FIRSTCARBONSOLUTIONS™

DRAFT
Initial Study/Mitigated Negative Declaration
Oaks at Foss Creek Project
City of Healdsburg, Sonoma County, California

Assessor's Parcel Numbers (APNs)
089-013-012, -013, -014, -015, -0016, -009, and -028
and portions of APNs 089-13-020, -023, and -024

Prepared for:

City of Healdsburg
Building & Planning Department
401 Grove Street
Healdsburg, CA 95448
707.431.3346

Contact: Kraig Tambornini, Senior Planner

Prepared by:

FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597
925.357.2562

Contact: Mary Bean, Project Director
Elizabeth Johnson, Project Manager

Date: December 22, 2016

THIS PAGE INTENTIONALLY LEFT BLANK

Table of Contents

Section 1: Introduction 1
1.1 - Purpose 1
1.2 - Project Location 1
1.3 - Environmental Setting 2
1.4 - Existing General Plan and Zoning 3
1.5 - Project Description 3
1.6 - Required Discretionary Approvals 17
1.7 - Intended Uses of this Document 18

Section 2: Environmental Checklist and Environmental Evaluation 19
1. Aesthetics 20
2. Agriculture and Forestry Resources 25
3. Air Quality 28
4. Biological Resources 37
5. Cultural Resources 51
6. Geology and Soils 58
7. Greenhouse Gas Emissions 63
8. Hazards and Hazardous Materials 67
9. Hydrology and Water Quality 72
10. Land Use and Planning 77
11. Mineral Resources 79
12. Noise 80
13. Population and Housing 94
14. Public Services 97
15. Recreation 102
16. Transportation/Traffic 104
17. Utilities and Service Systems 119
18. Mandatory Findings of Significance 125

Section 3: References 127

Section 4: List of Preparers 129

Appendix A: Air Quality and Greenhouse Gas Emissions Assessment

Appendix B: Biological Resources
B.1 - Biological Resources Assessment
B.2 - Arborist Report 2015
B.3 - Arborist Report Revised 2016

Appendix C: Phase I Cultural Resources Assessment

Appendix D: Geotechnical Report

Appendix E: Hazards and Hazardous Materials

Appendix F: Noise Modeling Analysis

Appendix G: Traffic Impact Study

List of Tables

Table 1: Thresholds of Significance 31
Table 2: Annual Construction Emissions (Unmitigated) 31
Table 3: Daily Operational Emissions (Unmitigated) 32
Table 4: Annual Operational Emissions (Unmitigated) 33
Table 5: Odor Screening Distances 35
Table 6: Special-status Plant Species with the Potential to Occur on the Project Site 39
Table 7: Special-status Wildlife Species with the Potential to Occur on the Project Site 41
Table 8: Construction Greenhouse Gas Emissions 64
Table 9: Unmitigated Operational Greenhouse Gas Emissions 65
Table 10: Noise Monitoring Summary 82
Table 11: Typical Ranges of Noise Levels for Housing Construction at 50 Feet, L_{eq} (h) dBA 83
Table 12: Vibration Levels of Construction Equipment 88
Table 13: Federal Transit Administration Construction Vibration Impact Criteria 90
Table 14: Share of Regional Housing Need 95
Table 15: Parks in Healdsburg 100
Table 16: Bicycle Facility Summary 107
Table 17: Existing Peak Hour Intersection Levels of Service 109
Table 18: Trip Generation Summary 110
Table 19: Existing and Existing plus Project Peak-hour Intersection Levels of Service 111
Table 20: Baseline and Baseline plus Project Peak-hour Intersection Levels of Service 111
Table 21: Future and Future plus Project Intersection AM and PM Peak-hour Levels of Service 114
Table 22: Wastewater Generation Estimate 120
Table 23: Water Demand Estimate 122
Table 24: Urban Water Management Plan Planning Assumptions 123

List of Exhibits

Exhibit 1: Regional Location Map 5
Exhibit 2: Local Vicinity Map, Aerial Base 7
Exhibit 3: Site Photographs 9
Exhibit 4: Conceptual Site Plan 11
Exhibit 5: Illustrative Renderings, Looking East on Chiquita Road 13
Exhibit 6: Landscaping Plan 15
Exhibit 7: Noise Barrier Locations 85

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 1: INTRODUCTION

1.1 - Purpose

The purpose of this Initial Study/Mitigated Negative Declaration (IS/MND) is to identify any potential environmental impacts that may result from implementation of the Oaks at Foss Creek Residential Master Plan and Tentative Tract map (RMP [also, Oaks at Foss Creek]) development project and an associated Rezoning and General Plan Amendment, in the City of Healdsburg, California (Sonoma County). The proposed Oaks at Foss Creek Residential Master Plan and Tentative Tract map would allow the construction of 44 single-family residences. This requires the City to consider the following discretionary actions, and constitutes a project subject to environmental review pursuant to the California Environmental Quality Act (CEQA): General Plan Amendment, Rezoning, Tentative Subdivision Map, Lot Line Adjustment and Design Review entitlements. The General Plan amendment and RMP District Rezoning would include the proposed 44-unit subdivision tract and three additional parcels that could be redeveloped in the future.

The CEQA environmental review for these land use application requests has been provided on a "project-level" for the 44-unit subdivision tract and on a "programmatic-level" for the additional three parcels in this document. Pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15367, the City of Healdsburg is the Lead Agency in the preparation of this IS/MND and any additional environmental documentation required for the project. The City has discretionary authority over the project. The purpose of this document is to provide the appropriate level of environmental analysis required to adequately assess the project's potential environmental impacts and prepare the project Initial Study/Mitigated Negative Declaration (IS/MND). The intended use of the IS/MND is to provide information as a basis for input from public agencies, organizations, and interested members of the public on the potential environmental effects of the project and on the adequacy of the proposed mitigation measures identified to mitigate environmental impacts, in a manner that is consistent with the purposes of CEQA.

The remainder of this section provides a brief description of the project location and the characteristics of the project. Section 2 includes an environmental checklist giving an overview of the potential impacts that may result from project implementation. Section 2 elaborates on the information contained in the environmental checklist, along with justification for the responses provided in the environmental checklist.

1.2 - Project Location

The Oaks at Foss Creek Project encompasses approximately 9.03-acres of land located within the northwest area of the City of Healdsburg, Sonoma County, California (Exhibit 1). Four parcels (Accessor's Parcel Numbers [APNs] 089-013-012, 089-013-013, 089-013-014, and 089-013-009) and a portion of adjacent Simi Winery property (APNs 089-013-020, 089-013-022, and 089-013-023), containing in total 7.41 acres of land, are proposed for development as the Oaks at Foss Creek residential subdivision. These properties currently are addressed 111, 155, 157, 163, and 165 Chiquita Road. The additional three parcels that would be included for purposes of General Plan

Amendment and Rezoning only consist of one parcel to the north (APN 089-013-028), and two parcels to the east (APNs 089-013-015 and 089-013-016) containing a total of 1.62 acres. These three parcels are currently addressed 51, 99, and 167 Chiquita Road.

The project site is bounded to the north by Simi Winery, and to the east by Foss Creek, the Northwestern Pacific Railroad, and a commercial building on Healdsburg Avenue. Chiquita Road borders the south side of the project site with a 22 unit residential community under construction on the south side of Chiquita Road. The access route to Simi Winery, Montepulciano Road (a private road), and US 101 beyond form the western boundary of the site (Exhibit 2). Access to the project site is proposed from Chiquita Road.

1.3 - Environmental Setting

The Oaks at Foss Creek project site is roughly rectangular shape and generally level, with a slight increase in elevation of approximately 15 feet across the entire project site, with a gradual and consistent rise in grade from the Chiquita Road frontage to the north end of the site. The General Plan Amendment extends to the three parcels adjacent to the proposed subdivision, with one parcel to the north and two parcels to the east, as identified in the Project Location discussion above. Each of these parcels contains an existing single-family house. The 7.41-acre Oaks at Foss Creek subdivision project area contains industrial, residential, and vacant land uses as described further herein.

The entire subdivision project site area was formerly part of the vineyard property owned by the Simi Winery, which still operates a winery and vineyards north of the property. Numerous outbuildings and five residential structures are currently located on the 7.41-acre subdivision project site area. Exhibit 3 shows views of the site from the public right-of-way on Chiquita Road. An RV and vehicle storage facility is located on the northern portion of the subdivision project site. The southern portion of the site contains four residential homes, addressed 111, 145, 153, and 157 Chiquita Road. The site at 157 Chiquita Road is permitted to operate as an RV and trailer storage business. Additionally, a large shipping container and largely inert pile of broken and seemingly discarded material is located on the project site. The house at 165 Chiquita Road at the northern end of the site, formerly an engineering-construction company with heavy equipment, now contains the office for the RV and vehicle storage facility.

Surface runoff drains into Foss Creek, flowing north to south on the eastern side of the property, and into an unnamed tributary that crosses west to east. A small bridge structure has been placed across one branch of the creek connecting the project site. Two wells are located on the site one in the northern portion, which still services a portion of the project site.

The project site contains three general habitat types: ruderal/developed, mixed oak woodland, and riparian. The sites existing trees include a mixture of native and non-native. Natives include black walnut, Oregon ash, and various oaks.

East of the project site is a walking path along Foss Creek and the northwestern Pacific Railroad track just east of Foss Creek. North of the project is Simi Valley Winery that historically cultivated a vineyard on and around the project site. West of the site is Montepulciano Road, and just beyond is

undeveloped land leading up to US 101. At the time of writing, the property directly across Chiquita Road, south of the site, is under construction with a 22-unit residential development.

1.4 - Existing General Plan and Zoning

The project site is currently designated I-Industrial in the City of Healdsburg General Plan and Industrial (I) by the City's zoning ordinance. The proposed General Plan Amendment will designate the entire project area from the I-Industrial to the MR-Medium Density Residential Land Use Designation and the Rezoning designation will change from Industrial (I) to Residential Master Plan (RMP) Zoning District (Exhibit 4). The RMP zoning designation will include adoption of zoning standards and prescribe a density range consistent with the proposed MR General Plan designation. The MR land use designation permits 3 to 6 units per acre.

1.5 - Project Description

The project consists of a Residential Master Plan (RMP) planned development, including a General Plan Amendment and RMP District Re-zoning for the subject properties; to change the current land use and zoning from industrial to medium density residential use. The 7.41 acres of land comprising the Oaks at Foss Creek subdivision project area will also require Tentative Map, Design Review and Lot Line Adjustment land use entitlements. The lot line adjustment is a minor transfer of approximately 0.13 acre of land area from adjacent Simi winery parcels, which is required to accommodate a new public road located entirely within the subdivision development boundary. The project components are further described below.

Residential Master Plan General Plan, Rezoning and Subdivision Development: the Oaks at Foss Creek. This development consists of 44 single-family homes with 102 parking spaces on 7.41 total acres (a density of 5.9 units per acre). The project will provide seven housing units, 15 percent of the total units, at below market rate as required by the City of Healdsburg Inclusionary Housing Ordinance. An additional six units are proposed to be offered as affordable. The project proposes to restrict these units for sale at a level of affordability to middle-income earners. The project proposes to demolish the five existing houses and associated structures located on the project site area proposed for subdivision and develop the property with the 44 new single-family homes and related improvements (Exhibit 4).

The homes would be grouped along the westerly 4.7 acres of the property, to the east of the tributary of Foss Creek. The remaining 2.71 acres of the property area would be preserved within a proposed "natural creek area." This area would be within proposed Parcel A, which would comprise a total of 3.48 acres that includes Foss Creek along the east boundary, the unnamed creek running from the west boundary, and then east where it empties into the tributary of Foss Creek, and four stormwater treatment and infiltration basins that are proposed to be created as part of the development project.

Eleven homes would be on the south side of the unnamed creek tributary, and 33 homes would be on the north side of unnamed creek tributary (Exhibit 4). Much of the area proposed for development has been previously disturbed and used for residential and commercial storage purposes. The proposed homes have been planned using Universal Design measures in order to

provide housing for those of all ages and abilities. A key design aspect of the homes is a "zero step" entry that benefits visitors as well as residents.

All fences and structures would be located outside of the riparian setbacks that are required for the tributary of Foss Creek (35 feet) and the unnamed creek tributary (25 feet). The storm detention basins and public pathways would occur within the riparian setbacks.

The "zero step" design is intended to allow individuals to remain in their homes as they age helping to retain a sense of community within the City of Healdsburg. The homes' architectural design is described as being inspired by the existing Craftsman homes in the City of Healdsburg (Exhibit 5). Landscape design provides a variety of mostly native and drought-tolerant plant material suitable for Healdsburg's climate (Exhibit 6). Raised vegetable gardens with drip irrigation may be located in the retention basin area, if permitted by the City based upon the final stormwater mitigation calculations.

The proposed homes will include two-story and three-story units in five house plans on individual lots, with varied "craftsman" style elevations. All homes will include three bedrooms and at least one covered parking space. Plan 5 will consist of zero lot (duet) homes. Exclusive rights of use easements will be provided across common residential property lines in order to create private yard areas between each residence. Home sizes range from approximately 1,822 square feet to 1,218 square feet. Lot sizes range from approximately 1,797 square feet to 3,648 square feet with maximum resulting lot coverage of 60-percent. The heights of residences are proposed at 25-feet for two-story units and 35-feet for three-story units. The development requires 2 parking spaces per dwelling unit, for 88 spaces, and will provide these spaces with 73 private garage parking spaces and 15 private uncovered parking spaces. An additional 14 uncovered guest parking spaces are also proposed for 102 parking spaces in the development.

Public street access to the subdivision will be from Chiquita Road. A new public roadway will extend north through the site. This new public road serving the development will be a closed loop system, and would not provide nor require future street connections to parcels to the north.

The Oaks at Foss Creek is named for the cluster of oak trees around the two creek channels (of Foss Creek and the unnamed tributary) that bisect the project site. As noted above, the homes are concentrated on 4.7 acres of the 7.41-acre site area. The contiguous "natural creek area" comprising the remaining 2.71 acres of the site will remain undisturbed, containing native oak woodland and the riparian corridors. One heritage tree, a 30-inch valley oak, is proposed to be removed on-site in order to provide the roadway behind lots 1-6 and lots 7-11, as shown in Exhibit 4. Additional tree removal would be required throughout the project site to accommodate the proposed development, including trees along the property Chiquita Road frontage that must be removed to accommodate road widening and sidewalk improvements. The tree removal plan is identified on Sheet 2 of the Oaks at Foss Creek Existing Conditions & Development Plan. A listing and evaluation of the trees are provided in the arborist report provided as Appendix B.2. The arborist report identified and evaluated 248 on the project site, predominantly consisting of Coast live oaks, with approximately 108 trees designated for removal. All trees to be removed are located in the footprint of development. Trees in the riparian corridor area of Foss Creek and the unnamed tributary would be preserved and protected during development.

Source: Census 2000 Data, The CaSIL, FCS GIS 2013.

FirstCarbon SOLUTIONS

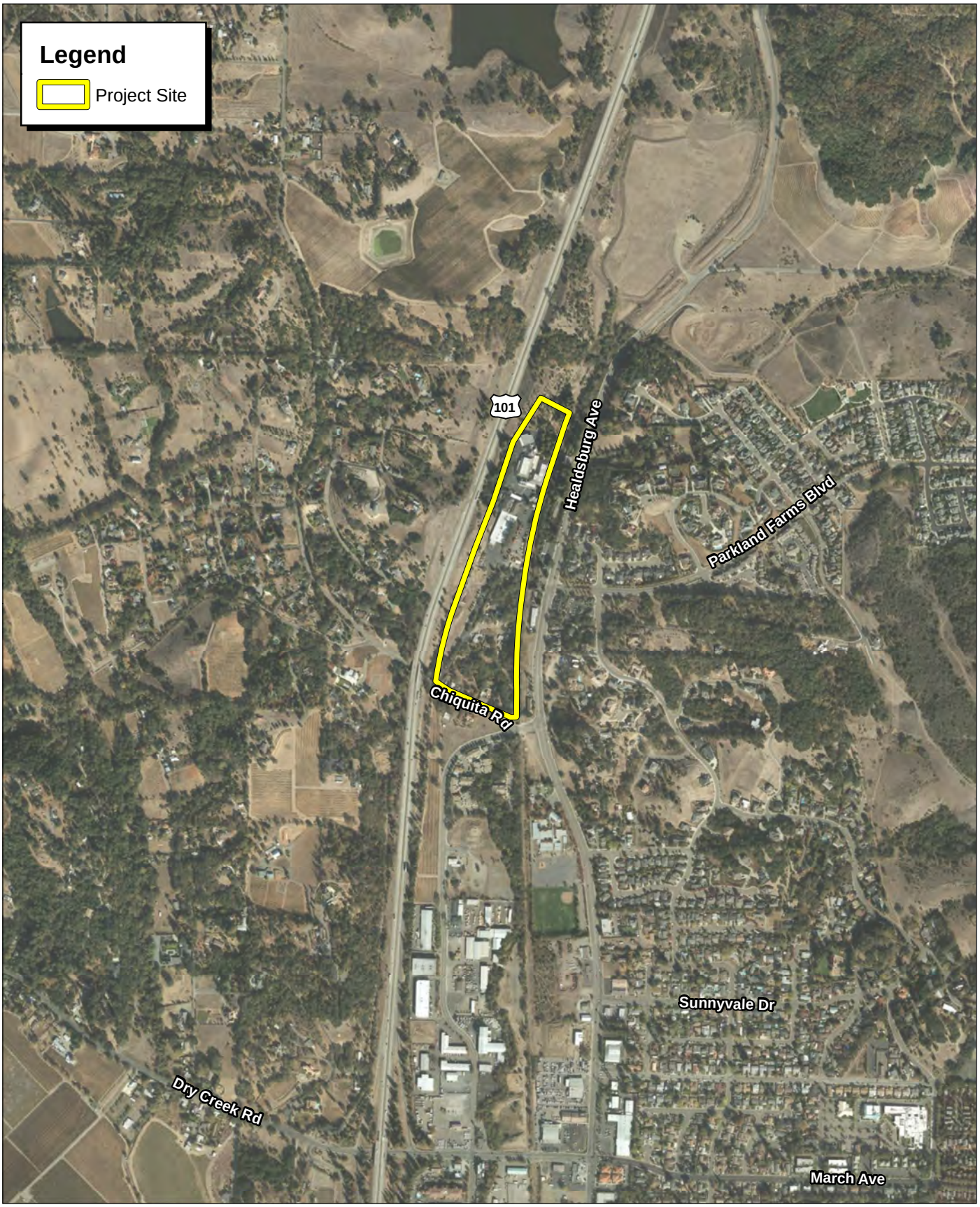
5 2.5 0 5 Miles

Exhibit 1
Regional Location Map

32570015 • 06/2016 | 1_regional.mxd

CITY OF HEALDSBURG • THE OAKS AT FOSS CREEK RESIDENTIAL DEVELOPMENT
INITIAL STUDY / MITIGATED NEGATIVE DECLARATION

THIS PAGE INTENTIONALLY LEFT BLANK



Source: ESRI Imagery, 2015

FirstCarbon SOLUTIONS

1,000 500 0 1,000 Feet

Exhibit 2
Local Vicinity Map
Aerial Base

THIS PAGE INTENTIONALLY LEFT BLANK

Photograph 1: Looking northeast from Chiquita Road and Montepulciano.

Photograph 2: Looking north from Chiquita Road.

Photograph 3: Chiquita Road.

