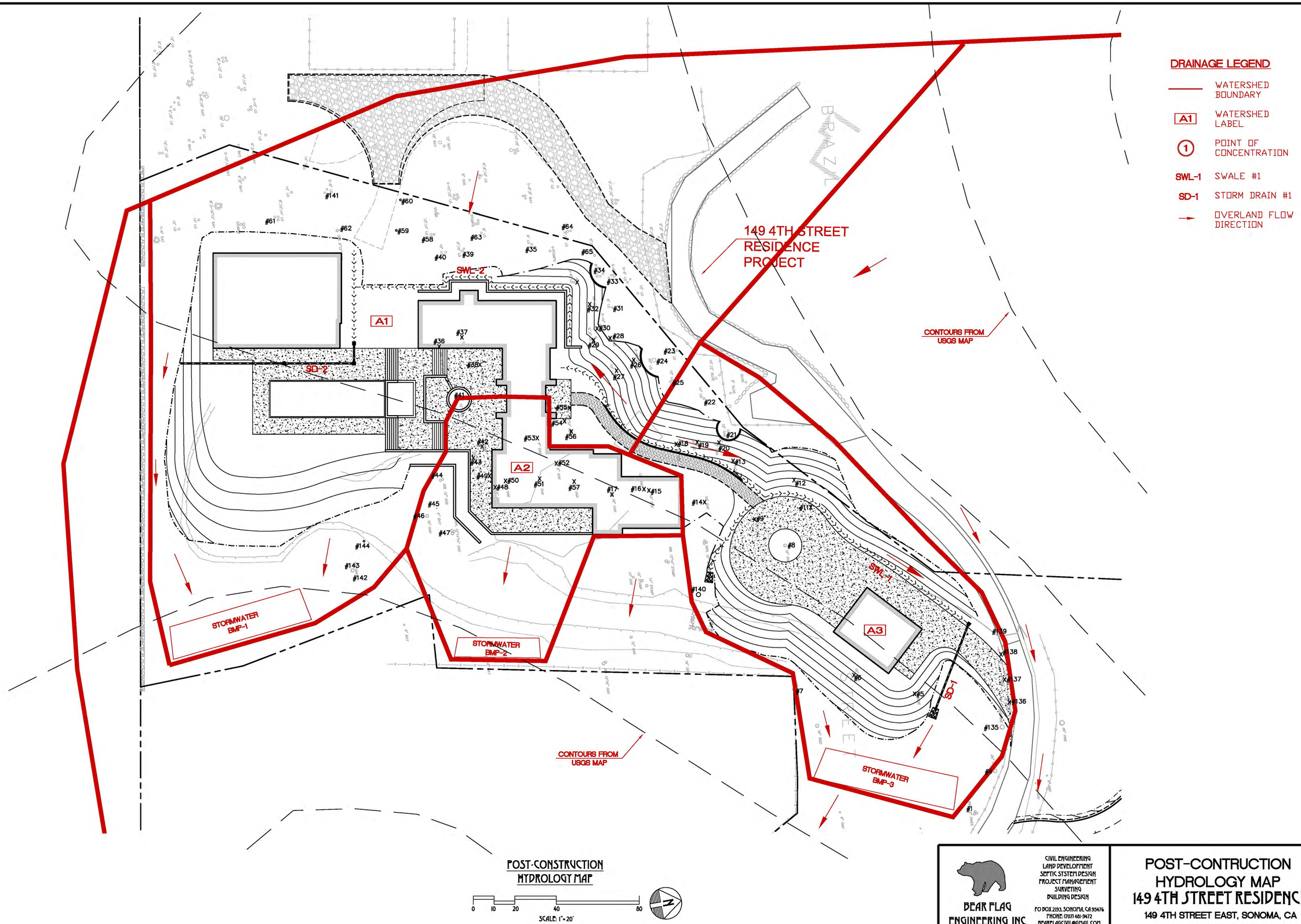
149 4TH STREET RESIDENCE

149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16002

SHEET
2
OF 2 SHEETS



POST-CONSTRUCTION HYDROLOGY MAP

0 10 20 40 80

SCALE: 1" = 20'

BEAR FLAG ENGINEERING, INC

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

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POST-CONTRUCTION HYDROLOGY MAP
149 4TH STREET RESIDENCE

149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

b. Driveway Project-

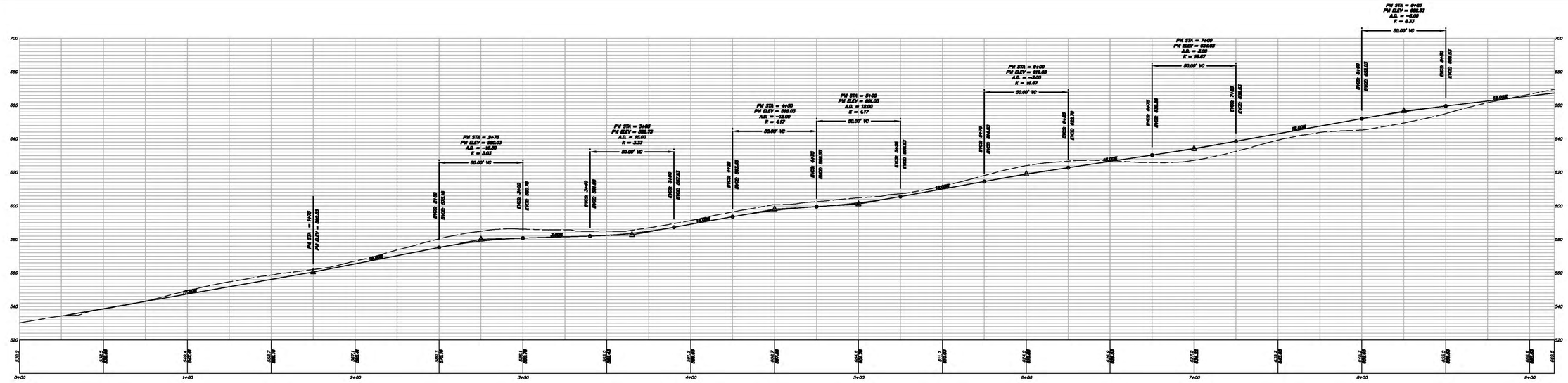
The proposed driveway connects with the existing asphalt driveway and provides access to both the Lot 227 Residence and the Lot 228 Residence. It will meander up the hill to the residence location, in an attempt to maintain as close a relationship with existing grade as possible. Proposed alignment has been designed to provide adequate emergency vehicle apparatus access. Where possible, the alignment has been designed to minimize impacts to existing trees.

- Grading from the asphalt driveway will consist of soil removal and re-compaction. The driveway meanders up the hill to maintain a minimum difference between finish and existing grade. The driveway generally consists of a cut bank on the uphill side and minor fill placement on the downhill side.
- Grading for the driveway turnaround area is primarily in cut. A retaining wall between the garage and residence is proposed to protect the existing trees. A cut bank would have harmed them, so a retaining wall maintains separation of grading from outside the dripline.
- A 4-foot retaining wall was added to the uphill side of driveway between stations 2+50 and 5+50, which eliminates the cut bank and saves approximately 25 existing trees. A retaining was also added to the toe of the fill slope above to save the same existing trees.
- Drainage from the berm will be collected in drainage inlets and conveyed to tee pipe storm drain dissipaters through storm drain. Locations for the outlets have been selected to areas that are not directly uphill of existing trees.

Runoff from the lower portion of the driveway will connect from the asphalt berm to the existing rock-lined drainage swale along the existing driveway.

Proposed improvements will significantly impact 19 trees for the entire driveway project according to the arborist report tree inventory. Significant impacts include close proximity to construction or location within footprint of construction and cannot be saved. 16 of the significantly impacted trees are planned for removal.

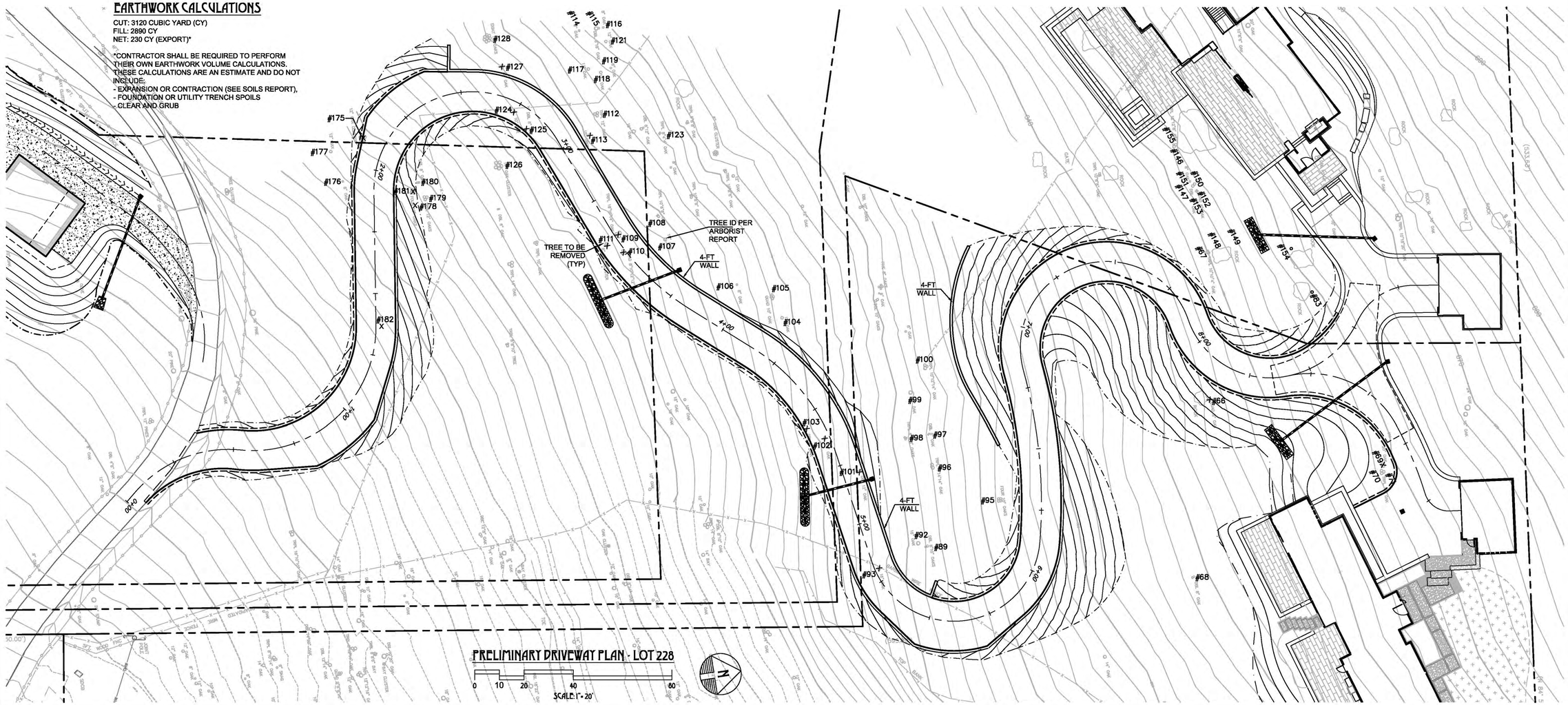
- Diameter – (7) trees are less than 8-inch diameter, (7) trees have a diameter between 9 and 12-inches, (2) trees are between 13 and 17-inches. (2) 18 and (1) 20-inch tree are also proposed to be impacted.
- Health – (7) trees have fair health and the remaining (12) trees are good health. 0 trees were in excellent health.
- Species – (4) olive trees are proposed to be impacted and the remaining 15 are different varietals of oak trees.



EARTHWORK CALCULATIONS

CUT: 3120 CUBIC YARD (CY)
FILL: 2890 CY
NET: 230 CY (EXPORT)*

*CONTRACTOR SHALL BE REQUIRED TO PERFORM THEIR OWN EARTHWORK VOLUME CALCULATIONS. THESE CALCULATIONS ARE AN ESTIMATE AND DO NOT INCLUDE;
- EXPANSION OR CONTRACTION (SEE SOILS REPORT),
- FOUNDATION OR UTILITY TRENCH SPOILS
- CLEAR AND GRUB



PRELIMINARY DRIVEWAY PLAN · LOT 228

0 10 20 40 60
SCALE: 1" = 20'

N

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CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN
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PHONE: (707) 481-9472
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PRELIMINARY DRIVEWAY PLAN
LOT 228 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: 018-051-007

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
C2
OF 3 SHEETS

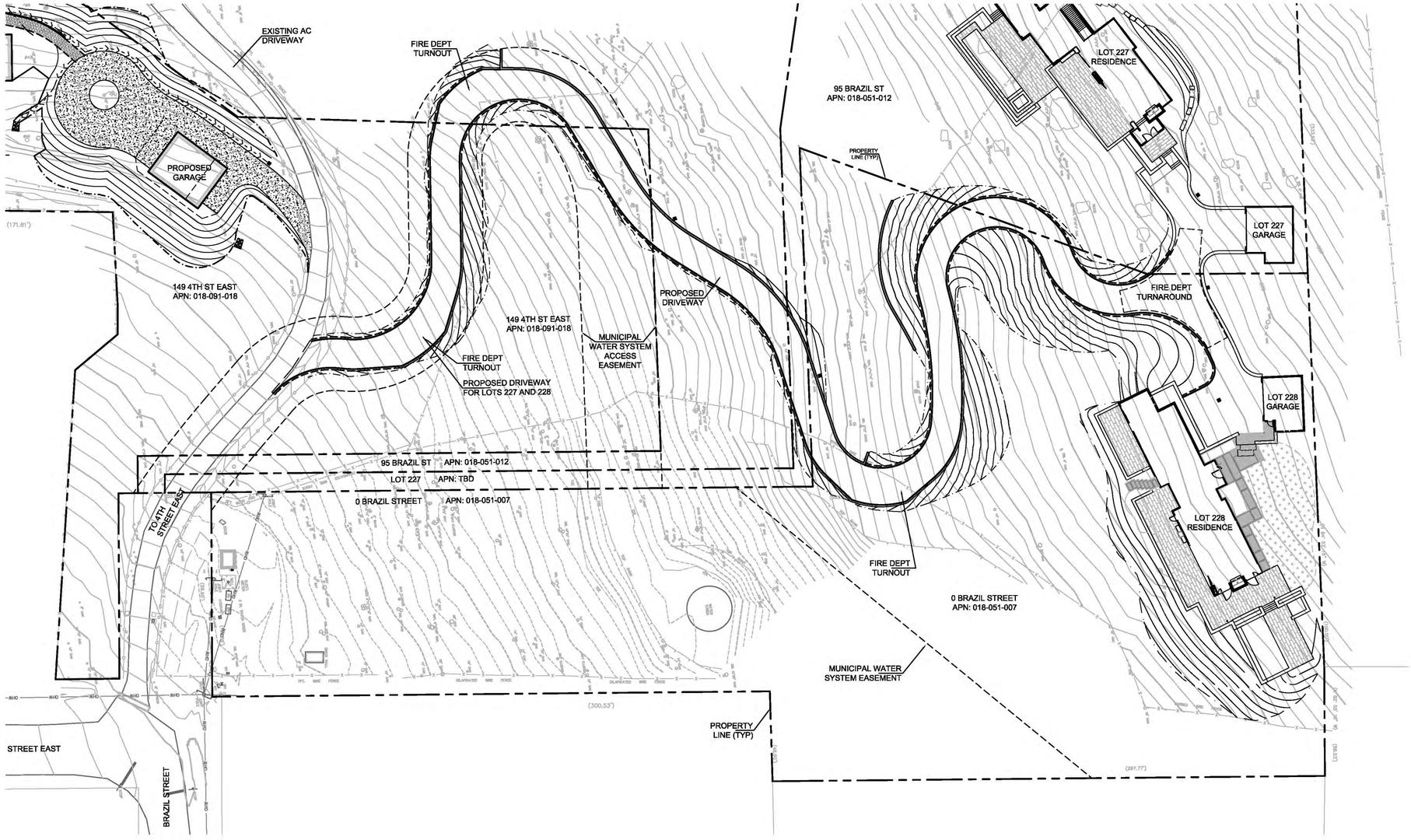
c. Lot 227 Residence-

The proposed residence is located in a small open area surrounded by groves of existing trees and rock outcrops. Existing terrain slopes in the residence are between 16 and 20-percent, compared to steeper areas on the rest of the property.

- Grading for the residence consists of cut and fill placement for foundation of the residence, and fill placement for the patio to the south. The backside of the garage is in cut. The building is stacked and terraced to reduce grading around the perimeter.
- Retaining walls have been designed on the downhill side of the pool and residence, which eliminates downslope fill placement. These walls have been designed to prevent damage to the existing trees.
- Drainage concept specific to the residence includes an interceptor swale across the uphill side of the residence. It will be released through a rock riprap outlet below the residence on the west side of the pool.
- An interceptor swale between the garage and residence conveys runoff to a drainage inlet above a landscape wall and the parking area. Runoff in the inlet is conveyed through a storm drain and released through a tee pipe storm drain dissipater in the open area west of the driveway. Runoff is released in a location that is not directly above any existing trees.
- Roof and patio drainage will be conveyed to a bio-retention planter below the residence and pool. Runoff will be detained, infiltrated, and overflow will be spread out over 30-feet to maintain a sheet flow nature below the proposed improvements.

Proposed improvements will significantly impact 20 trees for the entire Lot 227 Residence project according to the arborist report tree inventory. Significant impacts include close proximity to construction or location within footprint of construction and cannot be saved. 19 of the significantly impacted trees are planned for removal.