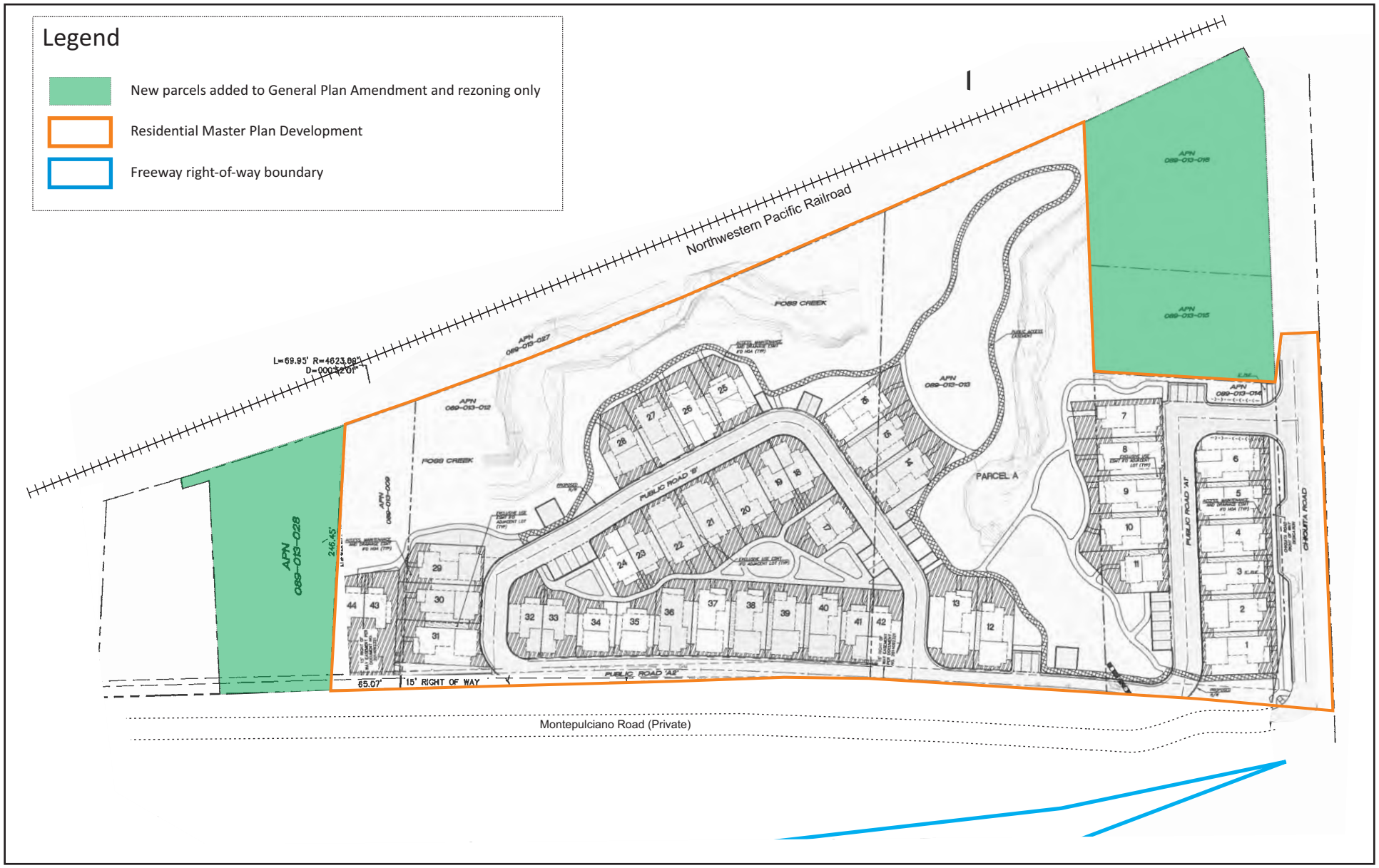
Photograph 4: North from railroad and Chiquita Road.

Source: FirstCarbon Solutions, 2016.

FIRSTCARBON SOLUTIONS™

Exhibit 3
Site Photographs

THIS PAGE INTENTIONALLY LEFT BLANK



Source: Munsell Civil Engineering, 2015

FirstCarbon® SOLUTIONS

Exhibit 4
Conceptual Site Plan

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Katherine Austin Architect, 2015

FirstCarbon® SOLUTIONS

Exhibit 5
Illlustrative Renderings, Looking East on Chiquita Road

THIS PAGE INTENTIONALLY LEFT BLANK

Source: Munsell Civil Engineering, 2016

FirstCarbon® SOLUTIONS

Exhibit 6
Landscaping Plan

THIS PAGE INTENTIONALLY LEFT BLANK

In addition, the development proposes pedestrian pathways throughout the project, including along the riparian corridor, to provide pedestrian access through a meandering, park-like open space. The internal pedestrian path network including replacement of the existing bridge across the unnamed creek tributary will connect all the homes (Exhibit 4). Public access to the pathways will be provided as a public easement.

The loop roadway system serving the subdivision is also proposed as a public street. The roadway sections accommodate minimum 12-foot to 14-foot-wide travel lanes, plus curb and gutter. Parking is proposed within 90 degree parking bays provided off the roadway. The Chiquita Road property frontage is proposed to be improved to provide minimum 13-foot travel lands, 8-foot-wide planter strip, 5-foot sidewalk, and 5-foot public utility easement (PUE). A homeowners association is proposed to fund maintenance of sewer and drainage system improvements. Electric and gas utilities would be extended to the site within new PUEs.

Minor changes to lot and/or house sizes and designs may occur during the formal project review process. However, the overall development project is not expected to change in any significant way and would be anticipated to remain consistent with the Project Description in terms of density, scale, use, and impacts.

General Plan Amendment and Rezoning of adjacent three parcels. The project proponent and the property owners of APNs 089-013-028, 089-013-015, and 089-013-016 have requested that these parcels be included in the General Plan Amendment, from Industrial to Medium Density Residential Land Use Designation; in order to promote orderly and consistent development with the proposed subdivision and immediately adjacent residentially developed lands. Each parcel currently is developed with a single-family residence. No new construction is proposed on these parcels at this time. The change in General Plan designation and zoning to residential use could allow a net of six new residential units to be constructed in the future. Any further development would require subsequent review and approval of the City.

1.6 - Required Discretionary Approvals

The proposed project would require the following discretionary approvals from the City of Healdsburg:

- General Plan Amendment: Change in land use designation from I-Industrial to MR-Medium Density Residential (3-6 units per acre).
- Re-Zoning: Change in Zoning from Industrial (I) to Residential Master Plan (RMP) and adoption of a Policy Statement for development of 44 units on 7.41 acres of the project site area.
- Tentative Map: Subdivision into 44 residential lots and three common parcels.
- Design Review: Residential Master Plan Development Plan and residential home designs.
- Lot Line Adjustment: Transfer of 0.13 acres of land from APNs 089-013-020, 089-013-022, and 089-013-023 to the Oaks at Foss Creek subdivision property area.

1.7 - Intended Uses of this Document

This Draft IS/MND has been prepared to disclose the potential environmental impacts resulting from development of the project. This document will also serve as a basis for soliciting comments and input from members of the public and public agencies regarding the proposed project's potential environmental impacts and recommended mitigation measures. The Draft IS/MND will be available for a period of 30 days, during which comments concerning the analysis contained in the Draft IS/MND should be sent to:

Kraig Tambornini, Senior Planner
City of Healdsburg
Building & Planning Department
401 Grove Street
Healdsburg, CA 95448
Phone: 707.431.3348
Email: ktambornini@ci.healdsburg.ca.us

SECTION 2: ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected					
The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" ***unless mitigated*** as indicated by the checklist on the following pages.					
☒	Aesthetics	☐	Agriculture and Forestry Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☒	Geology/Soils
☐	Greenhouse Gas Emissions	☒	Hazards/Hazardous Materials	☒	Hydrology/Water Quality
☐	Land Use/Planning	☐	Mineral Resources	☒	Noise
☐	Population/Housing	☐	Public Services	☐	Recreation
☒	Transportation/Traffic	☐	Utilities/Services Systems	☒	Mandatory Findings of Significance

Environmental Determination

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 and relevant mitigation measures 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 measure 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.

Date: 12/20/2016 Signed: _____

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
1. Aesthetics *Would the project:*				
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 building 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 which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

Environmental Evaluation

This section provides a description of existing visual conditions near the project site and an assessment of changes to those conditions that would occur from implementation of the project. The effects on the visual environment are generally defined in the following ways: project's physical characteristics and potential visibility, the extent to which the project's presence would change the perceived visual character and quality of the environment, and the expected level of sensitivity that the viewing public may have in areas where project facilities would alter existing views.

The aesthetic quality of a community is composed of visual resources, which are physical features that make up the visible landscape, including land, water, vegetation, and the built environment (e.g., buildings, roadways, and structures). The descriptions of visual resources in this section include photographs of the proposed project site that were taken during site reconnaissance performed by FirstCarbon Solutions (FCS) in May 2016, shown in Exhibit 3, above.

Visual Distance Zones

The following distance zones (foreground, middle ground, and background) can be used to characterize the dominant visual character from each vantage point and describe views in terms that can be analyzed and compared. The sensitivity of views, which could be modified by the proposed project, is defined to establish thresholds for the analysis of potential visual impacts resulting from the implementation of the project.

Foreground Views: These views include elements that can be seen at a close distance and dominate the entire view. Sensitive viewer groups, such as surrounding residents, workers, pedestrians, or regular motorists are most effected by impacted views at this distance.

Middle Ground Views: These views include elements that can be seen at a middle distance and that partially dominate the view. A sensitive viewer group would consider these impacted views potentially adverse.

Background Views: These views include elements that are seen at a long distance and typically do not dominate the view, although they are part of the overall visual composition of the view. Impacted views at this distance are generally considered not to be an adverse effect when viewed by a sensitive viewer group.

Regional Setting

The project is located in Sonoma County, in the City of Healdsburg. The City of Healdsburg is located in a small, flat valley that runs roughly north to south following the Russian River. Foreground views of the project site include scenic US 101 and scenic Healdsburg Avenue. Middle ground views include flat land that is covered with swaths of oak trees, grassland, and other vegetation. The Northwestern Pacific Railroad borders the eastern boundary of the project site and extends throughout the City of Healdsburg. Background views have scenic value that can be experienced from a number of public vantage points through the City. Background views include surrounding foothills and open space community separators, including agricultural lands, creeks, and woodlands.

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

No impact. Primary scenic vistas within the City of Healdsburg are of wooded ridges, hillsides, and the Russian River (City of Healdsburg General Plan 2030, IV.B-1.) The City has designated several ridgelines in the General Plan as scenic resources. Specifically, Fitch Mountain, to the east of the project site, is a known scenic resource. The Russian River is mostly visible from bridges and parks that front the river, and views are relatively limited within the City. Since the proposed dwellings are of a scale, size, and building height similar to surrounding neighborhoods, existing views would remain visible and views of ridgelines would not be obstructed by the project. Therefore, there would be no impact on primary scenic vistas identified within the City as a result of the proposed development project.

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

Less than significant impact with incorporated mitigation. The project site is not located near a designated State Scenic Highway. According to California Department of Transportation's California Scenic Highway Mapping System, officially designated Scenic Highways in Sonoma County are State Route 116 (SR-116), located approximately 12 miles south of the project site, and State Route 12 (SR-12), located approximately 16 miles south of the project site. The project site is approximately 400 feet from US 101, which is designated a scenic road by the City of Healdsburg General Plan. The project site is visible from US 101, however the slope from US 101 running east towards Montepulciano Road creates a buffer between US 101 and the development.

The project would be consistent with the Residential Master Plan after a design review of the materials, colors, landscaping, and the sloping hill. There are no rock outcroppings or historic

buildings within view of a scenic highway within the vicinity of the project site. The project will cluster housing development in previously disturbed areas and preserve a significant 2.71-acre portion of the site containing oak woodland and riparian corridor along the tributaries of Foss Creek and unnamed creek. Therefore, the development would have a less than significant impact on scenic resources such as rock outcroppings, trees, or historic buildings within view of a scenic highway.

Additionally, pursuant to the Healdsburg Land Use Code LUC Section 20.28.105(B), the proposed project is required to undergo design review for compliance with the City's Design Review Manual. This review would ensure the mass, scale, and design of the proposed project would be compatible with the community design preferences expressed in the manual. The manual is intended to assist applicants and decision makers with evaluating project design, ensuring that it conforms to and complements the natural and built characteristics of the community.

The project has applied for and would receive Design Review as part of the entitlement review process. A preliminary review of the project design concept has not revealed any serious design flaws that could lead to any physical environmental issues. Further, it is anticipated that the project will be found to comply with the City's general design preferences identified in the manual, with or without further modification to the design details of the project. Significant changes in the site plan or scale and mass of the development is not proposed. Furthermore, any changes that may be required should further enhance the appearance of the project. The project currently proposes using high-quality materials to maintain and protect significant trees in riparian areas and to provide site improvements that comply with recommendations of the City intended to preserve and promote the health, safety, and welfare of the community in a manner that is also consistent with the City General Plan and Municipal Codes. Future residential units in the adjacent three parcels would also be subject to design review. A significant impact could result if design improvements were allowed that would significantly alter the currently proposed tree preservation and/or riparian setback provisions, without subsequent design review.

Mitigation Measure (MM) AES-1 requires that Design Review be required to ensure that the implementation of the project and any proposed design changes would not substantially degrade scenic resources near the project site, by requiring the preservation of trees and protecting the riparian corridors as proposed by the project plans. Impacts would be less than significant with the incorporation of mitigation.

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

Less than significant impact with incorporated mitigation. The surrounding area has a semi-rural character with Simi Winery due north of the property and the Northwestern Pacific railroad to the east. Chiquita Road borders the south side of the project site with a residential community under construction just beyond the road.

The proposed project would be consistent with the General Plan Housing goals and policies and would not substantially degrade existing scenic qualities of the site. The City would review final project architecture to ensure consistency with the City's Residential Master Plan design guidelines

prior to building permit issuance. Compliance with the design standards would minimize the appearance of uniformity and encourage variety in architectural details and styling. Pursuant to the Healdsburg Land Use Code LUC Section 20.28.105(B), the proposed project is required to undergo design review for compliance with the City's Design Review Guidelines, which would ensure that the mass and scale of the proposed single-family units would be similar to the building mass and height of the surrounding residence.

Mitigation Measure AES-1 requires that Design Review be conducted to ensure the project would not substantially degrade the visual character of the project site or its surroundings, by ensuring grading, improvements, and tree protection occurs as proposed in the project plans. Potential construction of the single-family residence would not substantially degrade the existing visual character or quality of the site or its surroundings. Impacts would be less than significant with the incorporation of mitigation.

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

Less than significant impact with incorporated mitigation. The proposed Residential Master Planned Development project would develop 44 new single-family dwelling units on the project site. The proposed General Plan Amendment on the adjacent three parcels could result in up to nine new single-family dwellings units in the future. New sources of light and glare may potentially be intrusive since the existing structures do not generate substantial daytime or nighttime lighting. The new sources of light would include interior and exterior lighting for decorative and security purposes. Pursuant to the Healdsburg Land Use Code LUC Section 20.28.105(B), the proposed Project is required to undergo design review for compliance with the City's Design Review Guidelines, which would ensure the single-family units would not generate substantial daytime or nighttime light and glare.

Mitigation Measure AES-2 requires review that would ensure the project would not substantially adversely affect day or nighttime views of the project site or its surroundings. Impacts would be less than significant with the incorporation of mitigation.

Mitigation Measures

MM AES-1 The final design details of each proposed structure and final landscaping, fencing and improvement plans shall be reviewed and approved by the Planning and Building Department to ensure compliance with the project design details and tree protection and preservation measures as indicated on the Project Plans. Any revisions to the subdivision or building architectural design details that would significantly modify the design theme, scale, size, unit type, and/or location of structures or pathway and roadway improvement layout shall be subject to review and approval of the Planning Commission to ensure compatibility is maintained with the character of the site.

MM AES-2 Prior to issuance of grading permits for the project, the Applicant shall provide a streetscape lighting plan for the City of Healdsburg to review and approve. The plan shall include provisions to ensure that outdoor lighting is designed so that potential glare or light spillover to surrounding roadways and land uses is minimized through appropriate site design and shielding of light fixtures. The City will review the streetscape lighting plan to ensure that all lighting is directed downward and away from residences. This mitigation measure does not preclude the use of small-scale decorative lighting that may be directed upward, such as low-level illumination used as spot lighting for landscaping or bollard type pathway lighting. This type of lighting is allowed if it does not create a significant source of glare from visible light sources and spill over onto adjacent properties.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
2. Agriculture and Forestry 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.* *Would the project:*				
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) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Environmental Evaluation

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. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project;

and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

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?

No impact. The project site does not support commercial-scale cultivated agricultural activities. The California Department of Conservation Farmland Mapping and Monitoring Program mapping for Sonoma County designates the project site as "Urban and Built Up," which is described as land occupied by structures with a building density of at least 1 unit to 5 acres, or 6 units to 10 acres. Therefore, development of the proposed project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. No impacts would occur.

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

No impact. The project site is zoned "Industrial" and proposed to be rezoned as "Residential Master Plan (RMP)," both of which are non-agricultural zoning districts. The land is within the City urban boundary, adjacent to industrial, commercial, and residential development. The site is not encumbered by a Williamson Act contract, and it is not considered suitable or appropriate for primary agricultural use. Therefore, the proposed project would not conflict with existing agricultural zoning or with a Williamson Act contract. No impacts would occur.

c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

No impact. The site is zoned "Industrial" and is proposed for "Residential Master Plan (RMP)," by the Healdsburg Zoning Map, which are non-forest land zoning districts. This condition precludes the possibility of a conflict with a forest zoning designation. No impacts would occur.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. The project site does not contain nor is it adjacent to any forested land. As stated in the Public Resource Code, "Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. There would be no loss of forest land or conversion of forest land to non-forest use as a result of the project. No impacts would occur.

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

No impact. The project site is adjacent to existing residential, industrial and commercial use development. The project's Residential Master Plan (RMP) development would be consistent with the proposed General Plan and Zoning designations, as well as the surrounding land uses. As previously indicated, the project site does not contain, nor is it adjacent to, any forested land. As such, even though the project contains Farmland of Local Importance, the project would not result in conversion of Prime Farmland, Unique Farmland, Farmland of Statewide Importance or forest land on or off-site. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
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:*				
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, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

The analysis in this section is based, in part, on the CalEEMod analysis completed by Illingworth and Rodkin, 2016. The modeling data is provided in its entirety in Appendix A. Where available, the significance criteria established or recommended by the North Sonoma County Air Pollution Control District was used to make the following determinations. The Northern Sonoma County Air Pollution Control District has not adopted standards of significance for operational activities and instead suggests the use of the BAAQMD thresholds and mitigation measures.

Would the project:

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

No impact. The project is located in the North Coast Air Basin, where air quality is regulated by the North Sonoma County Air Pollution Control District. The Air Basin is in attainment for all federal ambient air quality standards. Therefore, the North Sonoma County Air Pollution Control District is not required to prepare or implement an air quality plan. There is no applicable air quality plan. As such, no impacts would occur.

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

Less than significant impact with mitigation incorporated. This impact relates to localized criteria pollutant impacts. Potential localized impacts would be exceedances of state or federal standards for particulate matter (PM_{10}), or carbon monoxide (CO). PM_{10} is of concern during construction because of the potential to emit fugitive dust during earth-disturbing activities (construction fugitive dust). CO emissions are of concern during project operation because operational CO hotspots are related to increases in on-road vehicle congestion. Construction and operational emissions are discussed separately below.

Construction Emissions

During construction (grading), fugitive dust (PM_{10}) would be generated from site grading and other earthmoving activities. The majority of this fugitive dust will remain localized and will be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from this source. Mitigation Measure AIR-1 requires the application of BAAQMD Best Management Practices (BMPs) for fugitive dust control. The project would have a less than significant impact with the application of BMPs, which will be incorporated into the project as Mitigation Measure AIR-1.

The BAAQMD considers any project's construction emissions to be less than significant if the following measures are implemented:

- Water all active construction areas at least twice daily.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

The proposed project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust. These construction emissions include dust (PM_{10} and $PM_{2.5}$) as well as other criteria air pollutants from the operation of heavy construction equipment. Construction activities would take place over approximately 13 months. The greatest potential impacts would occur during site preparation and grading activities when soil disturbance and hauling are at their maximum. In addition, exhaust emissions from project construction equipment, although below quantitative daily thresholds, can be reduced with the implementation of BMPs recommended by the BAAQMD. As such, the dust control measures described above and BMPs that reduce exhaust emissions from the construction equipment shall be incorporated as Mitigation Measure AQ-1 to further reduce

potential impacts. Implementation of Mitigation Measure AIR-1 will ensure that no significant impacts from fugitive dust will occur during construction activities. Therefore, the project would have a less than significant impact.

Operational Emissions

Carbon monoxide. The CO emissions from traffic generated by the project are a concern at the local level. Congested intersections can result in high, localized concentrations of CO.

The BAAQMD recommends a screening analysis to determine if a project has the potential to contribute to a CO hotspot. The screening criteria identify when site-specific CO dispersion modeling is necessary. The project would result in a less than significant impact to air quality for local CO if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; or
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; or
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As indicated in Section 16, Transportation, a congestion management plan is not applicable to the project. No intersections impacted by the project experience intersection traffic volumes of 44,000 vehicles per hour. According to the Traffic Impact Study for the Oaks at Foss Creek, the intersection of Dry Creek Road and Grove Street will experience the highest cumulative peak-hour traffic volumes among the intersections impacted by the project, with 2,696 vehicles per hour (W-Trans 2016). Therefore, the proposed project would not exceed the CO screening criteria. Furthermore, the adjacent roadways are not located in an area where vertical or horizontal mixing is substantially limited. Therefore, based on the above criteria, the project would have a less than significant impact related to CO.

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, which exceed quantitative thresholds for ozone precursors)?

Less than significant impact. The North Coast Air Basin (Air Basin) is in attainment for federal standards for criteria pollutants. The Air Basin is in nonattainment for the state standard for 24-hour PM_{10}. However, the Sonoma County portion of the Air Basin has been designated as being in attainment of the state PM_{10} standards since 2006. As discussed previously, the Northern Sonoma County Air Pollution Control District does not have established thresholds of significance but defers to the BAAQMD's thresholds of significance. The thresholds of significance are shown below in Table 1. In developing thresholds of significance for air pollutants, the BAAQMD considered the emission

levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Project construction and operational impacts are assessed separately below.