- Diameter – (10) trees are less than 8-inch diameter, (7) trees have a diameter between 9 and 12-inches, (2) trees are between 13 and 17-inches. (1) 24-inch tree are also proposed to be impacted.
- Health – (13) trees have fair health and the remaining and (7) trees are good health. (0) trees were in excellent health.
- Species – (3) bay trees are proposed to be impacted, (1) buckeye tree, and the remaining (16) are different varietals of oak trees.



PRELIMINARY SITE PLAN - LOT 228

0 15 30 60 120

SCALE:1" = 30'

N

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CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

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PRELIMINARY SITE PLAN
LOT 228 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: 018-051-007

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
C1
OF 2 SHEETS

EARTHWORK CALCULATIONS

CUT: 620 CUBIC YARD (CY)
FILL: 190 CY
NET: 430 CY (EXPORT)*

*CONTRACTOR SHALL BE REQUIRED TO PERFORM THEIR OWN EARTHWORK VOLUME CALCULATIONS. THESE CALCULATIONS ARE AN ESTIMATE AND DO NOT INCLUDE:
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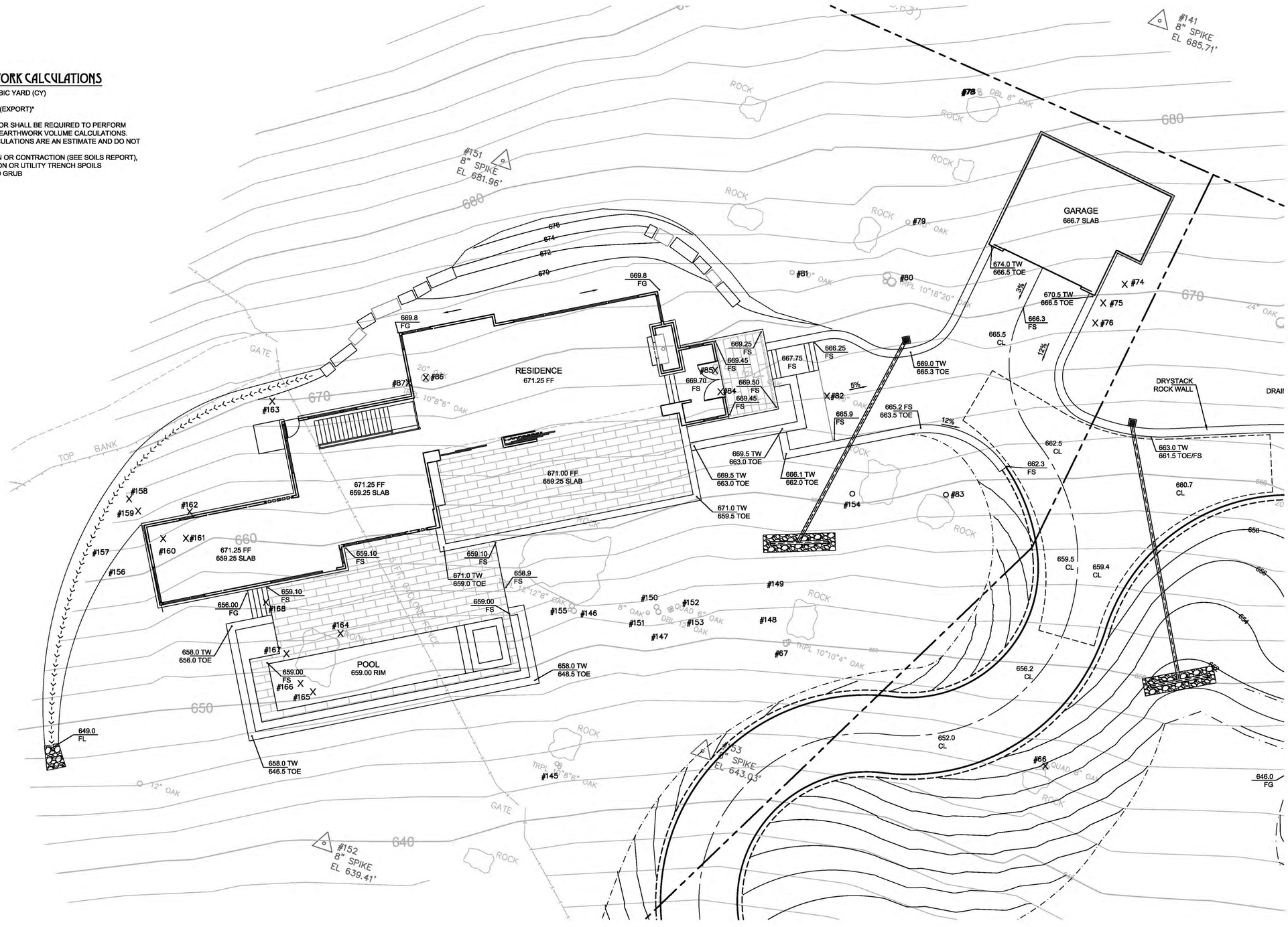
- FOUNDATION OR UTILITY TRENCH SPOILS
- CLEAR AND GRUB



LOT 227 RESIDENCE
PRELIMINARY GRADING PLAN

0 5 10 20 40
SCALE: 1"=10'

BEAR FLAG ENGINEERING INC
CIVIL ENGINEERING
SURVEYING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
FORENSIC ENGINEERING

527 BROADWAY #202
SONOMA, CA 95476
PHONE: (707) 481-9472
OFFICE@BEARFLAGCIVIL.COM

PRELIMINARY GRADING PLAN
LOT 227 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: XXX-XXX-XXX

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
C2
OF 2 SHEETS

LOT 227 RESIDENCE
CUT FILL TICK EXHIBIT

0 5 10 20 40
SCALE: 1" = 10'

N

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PROJECT MANAGEMENT
FORENSIC ENGINEERING

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PHONE: (707) 481-9472
OFFICE@BEARFLAGCIVIL.COM

CUT-FILL TICK EXHIBIT
LOT 227 RESIDENCE

BRAZIL STREET, SONOMA, CA
APN: XXX-XXX-XXX

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
1
OF 1 SHEET

DRAINAGE LEGEND

- WATERSHED BOUNDARY
- A1 — WATERSHED LABEL
- (1) — POINT OF CONCENTRATION
- SWL-1 — SWALE #1
- SD-1 — STORM DRAIN #1
- OVERLAND FLOW DIRECTION

RESIDENCE
GARAGE
POOL
A1
A2
STORMWATER BMP-1
STORMWATER BMP-2
#141 8" SPIKE EL 685.71'
#151 8" SPIKE EL 681.96'
#153 8" SPIKE EL 643.03'
#152 8" SPIKE EL 641.41'
GATE
TOP BANK
ROCK
680
670
660
650
640

POST-CONSTRUCTION HYDROLOGY MAP

0 5 10 20 40
SCALE: 1"=10'

N

BEAR FLAG ENGINEERING, INC

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

PO BOX 2193, SONOMA, CA 95476
PHONE: (707) 481-9472
BEARFLAGCIVIL@GMAIL.COM

POST-CONTRUCTION HYDROLOGY MAP LOT 227 RESIDENCE

BRAZIL STREET, SONOMA, CA
APN: XXX-XXX-XXX

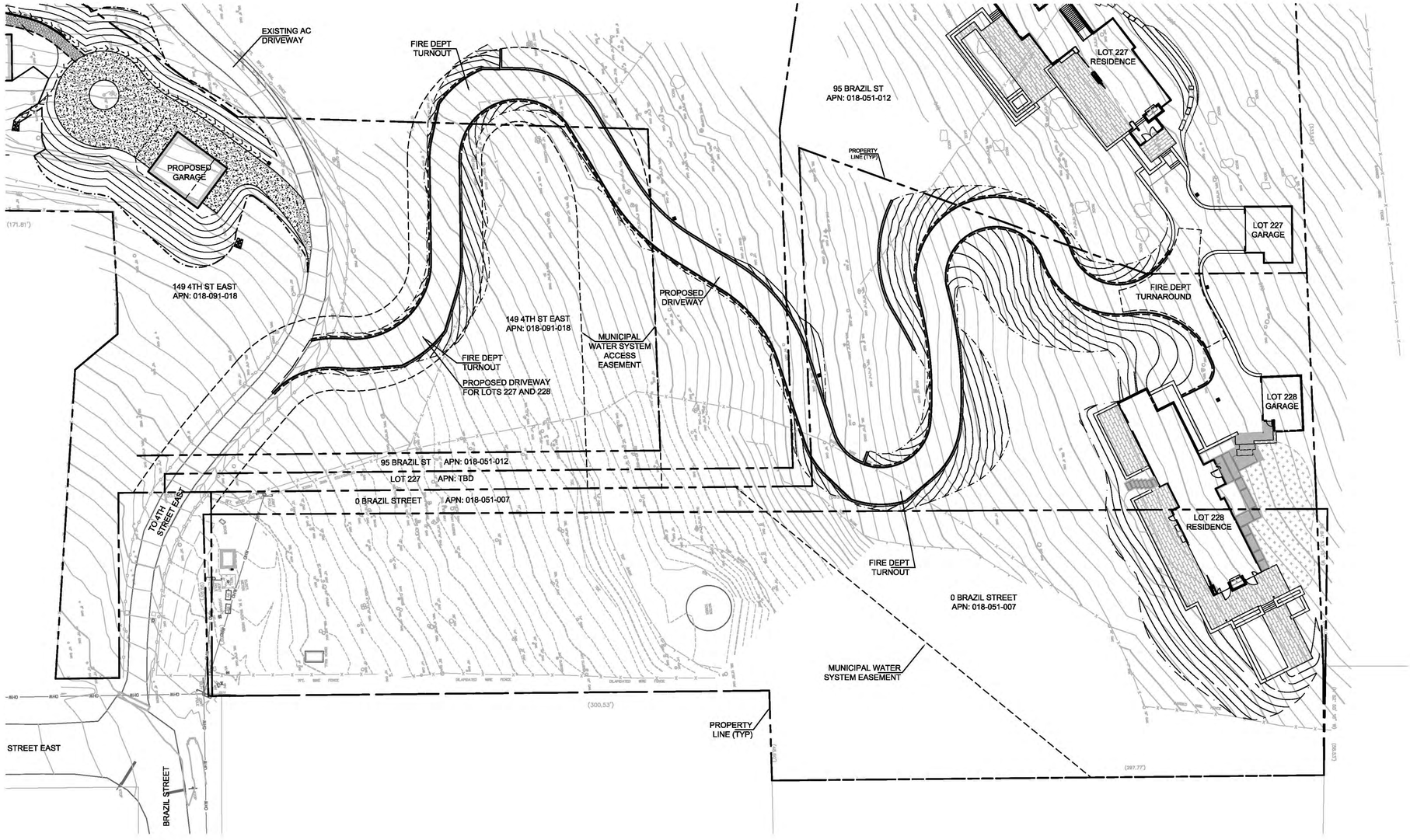
d. Lot 228 Residence-

The proposed residence is located in an open area with minimal tree removal. Existing terrain slopes in the residence are between 15 and 22-percent, compared to steeper areas on the rest of the property.

- Grading around the residence consists of cut and fill placement for foundation of the residence, and fill placement for the patio to the east. The main residence is stacked and terraced to reduce grading around the perimeter. The backside of the garage is in cut.
- Grading for this project includes an import of 660 cubic yards. The 430 cubic yards from the Lot 227 Residence project and spoils from utilities and footings will provide the required material to balance the project. No extra soil will be required to be imported to the site or off-hauled from the site.
- Grading around the residence will not largely impact and existing trees. The driveway turnaround has been reduced to reduce impact to trees 70 and 71.
- Drainage concept specific to the residence includes an interceptor swale parallel to the northern property line above the garage, lawn area and pool terrace. It will be released through a rock riprap outlet below the residence.
- An interceptor swale west of the garage conveys runoff to a drainage inlet above a landscape wall and the fire department turnaround. Runoff in the inlet is conveyed through a storm drain and released through a tee pipe storm drain dissipater in the open area west of the residence. Runoff is released in a location that is not directly above any existing trees.
- Roof and patio drainage will be conveyed to two bio-retention planters below the residence. Runoff will be detained, infiltrated, and overflow will be spread out over 40-feet to maintain a sheet flow nature below the proposed improvements.

Proposed improvements will significantly impact 4 trees for the entire Lot 228 Residence project according to the arborist report tree inventory. Significant impacts include close proximity to construction or location within footprint of construction and cannot be saved. 2 of the significantly impacted trees are planned for removal.

- Diameter – (1) tree is less than 8-inch diameter, (1) 15-inch tree, (1) 18-inch tree and (1) 24-inch tree are also proposed to be impacted.
- Health – (1) tree has fair health and the remaining and (3) trees are good health. (0) trees were in excellent health.
- Species – (1) bay tree is proposed to be impacted and the remaining (3) are different varietals of oak trees.



PRELIMINARY SITE PLAN - LOT 228

0 15 30 60 120

SCALE:1" = 30'

N

BEAR FLAG ENGINEERING INC

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
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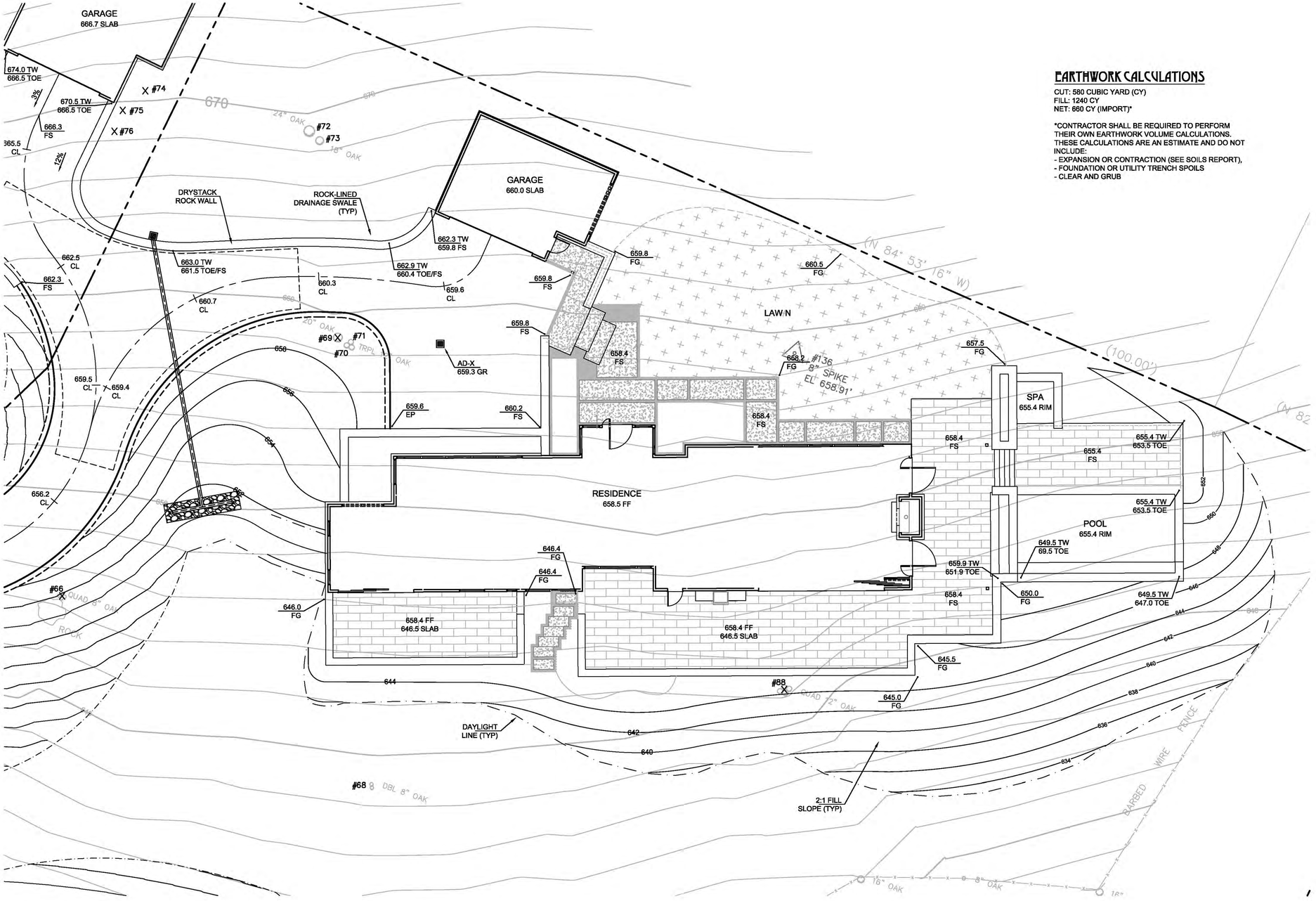
PRELIMINARY SITE PLAN
LOT 228 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: 018-051-007

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
C1
OF 2 SHEETS



EARTHWORK CALCULATIONS

CUT: 580 CUBIC YARD (CY)
FILL: 1240 CY
NET: 660 CY (IMPORT)*

*CONTRACTOR SHALL BE REQUIRED TO PERFORM THEIR OWN EARTHWORK VOLUME CALCULATIONS. THESE CALCULATIONS ARE AN ESTIMATE AND DO NOT INCLUDE:
- EXPANSION OR CONTRACTION (SEE SOILS REPORT),
- FOUNDATION OR UTILITY TRENCH SPOILS
- CLEAR AND GRUB

LOT 228 RESIDENCE
PRELIMINARY GRADING PLAN

0 5 10 20 40
SCALE: 1" = 10'