Table 1: Thresholds of Significance

Pollutant	Construction-Related (lbs/day)	Operational-Related (lbs/day)	Operational-Related (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (exhaust)	85	15
$PM_{2.5}$	82 (exhaust)	54	10
Source: BAAQMD 2010.			

Construction Emissions

Emissions from construction-related activities are generally short-term in duration but may still cause adverse air quality impacts. The project would generate emissions from construction equipment exhaust, worker travel, and fugitive dust. These construction emissions include criteria air pollutants from the operation of heavy construction equipment.

Construction of the project is assumed to begin in January of 2017 and conclude in February of 2018. Construction of the proposed project would span over six phases and would begin in January of 2017. The construction schedule utilized in the analysis represents a "worst-case" analysis scenario since emission factors for construction equipment decrease as the analysis year increases, due to improvements in technology and more stringent regulatory requirements. Therefore, construction emissions would decrease if the construction schedule shifts to later years. The duration of construction activity and associated equipment represent a reasonable approximation of the expected construction fleet as required by CEQA guidelines. As shown in Table 2, the construction emissions in each year are well below the recommended thresholds of significance. The project would implement Mitigation Measure AIR-1 as recommended by the BAAQMD.

Table 2: Annual Construction Emissions (Unmitigated)

Year	Project Component	Tons/year			
		ROG	NO_x	PM_{10}[1] (Exhaust)	$PM_{2.5}$[1] (Exhaust)
2017	Demolition	0.04	0.43	0.21	0.02
	Site Preparation	0.01	0.13	0.05	0.03
	Grading	0.01	0.14	0.03	0.02
	Building Construction	0.35	2.99	0.20	0.19

Table 2 (cont.): Annual Construction Emissions (Unmitigated)

Year	Project Component	Tons/year			
		ROG	NO_x	PM_{10}[1] (Exhaust)	$PM_{2.5}$[1] (Exhaust)
2018	Building Construction	>0.00	0.03	>0.00	>0.00
	Paving	0.03	0.13	>0.00	>0.00
	Architectural Coating	1.11	0.02	>0.00	>0.00
Total Emissions (tons/year)		1.55	3.87	0.49	0.26
Total Emissions (lbs/year)		3,417	8,532	1,080	573
Average Daily Emissions (lbs/day)[2]		11.43	28.54	3.61	1.92
Significance Threshold		**54**	**54**	**82**	**54**
Exceeds Significance Threshold?		**No**	**No**	**No**	**No**

Notes:
[1] Exhaust only
[2] Calculated by dividing the total lbs by the total 299 working days of construction for 2017–2018
ROG = reactive organic gases
NO_x = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
Source: Illingworth & Rodkin 2016, Appendix A.

Operational Emissions

As previously discussed, the pollutants of concern include reactive organic gases (ROG), NO_x, PM_{10}, and $PM_{2.5}$. The project operational emissions for the respective pollutants were calculated using the California Emissions Estimator model (CalEEMod.2013.2.2). In order to provide the most conservative estimate, 2018 was used as the operational year for all phases. For reasons previously discussed, the BAAQMD Criteria Air Pollutant Significance thresholds were used. The results for the unmitigated daily operational emissions are presented in Table 3. The unmitigated daily operational emissions would be less than significant.

Table 3: Daily Operational Emissions (Unmitigated)

Emission Source	ROG	NO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Area	3.04	0.04	0.45	0.45
Energy	>0.00	0.05	>0.00	>0.00
Mobile	0.47	1.09	0.43	0.12
Waste	>0.00	>0.00	>0.00	>0.00
Water	>0.00	>0.00	>0.00	>0.00
Total (tons/yr)	3.51	1.18	0.88	0.56

Table 3 (cont.): Daily Operational Emissions (Unmitigated)

Emission Source	ROG	NO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Total (lbs/day)	21.2	7.13	5.32	3.38
Significance Threshold	**54**	**54**	**82**	**54**
Significant?	**No**	**No**	**No**	**No**

Notes:
ROG = reactive organic gases
NO_x = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
Source: Illingworth & Rodkin 2016, Appendix A.

CalEEMod was adjusted to reflect compliance with Northern Sonoma County Air Pollution Control District Rule 400, which requires that new wood-fired appliances meet United States Environmental Protection Agency or North Sonoma County Air Pollution Control District standards. The CalEEMod run was based on catalytic wood stoves, which have the highest ROG emission rate among certified woodburning devices, as a worst-case scenario. The analysis assumed that 100 percent of the homes would have woodburning fireplaces equipped with catalytic control devices compliant with Rule 400. As shown in Table 4, the annual operational emissions are below the thresholds of significance. The impact is less than significant.

Table 4: Annual Operational Emissions (Unmitigated)

Emission Source	Tons/year			
	ROG	NO_x	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Area	3.04	0.04	0.45	0.45
Energy	>0.00	0.05	>0.00	>0.00
Mobile	0.47	1.09	0.43	0.12
Total	3.51	1.14	0.88	0.57
Significance Threshold	**10**	**10**	**15**	**10**
Significant?	**No**	**No**	**No**	**No**

Notes:
ROG = reactive organic gases
NO_x = oxides of nitrogen
PM_{10} = particulate matter 10 microns in diameter
$PM_{2.5}$ = particulate matter 2.5 microns in diameter
Source: Illingworth & Rodkin 2016, Appendix A.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less than significant impact. A sensitive receptor is defined as the following: "Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals, and residential areas." There are residential and commercial buildings adjacent to the project, of which the closest residence is located approximately 100 feet from the northeastern boundary of the project site.

Construction Period Emissions

Construction-period toxic air contaminant emissions could contribute to increased health risks to nearby residents. While BAAQMD does not provide a screening level to determine whether small projects can be assumed to be below significance thresholds, recent technical memoranda prepared for similar projects in the BAAQMD state that industry experience indicates significant impacts are not usually seen unless residential projects include approximately 200 or more dwelling units (Lamphier-Gregory 2016).

Furthermore, though mitigation is not required for this impact category, the proposed project would implement the BAAQMD Basic Construction Emission Control Measures through the implementation of Mitigation Measure AQ-1. This includes requirements for reduced idling time and proper equipment maintenance for diesel equipment, which would serve to reduce emissions from this equipment and therefore would also reduce the potential impacts from equipment operations on nearby receptors. Residents located adjacent to the project site and within the vicinity would be exposed to construction contaminants only for the duration of construction, and these concentrations would fall well under thresholds established which have been established for much larger development projects.

e) Create objectionable odors affecting a substantial number of people?

Less than significant impact. As stated in the BAAQMD 2010 Air Quality Guidelines, odors are generally regarded as an annoyance rather than a health hazard and the ability to detect odors varies considerably among the populations and overall is subjective.

The BAAQMD does not have a recommended odor threshold for construction activities. However, BAAQMD recommends screening criteria that are based on distance between types of sources known to generate odor to the receptor. For projects within the screening distances, the BAAQMD has the following threshold for project operations:

> *An odor source with five (5) or more confirmed complaints per year averaged over three years is considered to have a significant impact on receptors within the screening distance shown in Table 3-3 [of the BAAQMD's guidance].*

The BAAQMD's 2010 Air Quality Guidelines provide a table with odor screening distances recommended by BAAQMD for a variety of land uses. Projects that would site an odor source or a

receptor farther than the applicable screening distance, shown in Table 5, would not likely result in a significant odor impact.

Table 5: Odor Screening Distances

Land Use/Type of Operation	Project Screening Distance
Wastewater Treatment Plant	2 miles
Wastewater Pumping Facilities	1 mile
Sanitary Landfill	2 miles
Transfer Station	1 mile
Composting Facility	1 mile
Petroleum Refinery	2 miles
Asphalt Batch Plant	2 miles
Chemical Manufacturing	2 miles
Fiberglass Manufacturing	2 miles
Painting/Coating Operations	1 mile
Rendering Plant	2 miles
Coffee Roaster	1 mile
Food Processing Facility	1 mile
Confined Animal Facility/Feed Lot/Dairy	1 mile
Green Waste and Recycling Operations	1 mile
Metal Smelting Plants	2 miles
Source: BAAQMD, 2010.	

Project Construction

Diesel exhaust and volatile organic compounds would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore would not create objectionable odors affecting a substantial number of people. As such, construction odor impacts would be less than significant.

Project Operation

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project does not contain land uses typically associated with emitting objectionable odors.

Off-site land uses may impact residents on the project site. The City of Healdsburg 2030 General Plan EIR (2009) discusses potential odor impacts within the City. It indicates that there are two potential odor sources known to exist within the City: the Healdsburg Landfill and the Healdsburg Transfer Station.

The Healdsburg Landfill is located less than 1 mile northeast from the project site; however, the landfill has not been operational since 1995. The Healdsburg Transfer station is directly adjacent to the Healdsburg Landfill, also less than 1 mile northeast of the project site. The transfer station is located within the 1-mile screening distance. According to the City's General Plan EIR, despite the high odor potential from both facilities, no objectionable odors were detected during a series of site visits by consultants in 2008. Multiple residences are located within 1,000 feet of both the landfill and the transfer station. The project is located over 10,000 feet from these facilities, which is further than the aforementioned residences. As such, it can reasonably be concluded that the landfill and transfer station would not have a substantial odor impact on the project. Therefore, the project would not place sensitive receptors near a location of substantial objectionable odor, and operational odor impacts would be less than significant.

Mitigation Measures

MM AQ-1 During construction activities, the following air pollution control measures shall be implemented:

- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks shall be paved as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The Northern Sonoma County Air Pollution Control District's phone number shall also be visible to ensure compliance with applicable regulations.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
4. Biological Resources *Would the project:*				
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, and 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 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?	☐	☐	☐	☒

Environmental Evaluation

This section evaluates potential effects on biological resources that may result from project implementation. Descriptions and analysis in this section are based on results from the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDB) and the United States Fish and Wildlife Service (USFWS) database searches (as cited in Appendix A), the Biological Resources Assessment (BRA) completed by Analytical Environmental Services (AES) on August 8, 2015, and FCS Biologist Peer Review on the technical studies prepared for the proposed project on June 21, 2016 (Appendix A).

Would the project:

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?

Less than significant impact with mitigation incorporated. Special-status plant and wildlife species typically occur in undeveloped areas. Although less likely, it is also possible for them to occur within developed areas. The project site, in part, has characteristics of land that has been developed or disturbed, including disturbed soils and the presence invasive and non-native plant species on-site. While seven special-status plant and eight special-status wildlife species were considered to occur on-site, it is not likely that they would use or inhabit the site because of the absence of suitable and preferred habitat. However, potential impacts occurring to special-status species if they were found on-site would be significant.

Special-Status Plant Species Potentially Occurring within the Project Site

A plant's species potential to occur on the project site was based on the presence of suitable habitats, soil types, and occurrences recorded by the USFWS, California Native Plant Society (CNPS), or CNDDB in the project region, previous biological documents and observations made during the April 28, 2016 site survey. On this basis, potential habitat suitability was determined for seven special-status plant species within the project site. However based upon the analysis none of these species are expected to occur on-site. Therefore, construction and implementation of the project would not result in impacts to special-status plants. These species are described in Table 6.

Special-Status Wildlife Species Potentially Occurring within the Project Site

Based upon the types of habitat that each special-status wildlife species occupies, and on observations made during the August 18, 2015 site survey, each wildlife species was evaluated for its potential to occur within the project site. There are three federally listed special-status species and one state-listed species of special concern that were considered as having the potential to occur within the project site utilizing or inhabiting Foss Creek and the unnamed tributary, although it is unlikely for these species to be found on-site. Trees within and adjacent to the project site provide potential habitat for two State-listed special-status bird species, and two State-listed special-status bat species, as well as non-special status migratory raptors and passerine bird species protected by the Migratory Bird Treaty Act (MBTA). The special-status species are described in Table 7.

Table 6: Special-status Plant Species with the Potential to Occur on the Project Site

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Amorpha californica var. *napnsis* Napa false indigo	—	—	1B.2	Dicot, perennial deciduous shrub found in Broadleaved upland forest, chaparral, cismontane woodland, on alkaline soil. Prefers openings in forest or woodland. Bloom period: April–July 120-2,000m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Brodiaea leptandra narrow-anthered brodiaea	—	—	1B.2	Monocot, perennial bulbiferous herb found in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Occurs on Volcanic substrates Bloom period: May–July 30-590m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Hemizonia congesta ssp. *Congesta* congested-headed hayfield tarplant	—	—	1B.2	Dicot, annual herb found in grassy valleys and hills, often in fallow fields; sometimes along roadsides. Bloom period: April–November 20-560m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Lasthenia burkei Burke's goldfields	FE	SE	1B.1	Dicot, annual shrub found in Vernal pools, meadows and seeps. Blooming period: April–June 15-600m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Cordylanthus brunneus ssp. *Capillaris* Pennell's bird's-beak	FE	SR	1B.2	Dicot, annual herb found in closed-cone coniferous forest, chaparral. Affinity to serpentine soil. Bloom period: June-September 90-215 m	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No

Table 6 (cont.): Special-status Plant Species with the Potential to Occur on the Project Site

Scientific Name Common Name	Status			Habitat Description[4]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]	CNPS[3]			
Limnanthes vinculans Sebastopol meadowfoam	FE	SE	1B.1	Dicot, annual herb found in swales, wet meadows and marshy areas in valley oak savanna; on poorly drained soils of clays and sandy loam. Bloom period: April-May 15-115m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Microseris paludosa marsh microseris	—	—	1B.2	Dicot, perennial herb found Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. Bloom period: April-July 5-300m.	**Unlikely to Occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No

Code Designations

[1] Federal Status: 2015 USFWS Listing	[2] State Status: 2015 CDFW Listing	[3] CNPS: 2015 CNPS Listing
FE = Listed as endangered under the Endangered Species Act **FT** = Listed as threatened under the Endangered Species Act **FC** = Candidate for listing (threatened or endangered) under Endangered Species Act **FD** = Delisted in accordance with the Endangered Species Act — = Not federally listed	**SE** = Listed as endangered under the California Endangered Species Act ST = Listed as threatened under the California Endangered Species Act **SR** = Listed as rare, stems from the Native Plant Protection Act **SSC** = Species of Special Concern as identified by CDFW **CFP** = Listed as fully protected under FGC **CR** = Species identified as rare by CDFW — = Not state listed	**1A** = Plants species that presumed extinct in California. **1B** = Plant species that are rare, threatened, or endangered in California and elsewhere. **List 2** = Plant species that are rare, threatened, or endangered in California, but more common elsewhere. Blooming period: Months in parentheses are uncommon.

[4] **Habitat description:** Habitat description adapted from CNDDB (CDFW 2016) and CNPS online inventory (CNPS 2016).

Table 7: Special-status Wildlife Species with the Potential to Occur on the Project Site

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Invertebrates					
Syncaris pacifica California freshwater shrimp	FE	SE	Endemic to Marin, Napa, and Sonoma counties. Found in low elevation, low gradient streams where riparian cover is moderate to heavy. Shallow pools away from main streamflow. Winter: undercut banks w/exposed roots. Summer: leafy branches touching water.	The project site provides marginal habitat for this species.	Yes
Fish					
Oncorhynchus mykiss irideus Steelhead	FT	—	From Russian River, south to Soquel Cr and to, but not including, Pajaro River. Also San Francisco and San Pablo Bay basins.	The project site provides marginal habitat for this species.	Yes
Amphibians					
Rana draytonii California red-legged frog	FE	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	**No Potential to occur:** no suitable habitat is present within the project. No recorded occurrences are within 1 mile of the project.	No
Reptiles					
Emys marmorata Western pond turtle	—	SSC	This species is a thoroughly aquatic turtle found in ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation below 6000 feet elevation. Requires basking sites and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 km from water for egg-laying.	The project site provides marginal habitat for this species. Recorded occurrences are within 2 miles of the project.	Yes

Table 7 (cont.): Special-status Wildlife Species with the Potential to Occur on the Project Site

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			
Birds					
Elanus leucurus White-tailed kite	— MBTA	FP FGC	Found in rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Requires open grasslands, meadows, or marshes for foraging close to the isolated, dense-topped trees for nesting and perching.	The project site provides marginal habitat for this species. Recorded occurrences are within 2 miles of the project.	Yes
Pandion haliaetus Osprey	— MBTA	FP FGC	Inhabits ocean shore, bays, freshwater lakes, and larger streams. Builds large nests in tree tops within 15 miles of a good fish-producing body of water.	The project site provides marginal habitat for this species. Recorded occurrences are within 2 miles of the project.	Yes
Mammals					
Antrozous pallidus Pallid bat	—	SSC	Found in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Species is very sensitive to disturbance of roosting sites.	The project site provides marginal habitat for this species.	Yes
Corynorhinus townsendii Townsend's big-eared bat	—	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites.	The project site provides marginal habitat for this species.	Yes

Table 7 (cont.): Special-status Wildlife Species with the Potential to Occur on the Project Site

Scientific Name Common Name	Status		Habitat Description[3]	Potential to Occur and Rationale	Included in Impact Analysis
	USFWS[1]	CDFW[2]			

Code Designations

[1] Federal Status: 2015 USFWS Listing	[2] State Status: 2015 CDFW Listing
ESU = Evolutionary Significant Unit is a distinctive population.	**SE** = Listed as endangered under the CESA.
FE = Listed as endangered under the FESA.	**ST** = Listed as threatened under the CESA.
FT = Listed as threatened under the FESA.	**SSC** = Species of Special Concern as identified by the CDFW.
FC = Candidate for listing (threatened or endangered) under FESA.	**FP** = Listed as fully protected under FGC.
FD = Delisted in accordance with the FESA.	**CFG** = FGC = protected by FGC 3503.5
FPD = Federally Proposed to be Delisted.	**FGC** = protected by FGC 3503.5
MBTA = protected by the Migratory Bird Treaty Act	**CR** = Rare in California
— = Not federally listed	**—** = Not state listed

[3] **Habitat description**: Habitat description adapted from CNDDB (CDFW 2015a).

The tributary of Foss Creek, an unnamed tributary, and the riparian habitat adjacent to the waterways provide marginal habitat for fish, the western pond turtle, and the California fresh water shrimp. Foss Creek is designated critical habitat for steelhead; however, the water quality is poor and would not provide optimal spawning habitat. An internal pedestrian path network including an existing bridge across one branch of Foss Creek will connect all the homes. Project activities may directly or indirectly effect riparian habitat, which could result in significant impacts. The proposed project would be developed in a manner consistent with both City of Healdsburg regulations requiring a 35-foot setback from Foss Creek and a 25-foot setback from streams with riparian vegetation and/or aquatic life, and with the Healdsburg 2030 General Plan. Future development on the three adjacent parcels would also be subject to the 35-foot setback from Foss Creek. The aforementioned requirements and guidelines and Mitigation Measure-BIO 3 will reduce impacts to these species to less than significant.

Construction activities could disturb nesting and breeding birds in trees and shrubs near the construction site. Potential impacts on special-status and migratory birds that could result from the construction and operation of the project include the destruction of eggs or occupied nests, mortality of young, and the abandonment of nests with eggs or young birds prior to fledging. Impacts on special-status bat species could result from increased noise due to project construction and operation, or through a reduction of habitat. If these species were found to be present, impacts to these species would be significant.

Mitigation Measure BIO-1a would reduce impacts to federally listed species, migratory and nesting raptors protected under the MBTA to less than significant by requiring preconstruction surveys to be conducted, and alteration of construction activities to avoid disturbance of any active nests.

Mitigation Measure BIO-1b would reduce impacts to special-status bat species to less than significant by requiring pre-construction surveys and alteration of construction activities to avoid disturbance of any active roosts.

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

Less than significant impact with mitigation incorporated.

Oak Woodland

Oak Woodland Habitat is considered a special-status natural community. In general, “special-status natural communities” include those communities that are of limited distribution statewide or within a county or region; communities that are of special concern to resource agencies; and communities that, because they are vulnerable to the environmental effects of projects, are assessed or protected under CEQA Section 1600 of the California Fish and Game Code, and/or Section 404 of the Clean Water Act, among others. The most current version of the CDFW’s List of Vegetation Alliances and Associations (or Natural Communities List) (2010) indicates which natural communities are considered “special-status” in the State of California.

Oak woodland has high habitat value for native wildlife, and is targeted for protection because it continues to decline regionally, due to multiple factors including human encroachment and disturbance. The proposed project would result in the loss of oak woodland through the removal of individual oak trees. The Tree Preservation and Mitigation Reports (also called Arborist Reports) included in Appendix B inventoried 248 trees on the project site, most of which are entirely within the proposed area of development. The report has identified that the project would result in removal of 108 trees because of their location near construction. The majority of trees designated for removal consist of native oaks, with various nut, fruit, or ornamental tree species. The remaining 140 trees surveyed would be preserved, and consist mostly of Coast live oak and valley oak species, with a few black oak, and various olive, willow or other mature tree species. All trees within the riparian corridor of the project—which are located along the banks of the tributary of Foss Creek and unnamed creek tributary that traverse the site—would remain.

The majority of the oak trees on the property were determined to be in good health and structure. One heritage tree is proposed to be removed, a 30-inch valley oak, in order to provide the roadway behind lots 1-6 and lots 7-11. Native oak trees in the riparian corridor were not inventoried as these areas are protected and not included in the proposed construction plan. The project proposes to plant at least 30 new oak trees throughout the project site, including two large box trees along the Chiquita Road frontage to mitigate for loss of existing mature street trees. The loss of oak woodland and associated common wildlife is considered significant because this biological community is classified as a sensitive community. Therefore, this impact is potentially significant. Implementation of Mitigation Measure BIO-2 would reduce impacts to oak woodland to less than significant by including tree protection and preservation measures as part of the project.

Riparian Habitat

The project site includes a portion of Foss Creek and an unnamed tributary. The riparian over-story is dominated by native oak species. The riparian understory consisted of both native and non-native vegetation. The development proposes to construct a pedestrian pathway running along one side of the riparian corridor to provide pedestrian access to a meandering park like open space. An internal pedestrian path network including an existing bridge across one branch of Foss Creek will connect all the homes. Project activities may directly or indirectly effect riparian habitat which could result in significant impacts. The proposed project would be developed in a manner consistent with both City of Healdsburg regulations requiring a 35-foot setback from Foss Creek and a 25-foot setback from streams with riparian vegetation and/or aquatic life, and with the Healdsburg 2030 General Plan. The Healdsburg 2030 General Plan identifies several policies to protect riparian trees, such as Policy NR-B-2, which requires the protection of large mature trees that provide important wildlife habitat; and Policy NR-B-3, which requires the siting of new development to maximize protection of native tree species, riparian vegetation, and important wildlife habitat. Following these regulations and mitigation measure Mitigation Measure BIO-3 would reduce impacts to less than significant.

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?

Less than significant impact with mitigation incorporated. Foss Creek and an unnamed tributary transect the project site. There is an existing pedestrian bridge over Foss Creek. Because of the relative proximity of these aquatic habitat areas to the Russian River, and the proposed development plans the probability of these features being federally jurisdictional waters or wetlands through the "significant nexus" criteria (providing they meet the physical and biological criteria) is high.

Project construction activities have the potential to degrade water quality through the exposure of surface runoff as well as runoff from construction equipment. Construction activities typically include the refueling of construction equipment on location. As a result, minor fuel and oil spills may occur with a risk of larger releases. Without rapid containment and cleanup, these materials could be potentially toxic, depending on the location of the spill in proximity to water features. Accidental spills within the project work site and into the on-site drainage ditch could result in adverse impacts to aquatic environments. Applicants for land use entitlements within a wetland area shall be required to submit a formal wetland jurisdictional delineation conducted by a qualified wetlands expert familiar with the requirements of the United States Army Corps of Engineers (USACE). This project shall comply with USACE requirements pursuant to Section 404 of the Clean Water Act. The project would potentially result in a substantial adverse effect on federally and state protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means. This is a potentially significant impact. Mitigation Measure BIO-3 would reduce impacts to Section 404-protected wetlands to less than significant.

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 wildlife nursery sites?

Less than significant impact with mitigation incorporated. The project site contains undeveloped and disturbed areas, and is surrounded by scattered residential developments. However Foss Creek may support the movement of special status species. Compliance with the federal and state regulations related to the protection of migratory fish and wildlife species along with the proposed General Plan policies that protect biological resources (Policy PS-D-2; Policy NR-2; Policy S-C-3) would reduce impacts to less than significant.

As discussed in under (a), the project may have adverse effects on nesting birds and raptors, including special-status birds and species protected under the MBTA. Impacts to these species would be significant. Mitigation Measure BIO-1a and Mitigation Measure BIO-1b would reduce these impacts to less than significant.

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

Less than significant impact with mitigation incorporated. Implementation of the project would conflict with applicable city policies and ordinances protecting biological resources, as identified in

the previous impact discussions regarding special-status species and riparian vegetation; this is a significant impact. Oak woodland habitat areas and woodland habitats, in general, are encouraged to be preserved in the Healdsburg General Plan. The project site proposes to remove 108 total trees, approximately 90 of which are oak trees, and preserve over 140 trees, at least 130 of which are oak trees. The majority of the oak trees proposed for removal were determined to be in good health and structure. One heritage tree is proposed to be removed, a 30-inch valley oak, in order to provide the roadway behind lots 1-6 and lots 7-11. The project is subject to the Heritage Tree Protection Requirements from the City's Municipal Code Chapter 20.24 (City of Healdsburg 2015) for trees that are at least a diameter of 30 inches measured 2 feet above ground level. Mitigation Measure BIO-4 would be required in the event that further tree removal is deemed required during construction, to ensure impacts would remain less than significant.

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?

No impact. The project site is not located in an area covered by an adopted habitat conservation plan. Therefore, the project would result in no impact related to conservation plans.

Mitigation Measures

MM BIO-1a Migratory Birds and Nesting Raptors

1. If construction or tree removal is proposed during the breeding/nesting season for local avian species (typically March 1 through August 31), a focused survey for active nests of raptors and migratory birds within and in the vicinity of (no less than 250 feet outside the project boundaries, where possible) the project site shall be conducted by a qualified biologist. Two surveys will be conducted, at least one (1) week apart, with the second survey occurring no more than two (2) days prior to tree removal. If no active nests are found, tree removal or construction activities may proceed.
2. If an active nest is located during pre-construction surveys, the United States Fish and Wildlife Service and/or the California Department of Fish and Wildlife (as appropriate) shall be notified regarding the status of the nest. Furthermore, construction activities shall be restricted to avoid disturbance of the nest until it is abandoned or the biologist deems disturbance potential to be minimal. Restrictions may include establishment of exclusion zones or alteration of the construction schedule.

MM BIO-1b Special-Status Bats

1. To reduce construction-related impacts to special-status bat species, a bat survey shall be conducted between March 1 and July 31 by a qualified wildlife biologist in the year prior to ground disturbance. If no bat roosts are detected, then no further action is required.

2. If a colony of bats is found roosting on-site, then the following mitigation will be implemented to reduce the potential disturbance:
3. If a female or maternity colony of bats is found on the project site, a wildlife biologist through coordination with CDFW shall determine what physical and timed buffer zones shall be employed to ensure the continued success of the colony. Such buffer zones may include a construction-free barrier of 200 feet from the roost and/or the timing of the construction activities outside of the maternity roost season (after July 31 and before March 1).

MM BIO-2 Oak Woodland Habitat

The following mitigation measures for impacts to oak woodland habitat shall be implemented:

1. Where it is feasible to avoid protected trees, vehicles and mechanical equipment shall be kept outside the dripline of these trees. Where encroachment into the protected tree zones may be necessary, the project Arborist shall provide additional protection measures including but not limited to additional mulch cover and barriers to protect the trunks of trees from damage.
2. Maintain the existing grade within the fenced portion of the dripline and route drainage swales and all underground work outside the dripline. The project arborist shall review and certify that the grading plans achieve this requirement, and may recommend additional arboricultural practices to ensure compliance with the tree preservation and protection program, and the recommendations of the project arborist report.
3. Place 4-inch layer of chipped bark mulch over the soil surface within the fenced dripline prior to installing any fencing. Maintain this layer of mulch throughout construction.
4. Temporary protective fencing shall be installed at the edge of the dripline, or edge of approved construction, prior to beginning grading or construction. The project arborist shall certify the tree protection zone, which shall be designated on construction drawings.
5. Fencing shall be maintained in place for the duration of all construction activity in the area. No encroachment into the fenced tree protection areas without approval from the project arborist. Unauthorized entry or removal of tree protection measures may result in issuance of a stop work order until inspection and corrective action can be taken.
6. Fencing shall be minimum 4 feet in height at all locations, and shall form a continuous barrier without entry points around all individual or groups of trees at the edge of the tree protection zone designated by the project Arborist. Barrier type fencing such as Tensar plastic fencing is recommended. Equivalent fencing may be installed as recommended by the project arborist. Post and cable fencing is not acceptable. Fencing shall be installed using standard quality

"T" farm posts placed at least eight (8) feet on center and attached with ties as specified in the fencing detail of the arborist report.

7. If any trenching within the protected zone of trees cannot be avoided, trenching for utilities shall avoid major roots and, if avoidance is impractical, tunnels shall be made below roots. Trenching is to be consolidated to serve as many units as possible. Trenching within the protected zone shall be done by hand to minimize impacts, and shall be completed under the supervision of the consulting project arborist. Roots greater than 1 inch in diameter shall be cleanly hand cut as they are encountered. The project arborist shall provide additional specific recommendations for treatment of any roots encountered consistent with the recommendations of the arborist report.
8. Pruning to clean, raise, or provide necessary clearance shall be completed in accordance with the International Society of Arboriculture Pruning Standards, attached to the project arborist report (ANSI A300). Pruning shall occur under the supervision of an Arborist certified the by the ISA.
9. In areas where oaks or other protected trees cannot be avoided, replace trees removed with the same native tree species of a suitable size and number to compensate for the loss of the protected tree, at a minimum 3:1 ratio. The final tree selection, size, and replacement ratio shall be approved by the Planning and Building Department.
10. If the Planning and Building Director determines it would be infeasible to plant replacement trees on the same site or within immediately adjacent rights-of-way, an in-lieu equivalent fee may be paid based on a schedule of in-lieu fees established by the City Council. In-lieu fees collected shall be placed in a "Tree Planting and Maintenance Fund" to be used for the purpose of planting and maintaining trees throughout the City.
11. Tree protection requirements shall be indicated in construction documents and agreements. Contractors shall be informed of and acknowledge these requirements before commencing work on the site.
12. A preconstruction inspection shall be requested and obtained from the Planning and Building Department before initiation of any work, including a demolition or site clearing in areas adjacent to protected trees, to verify the tree protection measures have been implemented. Failure to comply with these mitigation measures may result in issuance of a stop work order until corrective action is taken.
13. A qualified project arborist shall review the tree protection measures prior to issuance of building permits and shall monitor work during construction to ensure all appropriate measures are implemented consistent with the recommendations of the project arborist report.
14. The project applicant shall conduct a monitoring and maintenance program for 5 years following planting to verify that all preserved and replacement trees have successfully reestablished and remain in good health and condition.
15. All tree pruning, planting, trimming of trees to be preserved and replaced within the subdivision shall be conducted by a qualified arborist.

16. The tree maintenance preservation requirements shall be included in final recorded subdivision documents including the Codes, Covenants and Restrictions established for the property.

MM BIO-3 Federally-Protected Wetlands

Prior to any specific project development approval or grading, the project proponent shall conduct a delineation of waters of the U.S. to determine the extent of USACE, RWCQB and CDFW potentially jurisdictional features that would be potentially impacted on-site. Any encroachment or fill in these USACE, RWCQB and/or CDFW jurisdictional areas shall not occur unless a Section 404/Section 401 permit or Waste Discharge Requirement and/or Streambed Alteration Agreement, respectively, are acquired and the project proponent replaces the lost value of the jurisdictional area to the satisfaction of the resources agencies issuing the permits to ensure a no-net loss.

MM BIO-4 Ordinance-Protected Trees

If the qualified arborist determines that project construction will require the removal of protected trees, then, in accordance with the Healdsburg Zoning Ordinance Section 18105, the project applicant shall file a Heritage Tree Removal Permit Application for the removal of heritage trees. For heritage trees that will not be removed as part of the project but may still be impacted through encroachment and development of project infrastructure, the tree protection procedures are outlined in the Healdsburg Municipal Code, Chapter 20.24, Article II Heritage Tree Protection.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
5. Cultural Resources *Would the project:*				
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?	☐	☒	☐	☐

Environmental Evaluation

Setting

This section describes the existing cultural resources setting and potential effects from project implementation on the project site and its surrounding area. Descriptions and analysis in this section are based on information provided by California Native American Heritage Commission (NAHC), Northwest Information Center (NWIC), National Register of Historic Places (NR), California Register of Historic Resources (CR), California Historical Landmarks list, California Points of Historical Interest list (CHL), California State Historic Resources Inventory (CPHI), and a pedestrian survey of the site conducted by FirstCarbon Solutions (FCS). The record search results, NAHC correspondence, paleontological report, pedestrian survey photographs, and historic resource evaluations have been compiled into a standalone Phase I Cultural Resource Assessment (PI-CRA). This technical document supports the following conclusions and mitigation measures, and may be found in Appendix C.

Northwest Information Center

To determine the presence or absence of cultural and historical resources within the proposed project area and a 0.5-mile radius, FCS conducted a records search at the Northwest Information Center (NWIC) in Rohnert Park for the project area on May 5, 2016. The current inventories of the NR, CR, CHL, CPHI list, and HRI for Sonoma County were reviewed to determine the existence of previously documented local historical resources.

Results from the NWIC indicate that two resources (P-49-002834 and OHP# 003146) have been recorded within a 0.5-mile radius of the project location. In addition, six area-specific survey reports (S-010496, S-013217, S-022666, S-022736, S-028098, and S-031737) are on file with the NWIC for

the 0.5-mile search radius. While none of these surveys addressed the project area directly, adjacent parcels to the north, east, and west have been extensively surveyed for cultural resources.

Native American Heritage Commission (NAHC)

On May 12, 2016, FCS sent a letter to the NAHC to review its sacred land files search to provide a list of Native American Representatives who may be interested in providing additional information on potential Tribal Cultural Resources (TCRs) within the project area. On May 31, 2016, a response was received from the NAHC indicating that no sacred sites were listed as present in the project area. The letter included a list of four Native American representatives available for consultation. To ensure that all Native American knowledge and potential prehistoric concerns about the project are addressed, a letter containing project information and requesting any additional information was sent to each tribal representative on June 13, 2016. Representatives from the Dry Creek Rancheria of Pomo Indians (DCR) contacted the City of Healdsburg and requested additional information about the project, and expressed the desire to meet and consult on the project moving forward. A consultation meeting was held on November 10, 2016 at the offices of the DCR in Santa Rosa. In attendance were Liz Hanley (Munselle Civil Engineering), Doyle Heaton (DRG Building Development), Kraig Tambornini (City of Healdsburg), Reg Elgin (DCR THPO), Chris Ott (DCR Environmental Director), Tierney Giron (DCR Board of Directors), Lynn Laub (DCR Executive Assistant), and Dr. Dana DePietro (FCS Senior Archaeologist). Following a discussion of the proposed project and the negative results of the records searches and field survey, the tribal representatives indicated that they had no record of TCRs within the project area and felt the potential for the project area to contain TCRs was low. They did express general concern over potential impacts to water quality and wildlife rehabilitation. Reg Elgin requested the opportunity to visit the site and brief construction personnel on TCR's if warranted, which was agreed upon by all parties.

Pedestrian Cultural Resources Survey

FCS Senior Archaeologist Dana DePietro, PhD surveyed the project area for cultural resources on May 5, 2016. The project area consists of several partially developed parcels of land that contain six residences and an RV storage and parking lot. The site is bordered by Simi Winery in the north, Healdsburg Avenue and the Northwest Pacific Railroad line to the east, Montepulciano Road to the west, and Chiquita Road to the south. Foss Creek runs through the property from north to south along the eastern edge of the property, and an unnamed tributary branches off the creek, bisecting the property from east to west.

The project area was surveyed using standard 15-meter transects whenever possible. During the survey, Dr. DePietro examined all areas of the exposed ground surface for prehistoric artifacts (e.g., fire-affected rock, milling tools, flaked stone tools, tool-making debris, ceramics), soil discoloration and depressions that might indicate the presence of a cultural midden, faunal and human osteological remains, and features indicative of the former presence of structures or buildings (e.g., postholes, standing exterior walls, foundations) or historic debris (e.g., glass, metal, ceramics). Ground disturbances such as burrows, cut banks, and drainages were also visually inspected.

Particular attention was paid to the banks of Foss Creek and its tributary, as these areas are typically more sensitive for prehistoric cultural resources. The entire creek and tributary within the project

area were surveyed, with surface visibility ranging from 40 to 60 percent. Visible soils in proximity of the creek consisted of grey-brown silt interspersed with medium water-worn shish and basalt stones (10 to 15 cm) composed of schist and basalt. The vertical sections of creek banks were inspected for distributed anthropogenic soils that may be indicative of prehistoric human habitation. Other undeveloped sections of the project area were similarly surveyed with ground visibility ranging from 20 to 30 percent. Soils in sections of poor visibility were intermittently inspected using a hand trowel. Overall, soils were similar to those observed close to the creek: rich grey-brown loam that appears to have accumulated in the project area via Foss Creek over the millennia.

No historic or prehistoric cultural resources or raw material commonly used in the manufacture of tools (e.g., obsidian, Franciscan chert) were found within the project site or along the banks of Foss Creek. The project area was found to contain several temporary structures, containers, and detritus associated with the six residencies located within the project site. All of these elements, including a foot bridge crossing the Foss Creek tributary and a drainage pipe running under Montepulciano Road were determined to be less than 45 years old and not of historic age. The nearest recorded historic resource, the Northwestern Pacific Railroad, lies to the east of the project site running parallel to its eastern boundary. Of the eight residences located within the project site, seven were found to be over 45 years old and therefore required an assessment of their historic significance and eligibility for listing on the CR.

The Residences at 51, 99, 111, 145, 153, 157, and 167 Chiquita Road

Seven residences currently located within the project area are over 45 years old, and have not previously been evaluated for historic significance. None were listed on a historic resources survey completed in 1983 of the original Rancho Sotoyome Mexican land grant that included the project site. All seven buildings were evaluated relative to the four CR eligibility criteria:

- Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States (Criterion 1).
- Associated with the lives of persons important to local, California, or national history (Criterion 2).
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values (Criterion 3).
- Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation (Criterion 4).

In brief, the seven properties do not appear to qualify for the CR under any of the above criteria. Therefore, the buildings are not considered historic resources under CEQA or for the purposes of listing on the CR or any local listings.

UCMP Paleontological Records Search

On May 15, 2016, consulting paleontologist Kenneth Finger, PhD, performed a records search on the University of California Museum of Paleontology (UCMP) database for the Oaks at Foss Creek Project. The project lies within the geologic map of Blake et al. (2002), which indicates that the surface of the project area consists entirely of Quaternary alluvium (Qal), that likely covers the Glen

Ellen Formation, which is mapped near the western side and adjacent to the eastern side of the property. These are the only units shown here that could be disturbed by earth-disturbing construction.

The UCMP database was first searched for Quaternary (Pleistocene-Holocene) localities in Sonoma County, which yielded 10 vertebrate localities in unnamed Pleistocene alluvium. A subsequent search on the Glen Ellen Formation found one locality (V90056 (Rincon Valley West) in a conglomerate questionably assigned to that unit and it produced horse teeth of late Pleistocene (Rancholabrean) age. None of these 11 localities are close to or within the 0.5-mile buffer zone (dashed circle on map) for the project sites. Twelve Rancholabrean fossils were recovered from the 10 localities in unnamed alluvium. The composite assemblage includes Clemmys (western pond turtle), *Bison bison antiquus* (extinct bison), *Equus* (horse), *Glossotherium robustus* (robust ground sloth), *G. harlani* (Harlan's ground sloth), and *Mammut americanum* (American mastodon). A copy of Dr. Finger's report may be found in Appendix C.

Would the project:

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

Less the significant impact with mitigation incorporated. The results of the NWIC records search show that two historic resources lie within 0.05 mile of the project site; however, both lie beyond the boundaries of the project site and will not be affected by the proposed project. Furthermore, historic maps, records, aerial photographs, and an intensive pedestrian survey failed to reveal any documented buildings, structures, or other historical resources within the project area itself. For these reasons, the potential for the proposed project to have an adverse effect on known historic resources is considered low.

While unlikely, subsurface construction activities always have the potential to damage or destroy previously undiscovered historic and prehistoric resources. Historic resources can include wood, stone, foundations, and other structural remains; debris-filled wells or privies; and deposits of wood, glass, ceramic, and other refuse. Accordingly, implementation of Mitigation Measure CUL-1 will be required to reduce potential impacts to historic resources that may be discovered during project construction. With the incorporation of mitigation, impacts associated with historic resources would be less than significant.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than significant impact with mitigation incorporated. Records search results from the NWIC indicate that no known archaeological resources exist within the project site or any of the previously surveyed parcels immediately adjacent to the project area. No prehistoric cultural resources have been recorded within 0.5-mile search radius, and no Tribal Cultural Resources (TCRs) were identified as part of the NAHC Sacred Lands File search or through subsequent outreach and correspondence with Native American representatives. An intensive pedestrian survey of the project site and

adjacent stretch of Foss Creek conducted by FCS on May 5, 2016 also failed to identify additional archaeological resources or raw material traditionally utilized in the production of those resources. However, the project's poor soil visibility across the site and proximity to Foss Creek, a natural resource that may have been utilized by Native Peoples in the area, increases the likelihood that undiscovered cultural resources may exist within the site boundaries.