N

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FORENSIC ENGINEERING

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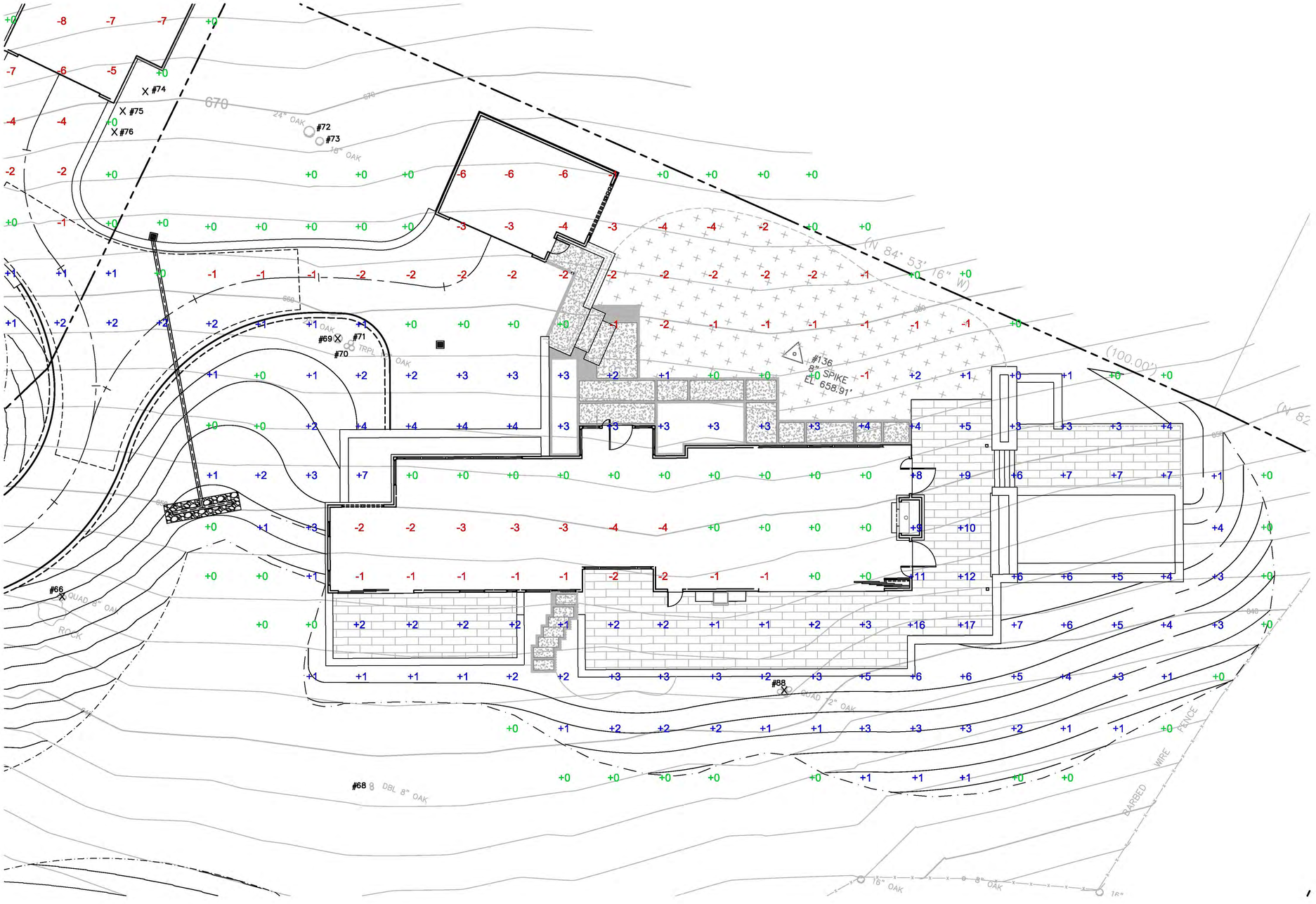
PRELIMINARY GRADING PLAN
LOT 228 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: 018-051-007

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
C3
OF 3 SHEETS



LOT 228 RESIDENCE
CUT-FILL TICK EXHIBIT

0 5 10 20 40

SCALE: 1" = 10'

N

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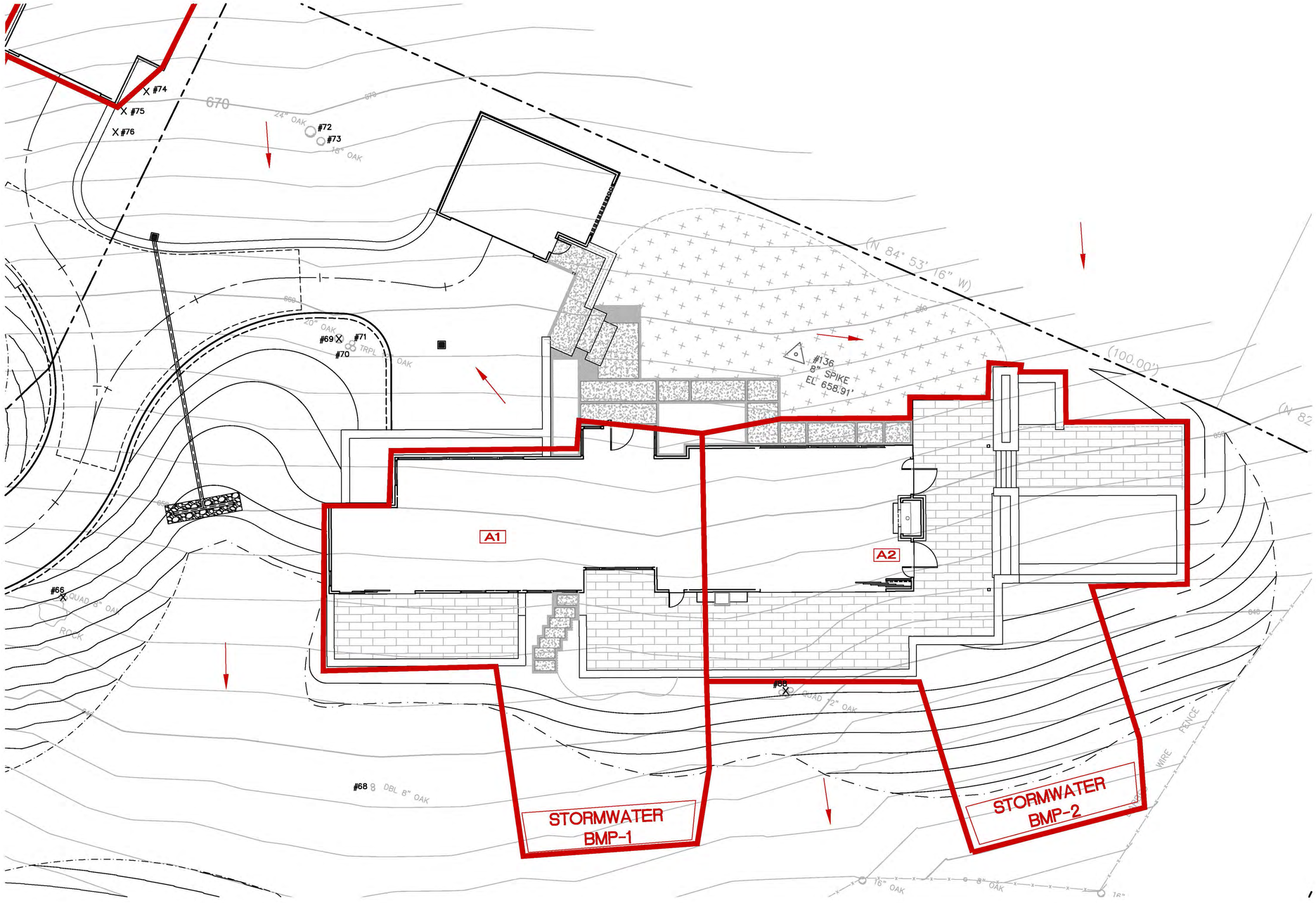
CUT-FILL TICK EXHIBIT
LOT 228 RESIDENCE
BRAZIL STREET, SONOMA, CA
APN: 018-051-007

REV	DATE	DESCRIPTION

DATE:	5/24/2017
DESIGN:	CSM
PROJECT:	16003

SHEET
1
OF 1 SHEET



DRAINAGE LEGEND

- WATERSHED BOUNDARY
- A1 — WATERSHED LABEL
- (1) — POINT OF CONCENTRATION
- SWL-1 — SWALE #1
- SD-1 — STORM DRAIN #1
- OVERLAND FLOW DIRECTION

LOT 228 RESIDENCE
PRELIMINARY GRADING PLAN

0 5 10 20 40
SCALE: 1" = 10'

N

BEAR FLAG ENGINEERING, INC

CIVIL ENGINEERING
LAND DEVELOPMENT
SEPTIC SYSTEM DESIGN
PROJECT MANAGEMENT
SURVEYING
BUILDING DESIGN

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POST-CONTRUCTION HYDROLOGY MAP
LOT 228 RESIDENCE

BRAZIL STREET, SONOMA, CA
APN: 018-051-007

8. Changes to Grading and Drainage between 1st Submittal and Current Plan

We have revised improvements to the grading and drainage plans for all three projects based upon feedback from planning commissioners, and arborist report recommendations. Here is a summary of revisions, which will help reduce impacts to existing trees.