The project site is therefore considered to have moderate to low sensitivity for undiscovered archaeological resources, and no archaeological resources are expected to be encountered during construction activities associated with the proposed project. It is always possible, however, that subsurface excavation activities may encounter previously undiscovered archaeological resources. Such resources could consists of but are not limited to stone, bone, wood or shell artifacts or features, including hearths and structural elements. Accordingly, this is a potentially significant impact. Implementation of Mitigation Measure CUL-1 would ensure that this potential impact is reduced to a less than significant level.

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

Less than significant impact with mitigation incorporated.

Dr. Finger's report concluded that the surface of the project area consists entirely of Quaternary alluvium. A preconstruction paleontological survey of the site or monitoring of construction activities is not recommended at this time because the Quaternary alluvium is not differentiated as the no fossiliferous Holocene or the potentially fossiliferous Pleistocene, and no fossils have been recorded from the area.

Although not anticipated, sub-surface construction activities associated with the proposed project, such as grading and trenching, could result in a significant impact to paleontological resources, if encountered. Paleontological resources may include, but are not limited to, fossils from mammoths, saber-toothed cats, rodents, reptiles, and birds. Accordingly, implementation of Mitigation Measure CUL-2 will be required to reduce potential impacts to paleontological resources that may be discovered during project construction. With the incorporation of mitigation, impacts associated with paleontological resources would be less than significant.

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

Less than significant impact with mitigation incorporated. No human remains or cemeteries are known to exist within or near the project area. However, there is always the possibility that subsurface construction activities associated with the proposed project, such as trenching and grading, could potentially damage or destroy previously undiscovered human remains. Accordingly, this is a potentially significant impact. In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. In the unlikely event human remains are discovered, implementation of Mitigation Measure CUL-3 would reduce this potential impact to a less than significant level.

Mitigation Measures

MM CUL-1 In consultation with the Dry Creek Rancheria of Pomo Indians, a Native American Monitor shall be provided the opportunity to be present during the initial phase of ground disturbance in order to brief construction staff on possible TCRs and check for the inadvertent exposure of cultural materials if deemed necessary by the tribe. This may be followed by regular periodic or "spot-check" archaeological monitoring during ground disturbance as needed, but full-time archaeological monitoring is not required at this time.

In the event a potentially significant culture resource is encountered during subsurface earthwork activities, all construction activities within a 100-foot radius of the find shall cease and workers shall avoid altering the materials until an archaeologist who meets the Secretary of Interior's Professional Qualification Standards for archaeology has evaluated the situation.

The Applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. Potentially significant cultural resources consist of but are not limited to stone, bone, glass, ceramic, fossils, wood, or shell artifacts, or features including hearths, structural remains, or historic dumpsites.

The archaeologist shall make recommendations concerning appropriate measures that will be implemented to protect the resource, including but not limited to excavation and evaluation of the finds in accordance with Section 15064.5 of the CEQA Guidelines. Any previously undiscovered resources found during construction within the project site shall be recorded on appropriate Department of Parks and Recreation (DPR) 523 forms and will be submitted to the City of Healdsburg, the Northwest Information Center, and the State Historical Preservation Office (SHPO), if required.

MM CUL-2 In the event that fossils or fossil-bearing deposits are discovered during construction activities, excavations within a 100-foot radius of the find shall be temporarily halted or diverted. The project contractor shall notify a qualified paleontologist to examine the discovery. The applicant shall include a standard inadvertent discovery clause in every construction contract to inform contractors of this requirement. The paleontologist shall document the discovery as needed in accordance with Society of Vertebrate Paleontology standards and assess the significance of the find under the criteria set forth in CEQA Guidelines Section 15064.5. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction activities are allowed to resume at the location of the find. If the applicant determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of construction activities on the discovery. The plan shall be submitted to the City of Healdsburg for review and

approval prior to implementation, and the applicant shall adhere to the recommendations in the plan.

MM CUL-3 In the event of the accidental discovery or recognition of any human remains, CEQA Guidelines Section 15064.5; Health and Safety Code Section 7050.5; Public Resources Code Section 5097.94 and Section 5097.98 must be followed. If during the course of project development there is accidental discovery or recognition of any human remains, the following steps shall be taken:

1. There shall be no further excavation or disturbance within 100 feet of the remains until the County Coroner is contacted to determine if the remains are Native American and if an investigation of the cause of death is required. If the coroner determines the remains to be Native American, the coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours, and the NAHC shall identify the person or persons it believes to be the most likely descendant (MLD) of the deceased Native American. The MLD may make recommendations to the landowner or the person responsible for the excavation work within 48 hours, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in PRC Section 5097.98.
2. Where the following conditions occur, the landowner or his or her authorized representatives shall rebury the Native American human remains and associated grave goods with appropriate dignity either in accordance with the recommendations of the most likely descendant or on the project site in a location not subject to further subsurface disturbance:
   - The NAHC is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 48 hours after being notified by the commission.
   - The descendant identified fails to make a recommendation.
   - The landowner or his authorized representative rejects the recommendation of the descendant, and mediation by the NAHC fails to provide measures acceptable to the landowner.

Additionally, California Public Resources Code Section 15064.5 requires the following relative to Native American Remains:

> When an initial study identifies the existence of, or the probable likelihood of, Native American Remains within a project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code Section 5097.98. The applicant may develop a plan for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American Burials with the appropriate Native Americans as identified by the Native American Heritage Commission.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
6. Geology and Soils *Would the project:*				
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? 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 wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☒	☐

Environmental Evaluation

The City of Healdsburg is located in northern Sonoma County, in the central portion of the Russian River watershed. The region is within the central portion of the Coast Ranges geomorphic province of California, a region characterized by northwest-trending valleys and mountain ranges. This alignment of valleys and ridges has developed in response to uplift, folding, and faulting along the San Andreas system of active faults.

The City has elevations that range from about 90 feet along the Russian River along the south side of the City, to more than 500 feet on the west side of Fitch Mountain. The western and central

portions of the City are characterized by low-lying, gently sloping topography. Several types of surficial deposits are present in Healdsburg. These include surficial soils, colluvium, alluvium, and landslide deposits. In addition, man-made fills have been placed in many areas.

The City of Healdsburg is located approximately 42 miles northwest of the San Francisco Bay, an area well known for its seismic potential. Seismicity in Healdsburg is directly related to activity on the San Andreas Fault system, including major active faults in the region and within the City. There are three active faults within the region identified by the City's General Plan EIR: the Healdsburg-Rodgers Creek Fault, approximately 8 miles from the site; the Maacama Fault, approximately 4 miles east; and the San Andreas Fault, approximately 19 miles west. The Healdsburg-Rodgers Creek Fault is a right-lateral strike-slip fault and has historically been the source of significant earthquakes.

The Alquist-Priolo Earthquake Fault Zoning Act was passed into law following the destructive San Fernando earthquake in 1971. This act provides a mechanism for reducing losses from surface rupture on a statewide basis. Its intent is to ensure public safety by prohibiting the siting of most structures for human occupancy across traces of active faults that may pose as a potential hazard to structures from surface faulting. The City of Healdsburg is not currently located within one of the Alquist-Priolo Earthquake Fault Zones (APEFZ) established by the California Division of Mines and Geology (CDMG) around known active faults. An active fault is one with surface displacement in the last 11,000 years, or one that has experienced historic earthquakes.

Strong seismic ground shaking is the shaking of the ground, during an earthquake event, that creates waves from stored energy being released. The City of Healdsburg is located within an area that is considered to be seismically active, along with much of western California. The intensity of ground shaking can be amplified by local geologic conditions. Areas underlain by soft sediments are most susceptible to a significant amplification of ground shaking. Soft sediments are not as common to the City.

Liquefaction is defined as a saturated or partially saturated soil substantially loses strength and stiffness in response to an applied stress, usually earthquake shaking or other sudden change in stress condition, causing it to behave like a liquid. Major liquefaction events are likely to occur on the San Andreas, Maacama, Healdsburg-Rodgers Creek, or Hayward faults and in alluvial areas along the banks of the Russian River and its major tributaries.

Erosion can be defined as the gradual destruction or diminution of something. Erosion can lead to landslides, which can cause extensive damage to buildings, roadways and other facilities located on or below the landslide and can result in property damage. Within the City, many of the swales or ravines that occupy the steep hill slopes may be capable of generating debris flow.

Would the project:

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? Refer to Division of Mines and Geology Special Publication 42.

Less than significant impact with mitigation incorporated. There are no known active faults that pass through the project site. The site is not located in the Alquist-Priolo Earthquake Fault Zoning Map as described above. The three closest known active faults to the project site, with the potential to produce the largest accelerations, are the Maacama Fault (south) located approximately 4 miles east of the site; the Rodgers Creek Fault located approximately 8.8 miles east of the site, and the San Andreas Fault located approximately 19 miles west of the project site. Because of the proximity of active faults in the region, ground shaking would likely occur at the project site during an earthquake. PJC & Associates, Inc. prepared a Geologic Report for the project site and upon their research concluded that the potential for surface fault rupture at the site is low. Although, as with the most areas of California, there still exists the potential for seismic events to occur. However, construction of the project would comply with the current state and local building regulations, including the most recent version of California Building Code (2013) and the City of Healdsburg design standards. Accordingly, mandatory compliance with building regulations would ensure that the project would not expose people or structures to potential adverse effects involving rupture of a known earthquake fault. Furthermore, compliance with the City's Conditions of Approval listed in the hydrology section, as well as compliance with building regulation and implementation of Mitigation Measure GEO-1, described below, would reduce potential impacts to less than significant.

ii) Strong seismic ground shaking?

Less than significant impact with mitigation incorporated. There are no known or potentially active faults that traverse the site, and the project site is not located within an Alquist-Priolo Earthquake Fault Zone. The City of Healdsburg General Plan has determined that the City has a 27 percent chance or higher of a large magnitude 6.7 or higher earthquake occurring along the Healdsburg-Rodger Creek fault or the Hayward fault, in the next 30 years. The potential severity of ground shaking depends on many factors, including distance from the originating fault, the earthquake magnitude, and the nature of the subsurface materials. Forty-three residential dwellings would be constructed as part of the project. As such, these structures would be susceptible to strong seismic ground shaking.

All applicable California Building Standards Code requirements would be incorporated into the design and construction of the project. Implementation of Mitigation Measure GEO-1 (stated above) would include compliance with the latest adopted edition of the California Building Standards Code and the preparation of a design-level investigation. With the implementation of mitigation, impacts would be reduced to a level of less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less than significant impact. According to the USGS Liquefaction Susceptibility Map (2006) for Sonoma County, the site is located within an area considered to have a moderate susceptibility to liquefaction during or immediately following a seismic event.

Soils on the project site consist of heterogeneous alluvial soil deposits and artificial fill consisting of clayey sands, sandy clays and clayey gravels to the maximum depths explored during the tests conducted for the Geologic Report. Results from the Preliminary Geotechnical Investigation show that the site is generally underlain by cohesive soils, and granular soils, which are sufficiently dense and are not considered susceptible to liquefaction. Therefore, impacts on liquefaction on the project site would be less than significant.

iv) Landslides?

No impact. According to the USGS Geyserville California 7.5-minute quadrangle, the project site lies in hills on the eastern margin of the Russian River Valley where the terrain is generally level. The project site is not located within the vicinity of any steep hills or mountains that could have a high potential for landslides. This precludes the possibility of landslides. Therefore, no impact would occur.

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

Less than significant Impact. Construction activities associated with the site would include removal of vegetation, excavation, grading, and demolition. To minimize the potential risk of soil erosion during construction, the project would be subject to mandatory compliance with all California Building Code requirements. The project site is relatively level and no areas experiencing significant erosion or sediment transports were observed at the project site. Therefore, less than significant impacts from erosion would result.

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?

Less than significant impact. As previously stated, the project site is located in a relatively stable area, due to low slope inclinations. The project site has low potential for landslides and liquefaction. The Norton Slough crosses through the project site and has exposed banks of approximately 10 feet in height. However, because of the presence of relatively strong cohesive soils and dense granular soils, it can be concluded that the potential of lateral spreading and lurching at the project site is low. Additionally, the ground surface appears moderately hard; however, further exploration indicated that the natural surface soil across the project site is weak, porous, compressible and locally disturbed by previous earthwork activities. These surface soils can potentially collapse under the load of engineered fill, foundations or concrete slabs-on-grade when their moisture content increases and approaches saturation. In order to resolve the issue, construction must excavate the weak compressible soils and artificial fill, and replace with properly compacted engineered fill to adequately support the foundations, slabs-on-grade and new pavements. With these changes made

to the surface soils, the impact of landslides, lateral spreading, subsidence, liquefaction, and collapse 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?

Less than significant impact. The Uniform Building Code (UBC) Table 18-1-B outlines expansive soils that vary from Very Low to Very High Expansion Potential. The range is as follows: 0 to 20 Very Low; 21 to 50 Low; 51 to 90 Medium; 91 to 130 High; >130 Very High. Based on the laboratory analysis conducted by PJC & Associates Inc., the near surface clayey sand and sandy clay soils vary from low to high plasticity (Plasticity Index = 11, 37, 39). However, based on the expansion index testing of a composite sample from the upper 3 feet, the surface and near surface soils have very low expansion potential (Expansion Potential = 6). Therefore, impacts from expansive soils 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 of wastewater?

Less than significant impact. The project would be served with sanitary sewer service provided by the City of Healdsburg, and no alternative wastewater disposal systems would be implemented. Any existing wells, septic systems, or leach fields should be abandoned and plugged according to regulations set forth by the Sonoma County Health Department. Voids left from the removal of utilities or other obstructions should be replaced with compacted engineered fill under the observation of the project geotechnical engineer. These conditions preclude the possibility of related impacts; therefore, impacts would be less than significant related to the use of septic tanks.

Mitigation Measures

MM GEO-1 Prior to issuance of building permit, the project Applicant shall submit plans to the City of Healdsburg for review and approval demonstrating project compliance with the latest adopted edition of the California Building Standards Code seismic requirements and the recommendations of a design-level geotechnical investigation. All soil engineering recommendations and structural foundations shall be designed by a licensed professional engineer. The approved plans shall be incorporated into the proposed project. All on-site soil engineering activities shall be conducted under the supervision of a licensed Geotechnical Engineer or Certified Engineering Geologist.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
7. Greenhouse Gas Emissions *Would the project:*				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Environmental Evaluation

The analysis in this section is based, in part, on the findings of the CalEEMod analysis completed by Illingworth & Rodkin, Inc. The modeling data is provided in its entirety in Appendix A.

The Northern Sonoma County Air Pollution Control District has not adopted standards of significance for construction and operational activities and instead suggests the use of the BAAQMD's thresholds and mitigation measures.

Would the project:

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

Less than significant impact. The project is located in the North Coast Air Basin, where air quality is regulated by the North Sonoma County Air Pollution Control District. However, the North Sonoma County Air Pollution Control District does not have any rules, regulations, or evaluation policies that pertain to greenhouse gas emissions. As such, the North Sonoma County Air Pollution Control District relies on methods used in the neighboring San Francisco Bay Area Air Basin, which is regulated by the BAAQMD. The BAAQMD suggests applying greenhouse gas efficiency thresholds to projects with emissions of 1,100 metric tons of carbon dioxide equivalent ($MTCO_2e$) or greater. With projects that have emissions below this threshold per year, the effect is considered less than significant.

Project Construction

The project would generate greenhouse gas emissions during construction activities such as site grading, on-site heavy-duty construction vehicle use, vehicles hauling materials to and from the project site, and construction worker trips. These emissions are considered temporary or short-term.

The BAAQMD does not have a recommended screening level or threshold of significance for construction-related greenhouse gas emissions; however, the BAAQMD does recommend that lead agencies quantify and disclose construction-related greenhouse gas emissions. Therefore, additional analysis quantifying and disclosing construction-related greenhouse gas emissions was completed.

CalEEMod 2013.2.2 was used to estimate the project's construction-generated greenhouse gas emissions. The construction period would be approximately 13 months in duration. The construction phases include demolition, site preparation, grading, building construction, paving, and architectural coating. CalEEMod defaults were used as a conservative analysis. Detailed construction assumptions and parameters are provided in Appendix A. Greenhouse gas emissions during project construction are presented in Table 8.

Table 8: Construction Greenhouse Gas Emissions

Construction Phase	$MTCO_2e$/year
Demolition	38.02
Site Preparation	9.50
Grading	11.59
Building Construction	331.98
Paving	16.53
Architectural Coating	2.71
Total	410

Note:
$MTCO_2e$ = metric tons of carbon dioxide equivalent
Source: Illingworth & Rodkin 2016; CalEEMod 2013.2.2

During the construction of the project, approximately 410 $MTCO_2e$ would be emitted. The BAAQMD, from which the North Sonoma County Air Pollution Control District gets its own thresholds, does not have quantified thresholds for construction activities. The construction emissions were then compared with the lowest project emission threshold (1,100 $MTCO_2e$) considered by BAAQMD and the annual construction emissions were found to be below this threshold. Therefore, the project's construction emissions would result in a less than significant impact.

Project Operations

Operational or long-term emissions occur over the life of the project. The operational emissions for the project are shown in Table 9. Sources for operational emissions include:

- **Motor Vehicles:** These emissions refer to greenhouse gas emissions contained in the exhaust from the cars and trucks that would travel to and from the project site.

- **Natural Gas:** These emissions refer to the greenhouse gas emissions that occur when natural gas is burned on the project site. Natural gas uses include heating water, space heating, dryers, stoves, or other uses.
- **Indirect Electricity:** These emissions refer to those generated by off-site power plants to supply electricity required for the project.
- **Water Transport:** These emissions refer to those generated by the electricity required to transport and treat the water to be used on the project site.
- **Waste:** These emissions refer to the greenhouse gas emissions produced by decomposing waste generated by the project.

The CalEEMod default assumptions were used for each of these sources of emissions. The operational emissions are shown in Table 9.

Table 9: Unmitigated Operational Greenhouse Gas Emissions

Source Category	$MTCO_2e$
Area	62
Energy Consumption	142
Mobile	531
Solid Waste Generation	22
Water Usage	7
Total	764
BAAQMD Thresholds	1,100.00
Are emissions significant?	**No**
Source: BAAQMD, 2010	

As shown in Table 9, operation of the project would produce approximately 764 $MTCO_2e$ per year. Thus, the BAAQMD significance threshold of 1,100 $MTCO_2e$ per year is not exceeded. Accordingly, this impact would be less than significant.

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

Less than significant impact. The Sonoma County Community Climate Action Plan (CAP) adopted in October 2008 applies to the County and participating cities, including the City of Healdsburg. The CAP includes a goal of reducing county greenhouse gas emissions by 25 percent below 1990 levels by 2015, but has no mandatory provisions that would apply to the project. Since the CAP was adopted, the State of California has adopted regulations that apply to the project that will help the County achieve its reduction goal. The project would be subject to Title 24 energy efficiency standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil

fuel consumption and decreases greenhouse gas emissions. The project will comply with the California Green Building Standards Code, which includes requirements to increase recycling, reduce waste, reduce water use, increase bicycle use, and other measures that will reduce greenhouse gas emissions. Motor vehicle emissions associated with the project would be reduced through compliance with state regulations on fuel efficiency and fuel carbon content. The regulations include the Pavley fuel efficiency standards that require manufacturers to meet increasing stringent fuel mileage rates for vehicles sold in California and the Low Carbon Fuel Standard that requires reductions in the average carbon content of motor vehicle fuels. Emissions related to electricity consumption by the project would be reduced as the electric utility complies with the Renewable Portfolio Standard, which requires utilities to increase its mix of renewable energy sources to 33 percent by 2020. The project would not conflict with the Sonoma County CAP and regulations adopted by the State of California to reduce greenhouse gas emissions. Impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
8. Hazards and Hazardous Materials *Would the project:*				
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?	☐	☐	☐	☒

Environmental Evaluation

The information in this analysis is based on a Phase I and Limited Phase II Environmental Site Assessment (ESA) performed by Rosewood Environmental Engineering on the site in July and August,

2015. The complete ESA, dated September 1, 2015, and updated on September 28, 2016, is provided in Appendix E.

Hazardous materials, as defined by the California Code of Regulations, are substances with certain physical properties that could pose a substantial present or future hazard to human health or the environment when improperly handled, disposed, or otherwise managed. Hazardous materials are grouped into the following four categories, based on their properties:

- Toxic—causes human health effects
- Ignitable—has the ability to burn
- Corrosive—causes severe burns or damage to materials
- Reactive—causes explosions or generates toxic gases

A hazardous waste is any hazardous material that is discarded, abandoned, or slated to be recycled. The criteria that define a material as hazardous also define a waste as hazardous. If improperly handled, hazardous materials and hazardous waste can result in public health hazards if released into the soil or groundwater or through airborne releases in vapors, fumes, or dust. Soil and groundwater having concentrations of hazardous constituents higher than specific regulatory levels must be handled and disposed of as hazardous waste when excavated or pumped from an aquifer. The California Code of Regulations, Title 22, Sections 66261.20-24 contain technical descriptions of toxic characteristics that could cause soil or groundwater to be classified as hazardous waste.

The State of California uses certain databases such as Geo Tracker and EnviroStor to identify sites in which hazardous materials may be actively present or that have become inactive. There are many different regulatory agencies that help identify hazardous materials including but not limited to: the United States Environmental Protection Agency (EPA); the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA); the Resource Conservation and Recovery Act (RCRA); California Department of Occupational Safety and Health Administration (CalOSHA); and the Federal Aviation Administration (FAA).

According to the EnviroStor database, as reported in the ESA, there were no Federal Superfund sites, State Response Site, Voluntary Clean-up sites, Military Cleanup sites or evaluation sites, no Tiered Permit sites, no sites under State EPA Corrective Action, no Leaking Underground Storage Tanks, and no hazardous or toxic cleanup site within 1 mile of the project site.

The targeted soils testing conducted on the site found no evidence of a recognized environmental condition on the site. Surface soil at four locations at the site was sampled and analyzed for suspected release of lead- and heavy metal-based paint, solvents, TPH, and arsenic-based rodenticides. None of the constituents targeted for analysis were above the regulatory screening levels except for arsenic in one soil sample. That sample had a concentration of arsenic at 3.2 parts per million (ppm). Background levels of arsenic in Sonoma County range from 0 to 6.1 ppm. The concentration found on the site is within the background-level range for arsenic in Sonoma County.

The nearest airport to the project site is the Healdsburg Municipal Airport, which is located approximately 1.49 miles to the northwest. The City of Healdsburg adopted the Healdsburg Municipal Airport Master Plan in May of 2006.

Would the project:

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

Less than significant impact with mitigation incorporated. A residential development does not typically involve the regular use, storage, transport, or disposal of significant amounts of hazardous materials. Construction and operation of the project would involve the minor routine transport and handling of hazardous substances such as diesel fuels, lubricants, solvents, asphalt, pesticides, and fertilizers. Handling and transportation of these materials could result in the exposure of workers to hazardous materials. However, the project would not create a significant hazard to the public or the environment, because project construction and operation would be in compliance with applicable federal, state, and local laws pertaining to the safe handling and transport of hazardous materials.

Because the houses on the site were constructed before current regulations prohibiting the use of asbestos containing building materials or lead-based paint, there is the possibility that these substances could be released into the environment during demolition of the buildings. Mitigation Measure HAZ-1, as described below, provides for appropriate measures to detect and contain these substances. Therefore, impacts would be less than significant with mitigation.

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?

Less than significant impact. As previously indicated, the proposed project would involve the minor use of hazardous materials, including diesel fuel and other motor lubricants used during construction. The use of these substances is not expected to create a significant hazard to the public or the environment through reasonably foreseeable upset or accident. Therefore, impacts would be less than significant.

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

Less than significant impact. The project site is located approximately 1.04 miles northwest of Healdsburg High School and approximately 1.12 miles northwest of Healdsburg Elementary School. As described in impacts 8a and 8b, the project would not involve the use of significant quantities of hazardous materials and therefore would not have the potential to expose the school to such substances. Therefore, impacts would be less than significant.

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?

No impact. The project site is not included in the DTSC Cortese List, and—according to State Water Resources Control Board (SWRCB) GeoTracker, or EnviroStor online hazardous materials databases—the project site is not listed as a hazardous materials cleanup site. Therefore, no impacts would occur due to known hazards.

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?

No impact. The Healdsburg Municipal Airport is approximately 1.49 miles northwest of the project site. This distance limits the potential for the project to create safety hazards for persons residing or working in the project area. Additionally, the project site is not located within an airport land use plan. Therefore, no impacts 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?

No impact. There are no private airport strips in the City of Healdsburg. The nearest private airport strip is located in the in the City of Windsor, 6 miles southeast of the project site. The distance limits the potential for the project to create a safety hazard for people residing, or working in the project area. Therefore, no impacts would occur.

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

Less than significant impact. According to the City of Healdsburg Circulation Plan Map, Healdsburg Avenue is designated an arterial street and borders the south side of the project site, approximately 0.5 mile east of the project site; thus, it is used for emergency response and could be used for evacuation purposes. The project does not propose any modifications to Healdsburg Avenue that would impair or interfere with emergency response or evacuation (permanent road closures, lane narrowing, etc.). The City of Healdsburg does not have an adopted emergency response plan, nor does the County of Sonoma. Therefore, impacts would be less than significant.

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?

No impact. The project is located in an urban area and is surrounded by urban development and infrastructure. These land use types are not associated with wildland fires and preclude the possibility of exposure thereof. Therefore, no impacts would occur.

Mitigation Measures

MM HAZ-1 Prior to the issuance of demolition permits for any structure constructed prior to 1978, the applicant shall retain a qualified contractor to determine the presence or absence of asbestos-containing materials or lead-based paint. If either material is found to be present, the applicant shall retain certified hazardous waste contractor to properly remove and dispose of all materials containing asbestos or lead paint in accordance with federal and state law.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
9. Hydrology and Water Quality *Would the project:*				
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 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 stormwater 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?	☐	☐	☒	☐

Environmental Evaluation

The project site is located in a developed industrial/residential neighborhood, served by the City's storm drain system with municipal storm drain lines located along Grove Street and Parkland Farms Boulevard located to the south and east of the project site respectively. The project site is not located within a designated Federal Emergency Management Agency (FEMA) 100-year floodplain. Flood Zone A is an area where no base flood elevations have been determined. However, Foss Creek is designated as an area subject to inundation by the one percent annual chance flood.

Would the project:

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

Less than significant impact.

Construction-Related Water Quality Impacts

The construction of the proposed project, including grading and excavation activities, may result in temporary impacts to surface water quality. Surface runoff that flows across the site may contain sediments that may be discharged into the storm drainage system. Construction of the project would disturb more than 1 acre of soil and, therefore, compliance with the NPDES General Permit for Construction Activities is required.

The City of Healdsburg Ordinance No. 1091 requires all new residential, commercial, office, industrial, public or quasi-public construction that requires design review and/or a building or grading permit prepare a Stormwater Pollution Prevention Plan (SWPPP). Sediment and erosion controls are required to protect water quality while a site is under construction. Foss Creek, located on the eastern portion of the project site, would need to be protected during all construction activities from this runoff. A detailed list of BMPs must be included in the SWPPP to prevent the discharge of pollutants. The project with the aforementioned BMPs would not result in significant construction-related water quality impacts.

Post-Construction Water Quality Impacts

The project would be composed of 44 single-family homes, totaling approximately 101,439 square feet. The project site is currently approximately 50 percent pervious and 50 percent impervious, due to the industrial and residential developments on-site. Once construction is complete, 53% the project site will covered with impervious surfaces, increasing the amount of stormwater runoff. Stormwater drains would be located along the newly developed public roads, private driveways, and Chiquita Road along the southern portion of the project site. The project applicant has prepared a Standard Urban Stormwater Mitigation Plan (SUSMP) compliance with the RWQCB requirements and the City's regulatory policies pertaining to stormwater runoff. BMPs—including Rain Gardens to retain water and allow for infiltration, and vegetated swales—are incorporated into the project design and, according to the SUSMP, will capture and infiltrate the total runoff from the project from an 85th percentile, 24-hour storm. Therefore, impacts to water quality and waste discharge requirements would be less than significant.

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?

Less than significant impact. The City of Healdsburg would serve the project with potable water service, which it obtains from well fields located along the Russian River and Dry Creek. According to the General Plan, the City has the rights to 3,376 acre-feet of water, with as much as 4,179 acre-feet available. According to the City's newly adopted 2015 Urban Water Management Plan, the City of Healdsburg does not use any groundwater supplies. Although the City does not use groundwater, analysis for groundwater is contained within the Urban Water Management Plan. Therefore, impacts related to groundwater supplies would be less than significant.

c) Substantially alter the existing drainage pattern of 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?

Less than significant impact. The project would install a private storm drain system that would collect runoff and discharge it to the off-site public system. Where possible, runoff would be directed to landscaped areas for filtration and infiltration. As stated above, stormwater drains would be located along the newly developed public road adjacent to Montepulciano Road, private driveways, and Chiquita Road along the southern portion of the project site. The project's drainage would be in compliance with the RWQCB requirements and with the City's regulatory policies pertaining to stormwater runoff. No alteration of the course of any stream or river would occur that would result in substantial erosion or siltation. A SWPPP must be added to the engineering phase of construction as required by the City's Stormwater Management Program. Implementation of the SWPPP would reduce the impacts of erosion or siltation to less than significant levels.

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?

Less than significant impact. The project would install a private storm drain system that would collect runoff and discharge it to the off-site public system. Stormwater drains would be located along the newly developed public roads, private driveways, and Chiquita Road along the southern portion of the project site. The project's SUSWMP in compliance with the RWQCB requirements and the City's regulatory policies pertaining to stormwater runoff. Where possible, runoff would be directed to landscaped areas for filtration and infiltration. Bioretention beds (rain gardens) would provide stormwater treatment and reduce the amount of post-development stormwater runoff. Disconnected roof drains, interceptor trees, and appropriately selected plants would also be incorporated into the design. No alteration of the course of any stream or river would occur. Therefore, impacts would be less than significant.

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?

Less than significant impact. The project would result in the creation of new impervious surfaces in the form of driveways and rooftops. However, compliance with the existing regulations including NPDES permit conditions, and the provisions of the City's Municipal Code would reduce impacts to the maximum extent practicable and impacts would be less than significant. Compliance with the City's Municipal Code and the City's suggested Conditions of Approval would mitigate project impacts to less than significant levels. As such, impacts would be less than significant.

f) Otherwise substantially degrade water quality?

Less than significant impact. As stated above in (a), construction activities related to the project could introduce pollutants and sediment into water runoff from the site. The project would be required to fulfill requirements regarding the provision of site design measures, source controls, Low Impact Development treatment measures, hydromodification management, and construction BMPs that are appropriate for the type and size of the project to control stormwater pollution. As described above, under the City's Standard Storm Water Management Plan Guidelines, BMPs to avoid erosion and off-site discharges of water runoff would be implemented. Implementation of these BMPs would avoid water quality impacts to adjacent lands and waterways. Accordingly, 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?

Less than significant impact. As stated above, the project is not located within a FEMA designated Special Flood Hazard Area subject to inundation in the event of a 100 year flood. However, Foss Creek and the area surrounding Foss Creek is a special flood hazard area subject to inundation by the 1% annual chance flood. The area surrounding Foss Creek is in Zone A described as No Base Flood Elevations determined. Implementation of the SUSMP would mitigate project impacts to less than significant. Therefore, impacts would be less than significant.

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

Less than significant impact with mitigation incorporated. As stated above, the project is not located within a FEMA designated Special Flood Hazard Area subject to inundation in the event of a 100-year flood. However, Foss Creek and the area surrounding Foss Creek is a special flood hazard area subject to inundation by the 1% annual chance flood. The area surrounding Foss Creek is in Zone A described as No Base Flood Elevations determined. Mitigation Measure HYD-1, as described below, will ensure that the area is safe from flooding by requiring additional documentation prior to development plan approvals. Impacts from flood hazard would be less than significant with mitigation.

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?

Less than significant impact. According to the City of Healdsburg General Plan, flood control for the lower Russian River is provided primarily by Warm Springs Dam. The dam is located on Dry Creek, a tributary of the Russian River, located approximately 10 miles northwest of the City. Lake Sonoma was created by this dam. Coyote Dam is an earthen dam located on the East Fork of the Russian River above Ukiah in Mendocino County. The dam is part of a system that provides water to Mendocino, Sonoma, and Marin counties. Although Warm Springs Dam was built on a medium-size fault, it was designed to absorb the maximum expected ground-shaking. Failure of this dam could inundate most of the City to an elevation of 230 feet. However, the project site is located within an area that is located above 230 feet, according to the Healdsburg General Plan EIR Figure IV.1-2. Therefore, impacts related to flooding as a result of a failure of a levee or dam would be less than significant.

j) Inundation by seiche, tsunami, or mudflow?

Less than significant impact. Because of the project site location and topographical characteristics, the project site would not be susceptible to a seiche, tsunami, or mudflows. A seiche affects locations adjacent to larger water bodies such as lakes or reservoirs. The project site is located approximately 10 miles southeast of Warm Springs Dam. Lake Sonoma, which was created as a flood control for the lower Russian River, has the potential to inundate the City of Healdsburg at elevations of up to 230 feet. However, the project site is located within an area that is located above 230 feet, according to the Healdsburg General Plan EIR Figure IV.1-2. Although the dam is located on a medium-size fault, it was designed to absorb the maximum expected displacement and groundshaking from any fault in the region. Because the Pacific Ocean is located approximately 20 miles east from the Pacific Ocean, the distance and location relative to the project site substantially reduces the potential for a tsunami. Additionally, based upon the relatively flat topography immediately bounding the site, the potential for mudflow to affect the site would be minimal. Therefore, no impacts associated with seiche, tsunami, or mudflow would occur.

Mitigation Measures

MM HYD-1 A comprehensive hydrologic and hydraulic analysis is required to ensure the proposed project and facilities are adequate and safe. The elevation of the 100-year flood event needs to be determined for both Foss Creek and the tributary drainage, homes must have a foundation elevation at least 1 foot above this 100-year high water elevation, and all culverts must have adequate capacity to convey the 100-year flow without any increase in the backwater elevation. This will be addressed at Improvement Plan development stage.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
10. Land Use and Planning *Would the project:*				
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 communities conservation plan?	☐	☐	☐	☒

Environmental Evaluation

The City of Healdsburg General Plan contains a land use map, which provides its land use plan.

The City is situated in an inland valley defined principally by US 101, the Russian River, surrounding agricultural lands, and mountains to the east and west. Historically, Healdsburg has served as an agricultural service center and a milling and distribution center for north coast lumber. Over time, the City has developed more tourist-related businesses to help diversify the local economy such as overnight accommodations, specialty retail, restaurants, and wine tastings.

The existing character of the project site is wooded, with ruderal vegetation and grasses near the residences, and riparian habitat along Foss Creek. A few small residences on the southern portion of the project site are in moderate condition, and a boat storage/RV yard with uncovered outdoor storage occupies the rest of the site. The surrounding land uses are primarily residential to the north south, and west. The Simi Winery is located to the northeast and is also surrounded by residential uses. There are also plots of land around the project site in all directions that appear to be vacant.

The Healdsburg General designates the project site for Industrial use. The City zones the site for Industrial use. Primary access to the project site comes from Chiquita Road and Montepulciano Road.

Would the project:

a) Physically divide an established community?

Less than significant impact. The project would include the construction of 44 single-family residential homes with a public roadway and access onto Chiquita Road. Four residences on the project site would need to be demolished in order to construct the project. There are currently no

pathways or roadways that would be impeded by the project that would physically divide an established community. The project design provides a pedestrian pathway constructed along one side of the riparian corridor to provide pedestrian access to a meandering park like open space. This pathway would not physically divide the community; rather, it would create a more inclusive environment in which residences from within the neighborhood and outside would be able to become more permeable. Therefore, impacts would be less than significant.

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?

Less than significant impact. The project site is designated Industrial Use by the City's General Plan and Zoning Code. The proposed General Plan amendment and rezoning would change the site to Residential Master Plan for both its General Plan designation and its zoning. The City's zoning ordinance provides:

> Residential Master Plan (RMP) districts in Healdsburg are specifically envisioned as a mechanism to preserve and/or create distinctive, high quality, single- or multi-family residential developments that meet or exceed the goals of the General Plan. The provisions of this district are intended to encourage preservation of existing amenities and creation of new amenities; provide for a variety of housing types and densities; reduce environmental impacts; and achieve superior relationships among uses, both within and surrounding the district. Residential Master Plan districts are to be used where traditional zoning districts do not accommodate these goals.

This designation would provide land use standards for the proposed 44 single-family residential homes. Future development on the adjacent three parcels in the proposed General Plan Amendment/Rezoning would conform to the standards adopted for the RMP. Because the purpose of the RMP is to meet or exceed the goals of the General Plan, the proposed project will be consistent with both the General Plan and the zoning. Additionally, the City's zoning code requires that projects of seven or more units or lots are required to sell 15 percent of the total number of new units or lots to moderate, low, or very-low income households. The project will provide 12 units of affordable housing (28 percent) at below market rate, which is more than the required amount. Therefore, impacts related to applicable land use plans, policies, or regulations would be less than significant.

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

No impact. The City of Healdsburg does not contain a habitat conservation plan or natural communities conservation plan. The project would be compliant with all California Building Code Regulations to ensure that no special-status species would be harmed as a result of the project. Therefore, no impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
11. Mineral Resources *Would the project:*				
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?	☐	☐	☐	☒

Environmental Evaluation

The primary mineral resources of the area are aggregate, sand, and gravel. The State Mines and Geology Board designates sand and gravel deposits that are of regional significance pursuant to the California Surface Mining and Reclamation Act of 1975. The State has designated the terrace mining pits along Russian River, including those of Kaiser Sand and Gravel of Syar Industries located approximately 8 miles south of the project site as regionally significant because of their commercial value to Sonoma County.

Would the project:

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?

No impact. The project site does not support any mineral extraction activities, nor do any known mineral deposits exist on-site. Therefore, implementation of the project would not 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. Therefore, no impacts would occur.

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?

No impact. The project site is not designated for mineral resources by the City of Healdsburg General Plan. Therefore, the implementation of the project would not result in the loss of availability of a locally important mineral resource. No impacts would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
12. Noise *Would the project result in:*				
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 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?	☐	☐	☐	☒

Environmental Evaluation

This analysis is based in part on the Environmental Noise Assessment report prepared by Illingworth & Rodkin, Inc. (April 20, 2016). This report in its entirety is contained in Appendix F.

Characteristics of Noise

Noise is generally characterized as unwanted sound that exceeds acceptable limits, duration, or intensity. The City of Healdsburg Noise Ordinance defines impulsive noise, which is brief noise much greater than the ambient noise level, and intruding noise, that is a level identified as offensive. Ambient noise is the sound level that usually exists in an area from all sources near and far. Introduction of a new noise source is subject to review for compliance with noise thresholds and limits identified as normally acceptable in a given land use district. Sound levels are usually measured and expressed in decibels (dB) with 0 dB corresponding roughly to the threshold of hearing. Most of the sounds that we hear in the environment do not consist of a single frequency,

but rather a broad band of frequencies, with each frequency differing in sound level. The intensities of each frequency add together to generate a sound. Noise is typically generated by transportation, specific land uses, and ongoing human activity.

The standard unit of measurement of the loudness of sound is the decibel (dB). The 0 point on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Changes of 3 dB or less are only perceptible in laboratory environments. A change of 3 dB is the lowest change that can be perceptible to the human ear in outdoor environments, while a change of 5 dBA is considered to be the minimum readily perceptible change to the human ear in outdoor environments.

Since the human ear is not equally sensitive to sound at all frequencies, the A-weighted decibel scale (dBA) was derived to relate noise to the sensitivity of humans. The scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Furthermore, the A-weighted sound level is the basis for a number of various sound level metrics, including the day/night sound level (L_{dn}) and the Community Noise Equivalent Level (CNEL), both of which represent how humans are more sensitive to sound at night.[1] In addition, the equivalent continuous sound level (L_{eq}) is the average sound energy of time-varying noise over a sample period and the L_{max} is the maximum instantaneous noise level occurring over a sample period.

Existing Noise Sources

The project site is located in the City of Healdsburg, California. The project site is bounded to the west by US 101 and the commercial entrance to the Simi Winery, to the south by Chiquita Road, and to the east by the Northwestern Pacific (NWP) railroad line and Healdsburg Avenue. The Simi Winery is located to the north of the site.

The existing ambient noise levels on the project site were documented through long-term ambient noise measurements taken on or near the project site in order to determine the existing ambient noise environment in the project vicinity.

The noise measurements were taken between 10 a.m. Wednesday, April 6, 2016 and 7 a.m. Thursday, April 7, 2016. The noise measurement data sheets are provided in Appendix F of this document. The noise monitoring locations were selected in order to document existing daytime ambient noise levels on the project site and to determine compatibility of the proposed residential land use development with the City's land use compatibility standards. A summary of the results of the noise level measurements is provided in Table 10.

[1] L_{dn} is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. CNEL is the 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 decibels to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 decibels to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m. Source: Harris, Cyril M. 1998. Handbook of Acoustical Measurement and Noise Control.

Table 10: Noise Monitoring Summary

Site Location	Location Description—Primary Noise Sources	dBA L_{dn}	Daytime/Nighttime dBA L_{eq}	dBA L_{max}
LT-1	Located about 12 feet above grade near the western edge of the project site approximately 36 feet east of the Montepulciano Road centerline and 560 feet north of the Chiquita Road centerline.	64	61/55	80
LT-2	Located about 6 feet above grade near the eastern edge of the site development area approximately 550 feet north of the Chiquita Road centerline and 110 and 325 feet east of the respective centerlines of the NWP railroad line and Healdsburg Avenue	57	54/49	74
Source: Illingworth & Rodkin, Inc., 2016.				