149 4th Street East Residence-

- Dropped pool terrace and Auxilary Structure elevation by 2-feet. Previous elevation was 547.00 and is now 545.00. Dropping the terrace and building elevation reduces the amount of fill placement by about 450 cubic yards and also reduces the area of fill placement below the terrace. It also brings the pool terrace finish grade closer to existing grade levels. Refer to the attached Cut Fill Exhibit.
- Reduced impervious area around the pool terrace. The pool terrace now consists of less concrete, and more native landscape area. This reduces the difference in stormwater runoff between the pre and post-construction scenarios and reduces the amount of soil disturbance since the fill slope is smaller to daylight.

Lot 228 Residence-

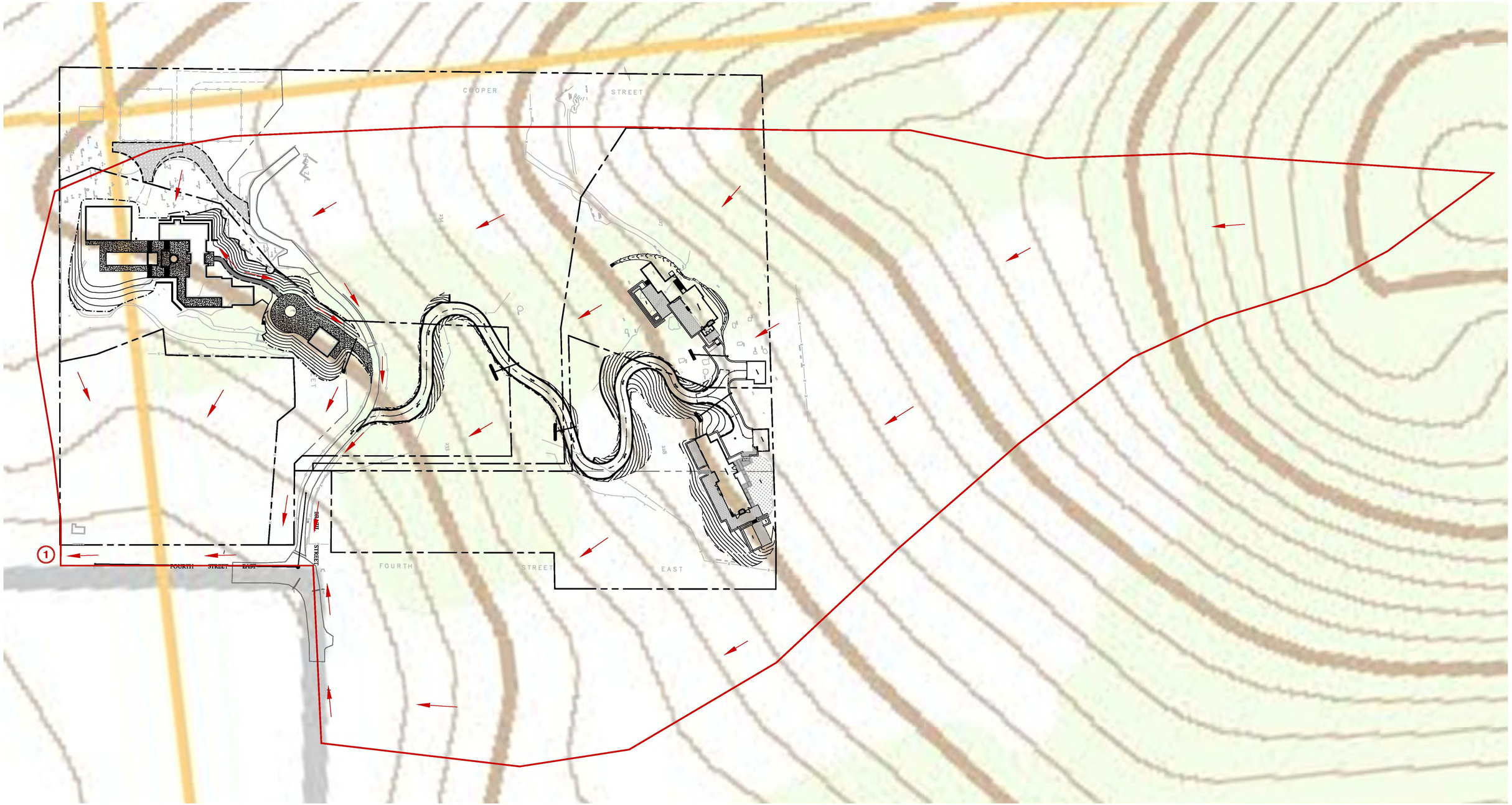
- A 300-foot long retaining wall has been added on the uphill side of the driveway between stations 2+50 and 5+50 that was not in the original submittal. Another 85-feet of retaining wall has been added to the bottom of the fill slope between stations 6+50 and 7+25 that was not in the original submittal. These walls reduce grading impacts and save approximately 25 trees that were previously impacted or planned for removal in the original submittal.
- Tee pipe dissipaters have been added to culverts to spread out drainage and reinforce the sheet flow drainage condition.
- The driveway turnaround and parking area have been reduced to save three trees (trees 69, 70 and 71).

9. Tree Replacement and Preservation

Trees that are damaged or removed due to construction of the proposed projects are planned to be replaced. A typical residential project requires a 1:1 replacement ratio. Our project is planning to replant 1.5 trees to every 1 removed/damaged, which is 50-percent above the minimum requirement. Replanted trees will be similar in species and location.

Proposed trees will be planted adjacent to the driveway to prevent over exposure of the driveway and woodland area. Trees will also be planted in the open area below the residence to further assist with prevention of visibility from the city streets.

APPENDIX



DRAINAGE LEGEND

- WATERSHED BOUNDARY
- A1 — WATERSHED LABEL
- 1 — POINT OF CONCENTRATION
- SWL-1 — SWALE #1
- SD-1 — STORM DRAIN #1
- OVERLAND FLOW DIRECTION

POST-CONSTRUCTION OVERALL HYDROLOGY MAP

0 30 60 120 240

SCALE: 1" = 60'

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LAND DEVELOPMENT
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OVERALL HYDROLOGY MAP

149 4TH STREET RESIDENCE

149 4TH STREET EAST, SONOMA, CA
APN: 018-091-018

ATTACHMENT 3

LETTER FROM INMAN LAW GROUP

June 7, 2017

Mr. Ross Edwards
Caymus Builders
281 2nd Street East
Sonoma, CA 95476

Re: ***Tree Protection and Hillside View Preservation for 4th Street Parcel Map***

Dear Mr. Edwards:

You have asked us to propose restrictive covenant provisions to address tree protection and hillside view preservation concerns prompted by the feedback you received from the City of Sonoma Planning Commission hearing for your proposed parcel map for the property located adjacent to the intersection of 4th Street and Barzil Street in the City of Sonoma. In addition, you have asked that we provide an overview of the legal framework that would enforce the proposed restrictive covenants.

With respect to the proposed restrictive covenants, we understand the properties within the proposed parcel map as well as two separate properties will all share a private driveway which will be maintained by a property owners' association. This arrangement is well suited to serve the objectives of the proposed restrictive covenants, as the California caselaw dealing with the enforcement of similar restrictive covenants has consistently upheld not only the right to enforce such provisions but also the express duty to enforce the restrictive covenants as well.

Proposed Restrictive Covenants

Tree Protection Restrictions can utilize existing tree locations which can be incorporated into an exhibit attached to the restrictive covenants declaration:

As of the date of recording of this Declaration, no tree identified in attached Exhibit "A" shall be cut, pruned, altered, or removed without the prior written consent of the City of Sonoma. Any approved cutting, pruning, alteration or removal of any tree identified in Exhibit "A" shall only be performed by a licensed arborist.

Such provisions can be written to require either the parcel owner or the property owners' association to be responsible for the stewardship of the existing trees.

Hillside View Preservation Restrictions can be written to address both landscaping and architectural design concerns:

Each Parcel Owner shall install and maintain the landscaping within his or her parcel in a manner which incorporates random groupings or clusters that mimic or maintain natural assemblages rather than in systematic rows. Owners shall maintain vegetation lines which convey the existing slope of the hillside. All residences and any structures constructed or placed on a parcel shall be designed to minimize visual obstruction of the existing hillside.

Legal Authority To Compel Enforcement of Proposed Restrictive Covenants

California law imposes specific obligations upon property owners' associations to discharge the specific requirements in Covenants, Codes & Restrictions (CC&Rs). Two judicial decisions discussed below outline how California law operates with respect to imposed obligations and financial obligations.

The two case decisions, *Ekstrom v. Marquesa at Monarch Beach HOA* (2008) 168 Cal. App. 4th 1111, and *James F. O'Toole Co., Inc. v. Los Angeles Kingsbury Court Owners Assn*. (2005)126 Cal.App.4th 549, give solid legal assurances that CC&R obligations imposed upon a property owners association will be discharged as contemplated, and that the association's board of directors will in fact raise the necessary funds to discharge its obligations. Prior to the *Ekstrom* case, there was a very legitimate concern that a owners' association board of directors could avoid following an obligation under the CC&Rs by evoking the "business judgment rule" deference to a board's decision to avoid performing obligations imposed by the CC&Rs. That is no longer a concern due to the *Ekstrom* decision:

In *Ekstrom*, the property owners' association's board of directors refused to enforce specific provisions of the CC&Rs which required all trees blocking ocean views to be trimmed. The HOA board refused to enforce the tree trimming obligation with respect to palm trees, contending:

> "]the "judicial deference rule" adopted by the California Supreme Court in *Lamden v. La Jolla Shores Clubdominium Homeowner's Assn.* (1999) 21 Cal.4th 249 (*Lamden*), which is an adaptation of the business judgment rule applicable to directors of corporations, precludes judicial review of any of its decisions concerning the enforcement or nonenforcement of section 7.18 of the CC&Rs as to palm trees. We disagree."

The Court went on to hold that the board's interpretation of the CC&Rs was inconsistent with the plain meaning of the document and thus not entitled to judicial deference. The relevance of the *Ekstrom* case to the City of Sonoma's tree protection and

hillside view protection concerns is that if the project's CC&Rs include the tree protection and hillside view preservation restrictions and obligate the property owners association to implement and enforce the provisions, California law now makes it clear that those obligations are not subject to the whims or discretion of the association's board of directors. Nor can the board claim "we don't have the money to perform the CC&Rs obligations" as the *O'Toole* case now makes it clear that a Community Association must impose the assessments necessary to perform its CC&Rs obligations.

> *James F. O'Toole Co., Inc. v. Los Angeles Kingsbury Court Owners Assn.* (2005)126 Cal.App.4th 549
>
> "In this case, in typical form, the Los Angeles Kingsbury Court Owners Association's Declaration charges the Association with the duty to "maintain, repair, restore, replace and make necessary improvements to the Common Area so that the same are at all times in a first-class condition and good state of repair," and to "pay, out of the general funds of the Association, the costs of any such maintenance and repair . . . ." After the Northridge earthquake, the Association took the first step but not the second, and the question now before us is <u>whether the Association can be compelled to impose an assessment to obtain the money needed to pay for the work</u> that was performed for the benefit of the Association and its members. For the reasons that follow, we answer the question affirmatively."
>
> The Court went on to hold the appointment of a receiver to take control of the owners association and to levy the necessary assessments to permit the owners association to discharge its obligation:
>
> "It follows that the trial court correctly ordered the Association to impose a special emergency assessment and, in light of the Association's refusal to do so, correctly decided to appoint a receiver to carry out the court's order."

These two cases provide assurances that any specific and mandatory obligations stated in CC&Rs must be discharged by the property owners association. Essentially, *Ekstom* says, "a property owners' association must do what the CC&Rs obligate it to do, period," and *O'Toole* says (so to speak), "levy the assessments you need to pay for whatever the services property owners' association is obligated to perform, period."

Thus, to the extent the proposed restrictive covenants require trees to be maintained, the aforementioned judicial decisions create a legal means of imposing the obligation upon the development's property owners' association. The restrictive covenants can also be written to require the property owners association to contract with a licensed arborist or landscape architect to perform any oversight regarding the tree protection and

hillside view preservation provisions. The CC&Rs provisions would also include a provision which prohibits the amendment of the obligation in the CC&Rs without the prior written approval of the City of Sonoma.

Property owners' association have a reputation for being overly controlling or overly political (think of Jerry Sienfeld's Del Boca Vista Phase III condo association), but whatever they are, in California, they are legal entities that must do what their governing documents mandate and must fund their mandatory debts (such as contracting with an arborist or landscape architect). As such, for the purpose of satisfying the City of Sonoma's tree preservation and hillside view preservation concerns, having property use restrictions which must be enforced by a property owners' association is an excellent option.

If you have any questions regarding any aspect of this letter, please do not hesitate to contact me.

Very truly yours,

INMAN LAW GROUP, LLP

Bruce R. Inman

ATTACHMENT 4

TREE DIAGRAM EXHIBIT

PROPERTY LINE (TYP)

BUILDING SETBACK

30'

ACCESSORY STRUCTURE

EX PGE AND COMCAST EASEMENT TO BE RELOCATED

149 4TH ST EAST
APN: 018-091-018

95 BRAZIL ST
APN: 018-051-012

PROPOSED POOL

BUILDING SETBACK

PROPOSED RESIDENCE

EXISTING AC DRIVEWAY

FIRE DEPT TURNOUT

PROPOSED GARAGE

PROPERTY LINE (TYP)

131 4TH ST EAST
APN: 018-091-019

OVERALL SITE PLAN

0 10 20 40 80

SCALE: 1"=40'

2017.03.29

4th STREET RESIDENCE

149 4th Street East , Sonoma CA
APN: 018-091-018

TREE DIAGRAM

SITE PLAN

1"= 40'

NICK LEE ARCHITECTURE
CONTACT:
NICHOLAS LEE
807, HAIGHT AVE
ALAMEDA, CA, 94501
PH: 415.378.4337

ATTACHMENT 5

MEMORANDUM FROM WRA, INC.

Memorandum

To: Ross Edwards
Caymus Builders
281 Second Street East
Sonoma, CA 95476

From: Benjamin Saragusa
WRA, Inc.
2169-G East Francisco Blvd.
San Rafael, CA 94901

Cc:

Date: June 30, 2017

Subject: Results of Rare Plant Surveys at 95 Brazil Street Parcels

The following summarizes the results of a rare plant survey conducted April 21, and June 20, 2017 within the proposed project on three parcels (APN 018-051-012, 018-091-018, 018-051-007) at 95 Brazil Street, Sonoma, Sonoma County, California (Project Area).

An early season survey was conducted on April 21, 2017 by Cara Witte. A late season survey was conducted on June 20, 2017 by Benjamin Saragusa. The Project Area is gently to moderately sloped, and elevations range from approximately 160 to 350 feet above sea level. The site is underlain by one soil type, a complex of equal parts Goulding series and Toomes series soils, which are both well-drained, non-hydric soils; derived from metavolcanics and igneous rocks, respectively[1]. These soils underlay areas of open grassland and small patches of oak woodland, and isolated rock outcrops are common and frequent.

Currently, the Project Area consists of a mosaic of the three habitat types described above, with open grassland being the dominant. Three sites are proposed for one house each, to be built primarily in open grassland, with a design aim to avoid trees and rocky outcrops to the greatest extent feasible.

The grasslands are dominated by annual non-native, and often invasive grasses such as: slim oats (*Avena barbata*), wild oats (*Avena fatua*), rattlesnake grass (*Briza maxima*), ripgut brome (Bromus diandrus), soft chess (Bromus hordeaceus), Italian rye grass (*Festuca perennis*), and foxtail barley (*Hordeum murinum*).

The rocky outcrops and small oak woodland patches support a mix of shrubs, herbs, and trees. Aside from the dominant oaks such as coast live oak (*Quercus agrifolia*) and blue oak (*Quercus douglasii*), other trees such as buckeye (*Aesculus californica*), and California bay (*Umbellularia californica*) are intermingled in the stands, creating a relatively-dense canopy, and decreasing the cover of understory plants. In these areas, it is common to see shrubs and herbs such as Italian thistle (*Carduus pycnocephalus* ssp. *pycnocephalus*), cleavers (*Galium aparine*), poison

1 California Soil Resource Lab. 2017. SoilWeb: An Online Soil Survey Browser. University of California, Davis. Most recently accessed: June 2017.

oak (*Toxicodendron diversilobum*), sticky monkeyflower (*Mimulus aurantiacus*), and toyon (*Heteromeles arbutifolia*).

Rare Plant Survey

Background Literature Search

Prior to the first rare plant survey, Cara Witte conducted a database query of the California Natural Diversity Database (CNDDB)[2] and the California Native Plant Society (CNPS) Electronic Inventory[3] of the Sonoma 7.5-minute USGS quadrangle to assess special-status plant species that may have the potential to occur in the Project Area. Twenty-one special-status plant species have been documented from the Sonoma quadrangle. Based on pre-survey understanding of site habitats, seven species have moderate or high potential to occur in the Project Area including Franciscan onion (*Allium peninsulare* var. *franciscanum*, CNPS Rank 1B.2), Napa false indigo (*Amorpha californica* var. *napensis*, CNPS Rank 1B.2), big-scale balsamroot (*Balsamorhiza macrolepis*, CNPS Rank 1B.2, narrow-anthered Brodiaea (*Brodiaea leptandra*, CNPS Rank 1B.2), streamside daisy (*Erigeron biolettii*, CNPS Rank 3), green monardella (*Monardella viridis*, CNPS Rank 4.3), and dark-mouthed Triteleia (*Triteleia lugens,* CNPS Rank 4.3).