Regulatory Framework

The City of Healdsburg has established plans and policies designed to limit noise exposure at noise sensitive single-family residential land uses that are relevant to the proposed project. These plans and policies are contained in the Safety Element of the City of Healdsburg's 2030 General Plan. The 2030 General Plan discusses numerous policies that are relevant to the proposed project. The City's exterior noise level standards for designated land uses throughout the City of Healdsburg are 60 dBA L_{dn} within the single-family residential land uses. The General Plan policies require that, where new development (including construction and improvement of roadways) is proposed, the new development must be consistent with the Land Use Compatibility for Community Noise Environment guidelines contained in the General Plan. A detailed noise attenuation study, including field noise measurements, should be prepared by a qualified acoustical engineer to determine appropriate mitigation and ways to incorporate such mitigation into project design and implementation.

Similarly, if a project were to result in an exceedance of the General Plan's normally acceptable land use compatibility standards, measures must be incorporated into the design to appropriately mitigate such impacts. The City encourages utilizing site location, orientation, and architectural design features, including sound walls, to the extent feasible to mitigate noise impacts on residential neighborhoods and other uses that are sensitive to noise.

The General Plan also addresses temporary construction noise. The General Plan noise policies encourage the use of temporary noise control blanket barriers, locate stationary noise-generating equipment as far as possible from sensitive areas, control noise levels from workers, and use a "disturbance coordinator" to respond to complaints about project construction noise. The City has placed these policies in order to control noise from entering homes and causing resident annoyance.

The City of Healdsburg has not identified quantifiable vibration limits that can be used to evaluate the compatibility of land uses with the expected vibration environment; however, the Safety Element of the General Plan does direct the use of the Federal Transit Administration (FTA) vibration impact criteria to evaluate the land use compatibility along railroad lines. The ground vibration impact

limits on residential land uses as stated in the FTA guidelines range from 72 VdB to 80 VdB for frequent to infrequent events.

Would the project result in:

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?

Less than significant impact with mitigation incorporated. Noise levels in the project area would be influenced by construction activities and from the ongoing operation of the project.

Short-term Construction Impacts

The project site is bordered by residential and commercial uses to the north, east, and south.

Noise impacts from construction activities depend on the various pieces of construction equipment in use, the timing, and length of noise generating activities, and the distance between the noise source and receiver. Noise generating construction activities for individual projects are typically carried out in stages. During each stage of construction, there would be a different mix of equipment operating. Construction noise levels would vary by stage and vary within stages based on the amount of equipment in operation and location where the equipment is operating. Typical noise levels for various phases of construction are shown in Table 11. Most demolition and construction noise is in the range of 80 dBA to 90 dBA L_{eq} at a distance of 50 feet from the source on an hourly average. Construction activities would generally occur at distances of 100 feet or more from the nearest adjacent residences.

Table 11: Typical Ranges of Noise Levels for Housing Construction at 50 Feet, L_{eq} (h) dBA

Construction Stage	Construction Equipment On-site	
	All Pertinent Equipment Present	Minimum Required Equipment Present
Ground Clearing	83	83
Excavation	88	75
Foundations	81	81
Erection	81	65
Finishing	88	72
Source: United States Environmental Protection Agency, 1973. Legal Compilation on Noise, Vol. 1, p. 2-104.		

The highest noise levels would be generated during ground clearing, excavation, and foundation construction, as these phases require the use of the heaviest, and loudest, pieces of construction equipment. Large pieces of earthmoving equipment, such as graders, excavators, and bulldozers, generate maximum noise levels of 85 to 90 dBA L_{max} at a distance of 50 feet. Adjacent residential land uses may be exposed to average noise levels between 70 to 80 dBA L_{eq} (h) during busy construction periods when construction activities occur at the portion of the project site nearest

these homes. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. As construction moves away from noise-sensitive receptors, noise levels generated by heavy construction will be lower.

According to the City's Noise Ordinance, noise from construction activity is exempt from the County's noise performance standards provided that all noise producing construction activities are limited to the daytime hours between 7:30 a.m. and 6:00 p.m., Monday through Saturday, and at no time on Sundays or legal holidays. In addition, for construction activities that could result in potentially significant impacts on noise-sensitive uses, Implementation Measure S-25 of the General Plan indicates that the project applicant should incorporate additional construction noise-reducing measures, and provides a suggested list of such measures. Noise generated by construction activities at the site would not be expected to adversely affect adjacent land uses provided standard construction noise controls are implemented at the site.

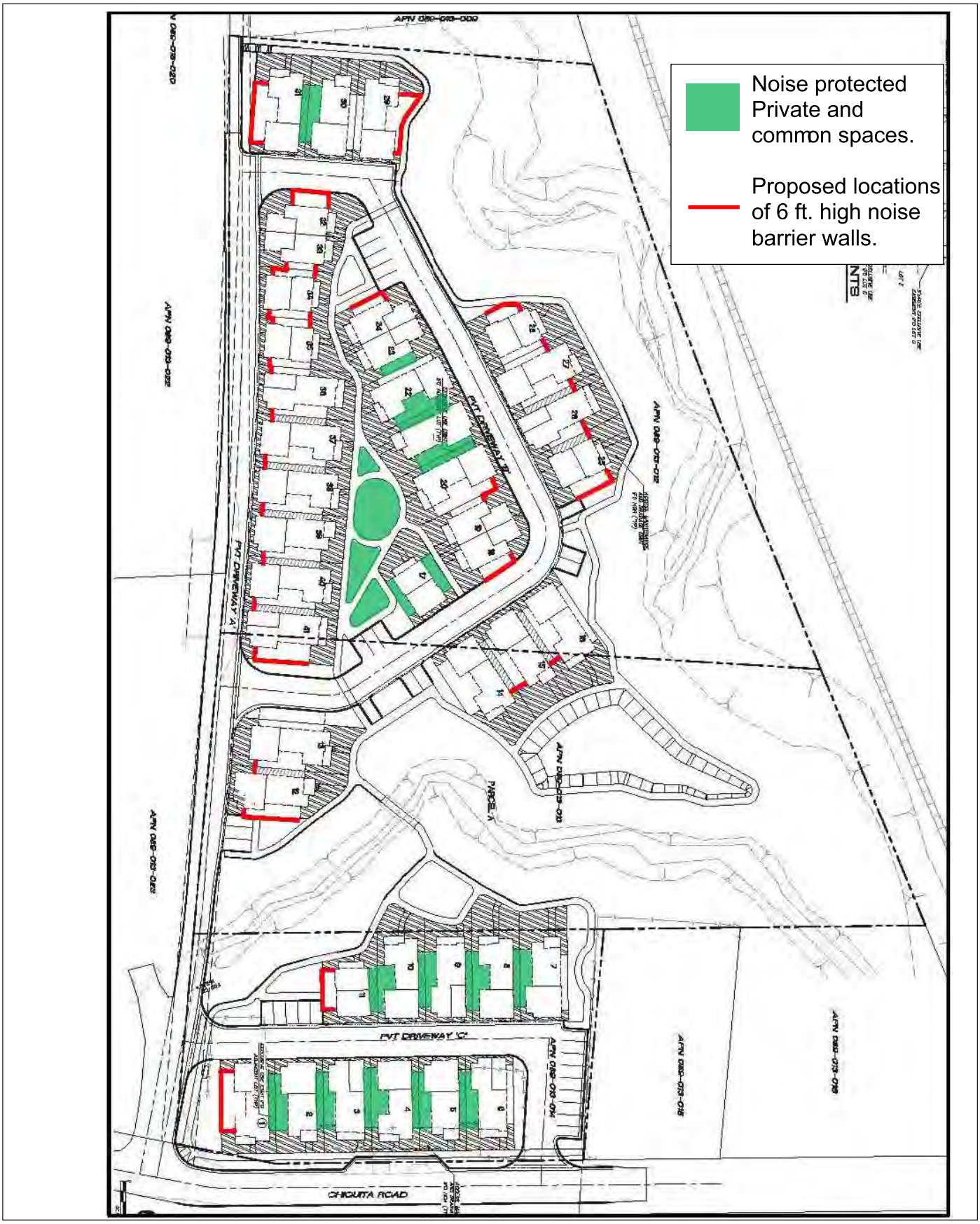
Therefore, to ensure the construction noise-reducing measures are implemented to reduce all temporary noise impacts from construction on nearby sensitive receptors to the maximum extent feasible, Mitigation Measure NOI-1 is required.

Long-term Operational Impacts

The City of Healdsburg General Plan Safety Element sets forth policies designed to limit noise exposure at noise-sensitive single residential land uses. The existing ambient noise environment was documented through the long-term ambient noise measurement effort. Existing ambient noise conditions were then compared for compliance with the City's land use compatibility standards for new residential and mixed-use land use development.

Exterior Noise Analysis

As documented in the noise monitoring effort, traffic on local roadways and US 101 are the dominant noise source on the project site. Based on the long-term noise measurements, ambient noise levels on the project site range up to 64 dBA L_{dn} at the project's western border, next to US 101; and range up to 57 dBA L_{dn} on the eastern border adjacent to Healdsburg Avenue. According to the City's land use compatibility standards, environments with ambient noise levels of up to 70 dBA L_{dn} are considered "conditionally acceptable" for new residential and mixed-use land use development. The Residential Master Plan does show a central open area where traffic and rail noise would be shielded by structures of intervening homes, such that environmental noise in this area can be expected to meet the City's "normally acceptable" limit 60 dBA L_{dn}. The project site design also incorporates easements across lot lines to create private side yard open spaces for each home. Based on a review of the lot layouts and residence placements, the side yards of Lots 2 through 10, 17, 21, 22, 23, and 30 will be shielded by the home structures such that environmental noise in the private open spaces of these homes can be expected to meet the City's "normally acceptable" limit of 60 dBA L_{dn}. However, some lots would not receive this structural shielding and mitigation would be required. To provide some noise protected useable private open space at the homes on lots other than those listed above, 6-foot-high side yard noise barriers should be located between adjacent residences and/or at the side yard frontages. The approximate locations of these noise barriers are shown in Exhibit 7.



Source: Illingworth & Rodkin, Inc (April 20, 2016)

FirstCarbon® SOLUTIONS

Exhibit 7
Noise Barrier Locations

THIS PAGE INTENTIONALLY LEFT BLANK

To be effective as a noise barrier, these walls should be built without cracks or gaps in the face or large or continuous gaps at the base and have a minimum surface weight of 3.0 pounds per square foot. Acceptable materials include a wood-framed, stucco-faced wall or a solid wood wall.

For a wood wall to meet these requirements it is typically recommended that a homogenous sheet material, such as ¾-inch plywood, be used as a backing for typical 1-inch-thick (nominal) wood fence slats. Using the plywood ensures the continued effectiveness of the barrier with age, since wood slats alone have a tendency to warp and separate with age allowing gaps to form and the barrier effect of the wall to diminish. A variety of other materials may be used for the barrier wall as long as the above minimum surface weight and gap-sealing specifications for noise attenuation are met.

Implementation of Mitigation Measure NOI-2 will ensure that the proposed private open spaces would be shielded sufficiently to ensure the exterior noise levels meet the City's "normally acceptable" noise standard of 60 dBA L_{dn} for new residential development.

Interior Noise Analysis

The future noise environment at the project site would continue to result from vehicular traffic but with the planned use of the NWP rail line for Sonoma Marin Area Rail Transit (SMART) commuter and freight service, rail traffic would also be a major source of noise on the project site.

As discussed above, the facades of the homes on lots 25 to 28, closest to the rail line, facing the tracks would be exposed to an L_{dn} between 66 and 68 dBA without Quiet Zone implementation and an L_{dn} between 63 and 65 dBA with Quiet Zone implementation. Quiet Zones are segments of rail lines where crews are exempt from regularly sounding the train horns at grade crossings. Based on a consideration of typical building techniques and exterior door and window percentages for single-family residents, exterior noise levels can be expected to be reduced within the residential interiors by 24 to 27 dBA when standard thermal insulating windows and doors are closed.

The City of Healdsburg requires that interior noise levels in residences, which are exposed to exterior noise levels of 60 dBA L_{dn}, or more be reduced to an L_{dn} of 45 dBA or less. Standard residential construction methods with the windows open for ventilation typically provides 15 dBA of noise reduction in interior spaces. With the windows, closed, standard residential construction provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior day-night average noise levels are 65 dBA L_{dn} or less, the interior noise level can typically be maintained below 45 dBA L_{dn} assuming standard construction methods and the incorporation of forced air mechanical ventilation systems in residential units. These systems allow the occupant the option of controlling noise by maintaining the windows shut. When these windows or doors are open, the noise attenuation from exterior to interior is typically reduced by 10 to 12 dBA, such that for this project exterior to interior nose reduction is expected to be between 12 and 17 dBA with open windows/doors.

Under future conditions, the NWP railroad line at the western edge is planned to carry commuter and freight rail operations. Estimates in the Draft Supplemental EIR indicate that with four to six freight pass-bys per day running at 50 miles per hour, the estimated cumulative noise levels is 59 dBA L_{dn} at 100 feet. The Environmental Noise Assessment has determined that homes on lots closest to the rail line (lots 25 through 28, between 115 to 135 feet from the track centerline), will be exposed to a future L_{dn} between 63 and 65 dBA with Quiet Zone implementation.

In addition to these average noise exposure levels, facades of residences on these lots facing the rail line will also be exposed to maximum noise levels between 81 to 84 dBA L_{max} from engine noise with Quiet Zone implementation, and to maximum noise levels between 97 and 99 dBA L_{max} from horns of southbound trains approaching the grade crossing without Quiet Zone implementation.

Based on a consideration of typical building techniques and exterior door and window percentages for single-family residences, exterior noise levels can be expected to be reduced within the residential interiors by between 24 and 27 dBA when standard thermal insulating windows and weather sealed doors are closed. When these windows or doors are open the noise attenuation from exterior to interior is typically reduced by 10 to 12 dBA, such that for this project, exterior to interior noise reductions are expected to be between 12 and 17 dBA with open windows and/or doors.

Based on this exterior-to-interior noise attenuation, interior L_{dn} levels in the rooms of the residences on lots 25 to 28 facing the NWP rail line with or without Quiet Zone implementation will be below the City's interior noise level criteria for residential uses of 45 dBA L_{dn} when standard thermal insulating windows and weather-sealed doors are closed for the purpose of noise control. However, the 45 dBA L_{dn} will be exceeded when windows at these or other homes on the site are open with or without Quiet Zone implementation. Therefore, the proposed residences will require mechanical ventilation to allow the windows to remain closed at the residents' option as the interior noise standards would not be met with open windows.

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

Less than significant impact. Groundborne vibrations consist of rapidly fluctuating motions within the ground that have average motion of zero. The effects of groundborne vibrations typically only cause a nuisance to people, but at extreme vibration levels, damage to buildings may occur. Potential impacts from construction activities and ongoing operations are discussed as follows.

Construction Vibration Impacts

In extreme cases, excessive groundborne vibration has the potential to cause structural damage to buildings. Common sources of groundborne vibration include construction activities such as blasting, pile driving, and operating heavy earthmoving equipment. Construction vibration impacts on building structures are generally assessed in terms of peak particle velocity (PPV). For purposes of this analysis, project related impacts are expressed in terms of PPV. Typical vibration source levels from construction equipment are shown in Table 12.

Table 12: Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Water Trucks	0.001	57
Scraper	0.002	58
Bulldozer-small	0.003	58
Jackhammer	0.035	79

Table 12 (cont.): Vibration Levels of Construction Equipment

Construction Equipment	PPV at 25 Feet (inches/second)	RMS Velocity in Decibels (VdB) at 25 Feet
Concrete Mixer	0.046	81
Concrete Pump	0.046	81
Paver	0.046	81
Pickup Truck	0.046	81
Auger Drill Rig	0.051	82
Backhoe	0.051	82
Crane (Mobile)	0.051	82
Excavator	0.051	82
Grader	0.051	82
Loader	0.051	82
Loaded Trucks	0.076	86
Bulldozer-Large	0.089	87
Caisson drilling	0.089	87
Vibratory Roller (small)	0.101	88
Compactor	0.138	90
Clam shovel drop	0.202	94
Vibratory Roller (large)	0.210	94
Pile Driver(impact-typical)	0.644	104
Pile Driver (impact-upper range)	1.518	112
Source: Compilation of scientific and academic literature, generated by FTA and FHWA.		

Propagation of vibration through soil can be calculated using the vibration reference equation of

*PPV = PPV ref * (25/D)^n (in/sec)*

Where:

PPV = reference measurement at 5 feet from vibration source
D = distance from equipment to property line
n = vibration attenuation rate through ground

According to Chapter 12 of the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment manual (2006), an “n” value of 1.5 is recommended to calculate vibration propagation through typical soil conditions.

The FTA has established industry accepted standards for vibration impact criteria and impact assessment. These guidelines are published in its Transit Noise and Vibration Impact Assessment document (FTA 2006). The FTA guidelines include thresholds for construction vibration impacts for various structural categories as shown in Table 13.

Table 13: Federal Transit Administration Construction Vibration Impact Criteria

Building Category	PPV (in/sec)	Approximate VdB
I. Reinforced—Concrete, Steel or Timber (no plaster)	0.5	102
II. Engineered Concrete and Masonry (no plaster)	0.3	98
III. Non Engineered Timber and Masonry Buildings	0.2	94
IV. Buildings Extremely Susceptible to Vibration Damage	0.12	90
Note: VdB=Velocity in decibels Source: FTA, 2006.		

Of the variety of equipment used during construction, the small vibratory rollers that are anticipated to be used in the site preparation phase of construction would produce the greatest groundborne vibration levels. Impact equipment such as pile drivers is not expected to be used during construction of this project. Smaller vibratory rollers produce groundborne vibration levels ranging up to 0.101 inch per second (in/sec) peak particle velocity (PPV) at 25 feet from the operating equipment.

The nearest off-site receptor is the residential structure located southeast of the project site on Chiquita Road, located approximately 30 feet from the nearest construction footprint where heavy construction equipment would potentially operate. At this distance groundborne vibration levels could range up to 0.077 PPV from operation of a small vibratory roller. This is below the industry standard vibration damage criteria of 0.2 PPV for this type of structure, a building of non-engineered timber and masonry construction (see Table 13). Therefore, construction-related groundborne vibration impacts would be considered less than significant.

Operational Vibration Impacts

The City of Healdsburg has not identified quantifiable vibration limits that can be used to evaluate the compatibility of land uses with the expected vibration environment; however, the Safety Element of the General Plan does direct the use of the Federal Transit Administration (FTA) vibration impact criteria to evaluate the land use compatibility along railroad lines. The FTA vibration impact criteria has been developed to assess vibration impacts associated with rapid transit projects based on maximum overall levels for a single event. According to the Groundborne Vibration Impact Criteria, residential homes will experience a frequent vibration impact of 72 VdB, an occasional vibration impact of 75 VdB, and infrequent vibrations of 80 VdB in the area.

Existing vibration sources in the project vicinity include rail operations on the NWP railroad line located west of the project site. Based on data in the SMART EIR documents for freight and

commuter rail pass-bys, the ground vibration at 115 feet from the rail track centerline (the approximate setback of the closest proposed residence) could be 79 VdB because of freight rail pass-bys and would be below 71 VdB because of SMART commuter rail operations. The FTA considers fewer than 30 vibration events per day to be "infrequent events" that would be subject to an 80 Vdb threshold. Rail operations along this portion are not expected to exceed 30 operations per day. Therefore, these vibration levels would not exceed the applicable impact threshold, and railroad vibration impacts to the proposed project would be less than significant.

Upon completion of construction, the project would not include any features or operations that would produce groundborne vibrations. As such, implementation of the proposed project would not result in any permanent vibration sources that would expose persons within the project vicinity to excessive groundborne vibration levels. Therefore, project-related groundborne vibration impacts would be considered less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less than significant impact. Neither the CEQA Guidelines nor the City's General Plan defines numeric values for what constitutes a "substantial permanent increase in ambient noise levels." However, a characteristic of noise is that a change of 3 dB is the lowest change that can be perceptible to the human ear in indoor environments; a change of 5 dBA is considered the minimum readily perceptible change to the human ear in outdoor environments. Therefore, for purposes of this analysis, a substantial increase is considered 5 dBA or greater in ambient noise levels in the project vicinity above levels existing without the project.

The future environmental noise levels on the site due to highway and roadway traffic are likely to increase with future increases in highway traffic. Assuming an annual growth rate between 1 percent and 2 percent per year, traffic noise levels in the area would be expected to increase by a maximum of 2 dBA L_{dn} over the next 20 years. This would result in future traffic noise levels on the site ranging from between 66 dBA L_{dn} on the western portion of the site (closest to US 101) to 59 dBA L_{dn} on the eastern portion of the site (farthest from US 101).

A characteristic of noise is that a doubling of sound sources with equal strength is required to result in a perceptible increase (defined to be a 3 dBA or greater) in noise level. Implementation of the project would not result in a doubling of traffic volumes along any roadway segment in the project vicinity. Thus, implementation of the project is not expected to result in even a perceptible increase (3 dBA or greater) in traffic noise levels on local roadways in the project vicinity. Therefore, project-related traffic noise impacts on off-site receptors would be less than significant.