Field Survey Method

Cara Witte and Benjamin Saragusa performed on-site special-status plant assessments and complete floristic surveys on April 21 and June 20, 2017, respectively. The field visits were timed in this manner to best align with the bloom period for the special-status species with potential to occur on the site. The WRA biologists traversed the entire Project Area, and recorded all observed plant species, which were identified with Jepson eFlora[4], to a taxonomic level sufficient to determine rarity (Attachment A).

Site Assessment and Survey Results

Of the 21 special-status plant species identified in the database search, 14 are unlikely or have no potential to occur within the Project Area.

The absence of serpentine and sandy soil conditions, the absence of aquatic features such as vernal pools or wetlands, the prevalence of non-native, invasive annual or perennial grasses throughout the grassland areas, and the relatively low elevation of the Project Area does not provide suitable habitat for many of the special-status plant species identified as occurring within the greater regional vicinity of the Project Area. Several of the special-status plant species are unlikely or have no potential to occur within the Project Area because of one or more of the following reasons:

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2 California Department of Fish and Wildlife (CDFW). 2017. California Natural Diversity Database (CNDDB), Wildlife and Habitat Data Analysis Branch, Sacramento, CA. Accessed: April 2017

3 California Native Plant Society (CNPS). 2017. Electronic Inventory of Rare and Endangered Vascular Plants of California. California Native Plant Society, Sacramento, CA. Available at: http://www.cnps.org/inventory. Accessed: April 2017.

4 Jepson Flora Project (eds.). 2017. Jepson eFlora. Online at: http://ucjeps.berkeley.edu/IJM.html; accessed June 2017.

- Hydrologic conditions (e.g. mesic, vernal pool habitat) necessary to support the special-status plants do not exist on site;
- Edaphic (soil) conditions (e.g. serpentine, sandy) necessary to support the special-status plants do not exist on site;
- Topographic conditions (e.g. mountainous) necessary to support the special-status plants do not exist on site;
- Associated vegetation communities (e.g. montane coniferous forest) necessary to support the special-status plants do not exist on site.

No special-status plant species were observed within the Project Area. Seventy-eight plant species (not including some ornamental, landscape species) were observed within the Project Area, of which 42 are considered not native to California (Attachment A).

Summary and Recommendations

Two focused rare plant surveys were conducted on April 21 and June 20, 2017 within the Project Area to determine the absence or presence of Franciscan onion, Napa false indigo, big-scale balsamroot, narrow-anthered Brodiaea, streamside daisy, green monardella, and dark-mouthed Triteleia and assess the potential to support other special-status plant species. The survey resulted in negative findings for all special-status plant species. Additionally, the Project Area does not have the potential to support other special-status plant species. Therefore, Project activities will not impact special-status plant species.

Should you have any questions or concerns, please feel free to contact me.

Sincerely,

Benjamin Saragusa

Wetland Biologist
saragusa@wra-ca.com
WRA, Inc.
2169-G East Francisco Blvd.
San Rafael, California 94901

Attachment A – Plant Species Observed in the Project Area, April 21 and June 20, 2017

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
Acacia dealbata	Silver wattle	non-native (invasive)	tree, shrub	Moderate
Aesculus californica	Buckeye	native	tree	-
Arbutus menziesii	Madrono	native	tree	-
Artemisia californica	Coastal sage brush	native	shrub	-
Avena barbata	Slim oat	non-native (invasive)	annual, perennial grass	Moderate
Avena fatua	Wildoats	non-native (invasive)	annual grass	Moderate
Baccharis pilularis	Coyote brush	native	shrub	-
Bellardia trixago	Mediterranean lineseed	non-native	annual forb	Limited
Briza maxima	Rattlesnake grass	non-native (invasive)	annual grass	Limited
Briza minor	Little rattlesnake grass	non-native	annual grass	-
Brodiaea elegans ssp. *elegans*	Harvest brodiaea	native	perennial herb	-
Bromus diandrus	Ripgut brome	non-native (invasive)	annual grass	Moderate
Bromus hordeaceus	Soft chess	non-native (invasive)	annual grass	Limited
Bromus sterilis	Sterile brome	non-native	annual grass	-
Calendula arvensis	Field marigold	non-native	annual herb	-
Carduus pycnocephalus ssp. *pycnocephalus*	Italian thistle	non-native (invasive)	annual herb	Moderate
Castilleja attenuata	Narrow leaved owl's clover	native	annual herb	-
Centaurea solstitialis	Yellow starthistle	non-native (invasive)	annual herb	High
Cerastium fontanum ssp. *vulgare*	Common chickweed	non-native	perennial herb	-
Chlorogalum pomeridianum var. *divaricatum*	Soap plant	native	perennial herb	-
Claytonia perfoliata	Miner's lettuce	native	annual herb	-
Convolvulus arvensis	Field bindweed	non-native (invasive)	perennial herb, vine	-
Croton setiger	Turkey-mullein	native	perennial herb	-
Cyperus eragrostis	Tall cyperus	native	perennial grasslike herb	-
Delphinium decorum	Larkspur	native	perennial herb	-
Dichelostemma capitatum	Blue dicks	native	perennial herb	-
Elaeagnus sp.	-	-	-	-
Elymus caput-medusae	Medusa head	non-native	annual grass	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
Elymus sp.	-	-	-	-
Erodium cicutarium	Coastal heron's bill	non-native (invasive)	annual herb	Limited
Eschscholzia californica	California poppy	native	annual, perennial herb	-
Euphorbia peplus	Petty spurge	non-native	annual herb	-
Festuca myuros	Rattail sixweeks grass	non-native (invasive)	annual grass	-
Festuca perennis	Italian rye grass	non-native	annual, perennial grass	-
Frangula californica	California coffeeberry	native	shrub	-
Galium aparine	Cleavers	native	annual herb	-
Geranium dissectum	Wild geranium	non-native (invasive)	annual herb	Limited
Geranium molle	Crane's bill geranium	non-native (invasive)	annual, perennial herb	-
Hedera helix	English ivy	non-native (invasive)	vine, shrub	-
Helminthotheca echioides	Bristly ox-tongue	non-native (invasive)	annual, perennial herb	Limited
Heteromeles arbutifolia	Toyon	native	shrub	-
Holcus lanatus	Common velvetgrass	non-native (invasive)	perennial grass	Moderate
Hordeum marinum ssp. *gussoneanum*	Barley	non-native (invasive)	annual grass	Moderate
Hordeum murinum	Foxtail barley	non-native (invasive)	annual grass	Moderate
Hypochaeris glabra	Smooth cats ear	non-native (invasive)	annual herb	Limited
Hypochaeris radicata	Hairy cats ear	non-native (invasive)	perennial herb	Moderate
Juncus bufonius	Common toad rush	native	annual grasslike herb	-
Kickxia sp.	-	-	-	-
Lactuca serriola	Prickly lettuce	non-native (invasive)	annual herb	-
Lathyrus vestitus	Common pacific pea	native	perennial herb	-
Lysimachia arvensis	Scarlet pimpernel	non-native	annual herb	-
Lythrum sp.	-	-	-	-
Medicago arabica	Spotted burclover	non-native	annual herb	-
Mimulus aurantiacus	Sticky monkeyflower	native	shrub	-
Monardella villosa ssp. *villosa*	Coyote mint	native	perennial herb	-
Pellaea andromedifolia	Coffee fern	native	fern	-

Scientific Name	Common Name	Origin	Form	CAL-IPC Status
Petrorhagia prolifera	Pink grass	non-native	annual herb	-
Plantago erecta	California plantain	native	annual herb	-
Plantago lanceolata	Ribwort	non-native (invasive)	perennial herb	Limited
Quercus agrifolia	Coast live oak	native	tree	-
Quercus douglasii	Blue oak	native	tree	-
Ranunculus californicus	Common buttercup	native	perennial herb	-
Ranunculus muricatus	Buttercup	non-native	annual, perennial herb	-
Raphanus sativus	Jointed charlock	non-native (invasive)	annual, biennial herb	Limited
Rubus armeniacus	Himalayan blackberry	non-native (invasive)	shrub	High
Sanicula crassicaulis	Pacific sanicle	native	perennial herb	-
Stachys rigida	Rough hedgenettle	native	perennial herb	-
Stellaria media	Chickweed	non-native	annual herb	-
Stipa pulchra	Purple needle grass	native	perennial grass	-
Torilis arvensis	Field hedge parsley	non-native (invasive)	annual herb	Moderate
Toxicodendron diversilobum	Poison oak	native	vine, shrub	-
Trifolium dubium	Shamrock	non-native	annual herb	-
Trifolium hirtum	Rose clover	non-native (invasive)	annual herb	Limited
Trifolium subterraneum	Subterranean clover	non-native	annual herb	-
Trifolium tomentosum	Woolly clover	non-native	annual herb	-
Umbellularia californica	California bay	native	tree	-
Vicia hirsuta	Hairy vetch	non-native	annual herb, vine	-
Zeltnera venusta	Charming centaury	native	annual herb	-