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

Less than significant impact with mitigation incorporated. Noise impacts could occur during construction activities either from (1) the noise impacts created from the transport of workers and movement of construction materials to and from the project site, or from (2) the noise generated

on-site during ground clearing, excavation, and foundation construction. Large earthmoving machines such as graders, excavators, and bulldozers generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Adjacent residential land uses may be exposed to average noise levels between 70 and 80 dBA during busy construction periods when construction activities occur at the portion of the project site nearest these homes. Although there would be a relatively high single-event noise exposure potential causing intermittent noise nuisance, the effect on longer-term (hourly or daily) ambient noise levels would be small. In addition, compliance with the City's permissible hours of construction as well as implementation of best management noise reduction techniques and practices outlined in Mitigation Measure NOI-1 would reduce these construction noise levels, and would ensure that construction noise would be reduced to a less than significant impact on sensitive receptors in the project vicinity.

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?

No impact. The Healdsburg Municipal Airport is located approximately 2.3 miles northwest of the project site. In addition, the project site is not located within in the boundaries of an airport land use plan. As such, the proposed project would not expose persons residing or working in the project vicinity to excessive aviation noise. No impacts 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?

No impact. There are no private airstrips within the project vicinity. The closest private airstrip is the Graywood Ranch Airport, located over 20 miles southeast of the project site. Therefore, no impacts associated with private airstrip noise would occur.

Mitigation Measures

MM NOI-1 In accordance with General Plan Policy S-25 and the City's Municipal Code Chapter 9.32, the construction contractor shall comply with the City of Healdsburg Noise Ordinance and implement the following construction noise reduction measures:

a. Construction activities shall be limited to between the hours of 7:30 a.m. and 6 p.m. on weekdays, and 8 a.m. to 6 p.m. on Saturdays. No construction shall occur on Sundays or legal holidays (i.e., state and federal holidays).
b. Equip internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and are appropriate for the equipment.
c. Locate stationary noise-generating equipment as far as possible from sensitive receptors in the vicinity.
d. Utilize "quiet" air compressors and other stationary noise sources where technology exists.
e. Erect temporary noise control blanket barriers in a manner to shield noise-sensitive uses.

f. Control noise levels from workers' amplified music so that sounds are not audible to sensitive receptors in the vicinity.
g. Designate a "disturbance coordinator" responsible for responding to complaints about project construction noise and taking reasonable measures to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction-site and include it in any notice sent to neighbors regarding the construction schedule.

MM NOI-2 In order to reduce exterior noise levels in *all* proposed private residential yard areas of the project, which may not otherwise be shielded from the ambient noise from the highway or rail lines, the minimum 6-foot-high private sideyard noise barrier fencing proposed around private yard areas should be located between the adjacent residences and/or at the side yard frontages, as shown in Exhibit 7. This would apply to fencing around all the private yard areas for homes except for the residences as designed for Lot 2 through 10, 17, 21, 22, 23, and 30.

The barrier shall be built without cracks or gaps in the face or large or continuous gaps at the base and shall have a minimum surface weight of 3.0 pounds per square foot. Acceptable materials include but are not limited to a wood-framed, stucco-faced wall or a solid wood wall. For a wood wall to meet these requirements, it is typically recommended that a homogenous sheet material, such as ¾-inch plywood, be used as a backing for typical 1-inch-thick (nominal) wood fence slats.

MM NOI-3 All proposed residential units shall include an alternate form of ventilation, such as an air conditioning system, to ensure that windows can remain closed for a prolonged period of time. The building plans approved by the City shall reflect this requirement.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
13. Population and Housing *Would the project:*				
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, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Environmental Evaluation

The City of Healdsburg Growth Management Ordinance (GMO), adopted February 2008, sets forth established annual quantified limits on the rate of residential growth (limited to 30 new market rate housing units allowed per year). Affordable housing units are not subject to the GMO and may be constructed without limitation. The City of Healdsburg's 2015–2023 Housing Element Update, adopted November 17, 2014, showed the need for attainable workforce house, in addition to affordable housing for young families and core professionals in the City of Healdsburg.

As of January 2016, the population of the City of Healdsburg was estimated 11,699. Using 2.59 persons per dwelling,[2] the Residential Planned Development project's 44 single-family homes would result in 114 new residents. The future growth allowed by the General Plan Amendment and re-zoning of the adjacent three parcels would result in six additional units, with a population of 15 new residents. The proposed project could then result in an addition of 129 new residents to the City of Healdsburg.

The Housing Element provides the following projected housing needs for Healdsburg, based on the Regional Housing Need Allocation attributed to Healdsburg to plan for its fair share of the State's housing need for all income levels as shown in Table 14:

[2] This estimate is in accordance with information from the Department of Finance, which includes average household size of 2.81 persons per household for renter units and 2.38 persons per household for owner-occupied units, as further indicated on page 40 of the Housing Element.

Table 14: Share of Regional Housing Need

Income Group[2]	No. of Units	Share of Total	Annual Average
City of Healdsburg: 2014–2022[1]			
Extremely Low (≥30% of AMI)	15	10%	2
Very Low (31–50% of AMI)	16	10%	2
Low (51–80% of AMI)	24	15%	2
Moderate (81–120% of AMI)	26	17%	3
Above Moderate (≥120% of AMI)	76	48%	8
Total	**157**	**100%**	**16**

Notes:
Numbers may not add up due to rounding
[1] Planning period includes 1/1/2014 through 10/31/2022
[2] Area median income established by HUD on an annual basis
Source: ABAG Regional Housing Needs Allocation, July 2013.

The project will provide seven housing units for very low, low and moderate-income residents, in compliance with the City of Healdsburg Inclusionary Housing Ordinance, and an 6 units for middle-income earners which (while not required) addresses City goals and the recently adopted City Housing Action Plan.

Would the project:

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)?

Less than significant impact. The project would develop 44-single-family homes on a 9.95-acre site, and add the potential for six additional units in the future. Using the City of Healdsburg's 2010 average household size figure of 2.59 provided by the California Department of Finance, the project could increase the population by as much as 129 persons. This represents 1 percent of the City's 2020 estimated population of 12,900.

The project would introduce new residents to the project area. The implementation of the project would be consistent with the City of Healdsburg 2015–2023 Housing Element to attain workforce housing, and affordable housing. The project site is surrounded by urban uses that are served by urban services and utilities (roadways, potable water, sewer, electricity, natural gas, etc.). Although the project would introduce new residents to the project area, the implementation of the project would not induce substantial population growth within the City. The impact would be less than significant.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Less than significant impact. Currently there are four residences, one large shipping container, a large inert refuse pile, and an RV and vehicle storage facility on the project site. The four residences and shipping container would be demolished. The Residential Master Planned project would ultimately construct 44 single-family dwellings, and net gain of 40 residential units, which would be consistent with the housing needs assessed in the City's General Plan. The existing housing on the three adjacent parcels included in the General Plan Amendment would not be demolished. If those parcels are redeveloped in the future, the Residential Master Plan designation would require that housing be built on the site. The overall housing in the City of Healdsburg will increase. Therefore, the project would not displace substantial numbers of existing housing and there would be no impact.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Less than significant impact. Currently there are four residences, one large shipping container, a large inert refuse pile, and an RV and vehicle storage facility on the project site. The four residences and shipping container would be demolished. The overall supply of housing will increase in the City of Healdsburg by 40 units. The project would not remove any existing housing that if removed would displace substantial numbers of people. Therefore, there would be no impact.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
14. Public Services *Would the project 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:*				
a) Fire protection?	☐	☐	☒	☐
b) Police protection?	☐	☐	☒	☐
c) Schools?	☐	☐	☒	☐
d) Parks?	☐	☐	☒	☐
e) Other public facilities?	☐	☐	☒	☐

Environmental Evaluation

Would the project 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:

a) Fire protection?

Less than significant impact. The project site is located within the service area of Healdsburg Fire Department, which operates from one fire station located approximately 1.43 miles south of the project site. The fire station maintains minimum on-duty shift staffing of three persons utilizing two 40-hour Firefighters and Reserve Firefighters.[3] The organization comprises 12 paid personnel and 18 Reserve Firefighters. According to the most recent data, average response time for the Healdsburg Fire Department is 4 minutes and 2 seconds.[4] The project would develop 44 single-family housing with 104 parking spaces on the 9.95-acre site, which would result in a potential population increase of approximately 115 people. The increase demand for fire protection services as a result of the increase in population at the site would be offset by the installation of automatic fire sprinkler systems, which are required to be installed and maintained in all newly constructed buildings, including single-family dwelling units, consistent with the City of Healdsburg Municipal Code; NFPA-13 (2013 Edition). Installation of a fire alarm would also be required for all 44-single-family housing units and would be consistent with the California Building Code. However, project implementation is not anticipated to increase the Healdsburg Fire Department's response times to the project site or

[3] City of Healdsburg Fire Department website, accessed July 29, 2016, http://www.ci.healdsburg.ca.us/249/About-Us and personal communication with Linda Collister, Fire Marshall on December 1, 2016.

[4] "Healdsburg 2030 General Plan," City of Healdsburg, accessed July 29, 2016. Website: http://www.ci.healdsburg.ca.us /DocumentCenter/Home/View/633.

surrounding vicinity, require the construction of new facilities, or physically alter existing fire protection facilities.

According to the City of Healdsburg General Plan, the southern portion of the project site is located within a Wildfire Urban Interface Fire Area. There are three categories of Wildlife Fire Hazard Zones defined by the General Plan; Moderate Hazard, High Hazard, and Very High Hazard. The southern portion of the project site is located in an area designated as Moderate. As such, a defensible space must be constructed for all new buildings located within a Wildfire Hazard Zone as outlined in Government Code 51175-51189 "Construction and Defensible Space Standard within Designated Fire Severity Zones." In order to comply with this Code, the Healdsburg Fire Department will require conditions of approval specific to the project. Risk from wildfire hazard will be less than significant.

In accordance with California Government Code Section 5390, the project would be required to pay a fee to offset the increased demand, which would pay for the additional services. The 44 single-family housing units with parking would be constructed in compliance with local and state fire codes, which would ensure that the structures would not result in a new fire hazard at the site. Any future units constructed under the extended Residential Master Plan designation on the adjacent three parcels would also be constructed in compliance with local and state fire codes. The City of Healdsburg standard conditions of approval would require the provision of a fire flow analysis to ensure adequate water pressure and flow rates are available on-site for firefighting purposes. No additional fire personnel or equipment would be necessary to serve the project. This increase in 44 single-family uses and population would not significantly increase the demand for fire protection services, because the project site is located within an urban, built-up area with adequate response times and infrastructure. A system of fire hydrants at approved locations by the fire department would also be installed and the gas line shutoff would be clearly marked and easily accessible. Therefore, impact would be less than significant.

b) Police protection?

Less than significant impact. Police protection services would be provided by the Healdsburg Police Department. The Police Department is headquartered at 238 Center Street, approximately 1.9 miles south of the project site. The project does not propose new or physically altered police protection facilities, nor would the project create an environment generally associated with unlawful activities requiring increased law enforcement services. The project would create 44 single-family residences, which would result in potential population increase of approximately 115 people. This increase would be nominal compared to the existing 11,500 residents currently living in the City of Healdsburg. Therefore, the impacts would be less than significant.

c) Schools?

Less than significant impact. The project's 44 single-family residences could result in an increased demand for school services. Based on a student generation rate of 0.6 student per dwelling, the project could generate as many as 26 new students.

The project site would be served by the Healdsburg Unified School District (HUSD). HUSD enrollment in fall 2007 includes its elementary schools: 390 students at Healdsburg Elementary and 391 students at Fitch Mountain Elementary, as well as 534 students at Healdsburg Junior High School, 890 students at Healdsburg High, and 52 students at Marce Bacerra Continuation High School.[5] The 2014–2015 total student enrollment for HUSD schools is 1,736 students—2,384 fewer students than HUSD's 2007–2008 capacity as stated in the City of Healdsburg General Plan. Students from the project site would attend the following educational facilities:

- Healdsburg Elementary, located approximately 1.77 miles east of the site, for grades kindergarten through 2.
- Fitch Mountain Elementary, located approximately 1.69 miles east of the site, for grades kindergarten through 2.
- Healdsburg Junior High, located approximately 1.80 miles southeast of the site, for grades 6–8.
- Healdsburg High, located approximately 1.09 miles southeast of the site, for grades 9–12.
- Marce Bacerra, located approximately 1.09 miles southeast of the site, a continuation high school.

An addition of 26 students in the HUSD would generate an increase less than 1 percent in the student population. California Government Section 65996 provides for the collection of school impact fees to ensure that adequate school and related facilities will be available. Therefore, impacts would be less than significant.

d) Parks?

Less than significant impact. The addition of 44 single-family residences would increase the demand for park facilities in the area. The City of Healdsburg General Plan Policy PS-H-4 sets a minimum citywide ratio of 5.0 acres of parkland per 1,000 residents for planning purposes. Project implementation would result in a net increase of 44 single-family residences, with a potential population increase of approximately 114 persons. The project does not include the development of recreational facilities.

The City's 2030 General Plan Background Report identified that the City had 43.32 acres of public parkland, including the Cities 7 neighborhood and community parks, Healdsburg Plaza, West Plaza Park, Carson Warner Memorial Skate Park, and the County's Veterans Memorial Beach Park. The General Plan indicated the City is deficient by almost 16 acres in meeting its goal of developed neighborhood and community park acreage relative to population. In addition to a deficiency of local park acreage, playing fields and park buildings are regularly used to maximum capacity. In accord with General Plan Policy PS-18 (which calls for update to the Parks and Open Space Master Plan as needed to revise recreational needs and priorities) the City Parks and Recreation Commission meets regularly, and assesses ongoing community needs for park facilities. Further the City Bicycle and Pedestrian Master Plan has been adopted and is relied upon to facilitate pedestrian links to

[5] City of Healdsburg. Healdsburg 2030 General Plan Update: Draft Environmental Impact Report. Website: http://www.ci.healdsburg.ca.us/DocumentCenter/Home/View/670. Accessed July 29, 2016.

parks and open space areas, including trail systems owned by Sonoma County Agricultural and Open Space District.

Byron Gibbs Park, a 2.5-acre park, is located approximately 0.65 mile northeast of the project site and includes picnic areas, restrooms, and playground. The 4.0-acre Carson Warner Memorial Skate Park is located south of the project site. Park locations can be found in the Healdsburg 2030 General Plan Background Report Figure 14 Healdsburg Area Parks, page 121. Parks and acreage in Healdsburg shown in Table 15 of the background report identifies the following parks in Healdsburg, not including the open space lands in and near the community.

Table 15: Parks in Healdsburg

Property Name	Acreage
Barbieri Brothers Park	3.5
Byron Gibbs Park	2.5
Villa Chanticleer	16.7
Tayman Park/Golf Course	60.0
Giorgi Park	3.0
Recreation Park	4.0
Tilly Park	0.6
Plaza	1.0
Railroad Park	1.0
Badger Park and community garden	11.0
Carson Warner Memorial Skate Park	1.0
West Plaza Park	1.5
Veterans Memorial Beach Park	11.0
Healdsburg Ridge Open Space Preserve	155
Community Center	10

The City has also approved a 36.15-acre community park that will be constructed as part of the Saggio Hills development project, located at the north end of the City. The master plan for this park includes active and passive use areas, trails, and support facilities to serve the community. The City also has a joint use agreement with the Healdsburg Unified School District to utilize its fields for recreational activities.

In accordance with the City of Healdsburg Municipal Code Section 17.08.350, the project proponent shall dedicate land for parks or pay a fee in-lieu thereof, or both, for parks or recreational facilities to accommodate demand of the project. The estimated addition of 114 residents generates a minimum demand for 0.57 acre of parkland (based on the Municipal Code's minimum requirement of 5.0 acres per 1,000 residents). Section 17.04.630 establishes a formula of 2 acres per 100

dwelling units, assuming a 4-person-per-unit density for single-family residential land use. The project therefore would be subject to dedication of parkland based on 44 units x 2 acres/100 DUs = 0.88 acre of parkland. For projects that comprise fewer than 50 lots, the project proponent shall pay a fee equal to the land value of the portion of the local park required to serve the residents. These funds would be required to upgrade existing facilities or services in the area or acquire additional parklands to serve the residents. Partial credit may be given for private open space that is used and maintained by the subdivision.

The development includes a small, common Parcel B in addition to pedestrian pathways running along the riparian corridor that will provide pedestrian access to the meandering "park-like" open space, which will be maintained within proposed Parcel A containing the natural riparian corridor along the creeks and several drainage basins. In addition, the project will pay its fair share for public parklands as required by Section 17.04.630, prior to recordation of the Final Map. Therefore, public service impacts on existing and planned parks would be less than significant.

e) Other public facilities?

Less than significant impact. The addition of 44 single-family residences could create an increase in the demand for library facilities and community centers. The Healdsburg Regional Library is located approximately 1.57 miles south of the project site, and the Healdsburg Community Center is located approximately 0.26 mile south of the project site. In accordance with California Development Code Section 53090, development impact fees would be required to offset any additional public service needs. Therefore, since the project site would be served by the existing library and community center located less than 1 mile from the site in addition to the legislated development fees, impacts would be less than significant.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
15. Recreation				
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?	☐	☐	☐	☒

Environmental Evaluation

The City of Healdsburg's Community Services Department (CSD) operates and maintains a variety of parks and recreational facilities throughout the regional area. The CSD's service area is coterminous with that of HUSD. In addition to the Healdsburg Plaza and West Plaza Parks, Villa Chanticleer, Tayman Park Golf Course, Municipal Pool, and Senior Center, there are seven neighborhood and community parks within the city limits, resulting in total park acreage of 43.32 acres. A joint use agreement with HUSD provides another 25 acres of school athletic fields available for community use. Dog parks are also provided at Badger Park and Villa Chanticleer. The Healdsburg Community Center is located south of Grove Street and currently provides recreation programs, after school activities, preschool services, adult and youth enrichment classes, play fields, and a play structure. The master plan for the site includes a synthetic turf field and major enhancements to the building.

The City's goal is to provide 5.0 acres of developed neighborhood and community parkland per 1,000 residents. The City's 2030 General Plan indicates that the City is currently deficient by almost 16 acres in meeting its goal of developed neighborhood and community park acreage relative to population. In addition to a deficiency of regional park acreage, all playing fields and park buildings are regularly used to maximum capacity. However, the City has approved a 36.15-acre community park that will be constructed as part of the Saggio Hills project.

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?

Less than significant impact. Byron Gibbs Park, a 2.5-acre park, is located approximately 0.63 mile southeast of the project site and includes picnic areas, restrooms, and playground. The 4.0-acre Carson Warner Memorial Skate Park is located approximately 0.92 mile south of the project site.

The project could increase the local population by approximately 114 persons, which would increase demand for parks and other recreational facilities. The City of Healdsburg Municipal Code Sections

12.28.080 through 12.28.120 permit the City to charge and assess fees for its parks to offset maintenance costs. Currently, impact fees are charged for new residential construction to fund improvements to the City park system. The project demand on existing parkland is further discussed in Item 14.d above, and the project applicant would also be required to dedicate land or pay a fee in-lieu thereof, or both, for park or recreational purposes. With the mandatory compliance with the City's in-lieu fee and development impact fee requirements, the project's impacts to recreational facilities would be less than significant. The project would also construct a pedestrian pathway running along one side of the riparian corridor to provide pedestrian access to a meandering "park like" open space, decreasing the use of other surrounding parks. Additionally, the population growth would not be considered substantial enough to result in physical deterioration of existing parks or other recreational facilities. Therefore, impacts on existing and planned park facilities and required maintenance would be less than significant.

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?

No impact. The project does not include any new or expanded off-site facilities. The anticipated growth of approximately 114 persons to the area would be served by existing and proposed parks and recreational facilities located within 2 miles of the project site, as well as the "park like" open space mentioned above, plus the payment of fees to fund improvement to existing parks in the area. This increase on parks would be minimal and would not require the construction or expansion of existing facilities. Therefore, no impact would occur.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
16. Transportation/Traffic *Would the project:*				
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 regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☒	☐	☐

Environmental Setting

The following analysis is based on the Traffic Impact Study, prepared by Whitlock & Weinberger Transportation (w-Trans), dated November 3, 2016. The study is provided in Appendix G.

Traffic impacts are evaluated by determining the number of new trips that the project would be expected to generate, distributing these trips to the surrounding street system based on existing or anticipated travel patterns specific to the project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Because the proposed General Plan amendment includes three parcels that are not included in the proposed Residential Planned Development for the site, the potential residential development on those three parcels was

qualitatively assessed, and determined to generate under six trips. W-Trans concluded that the change in land use would result in a less than significant impact as the planned improvements along Dry Creek Road would provide adequate capacity to accommodate the minimal increase in trips due to the re-designation of the three parcels. Therefore, that traffic generation is not analyzed at the same level as the traffic generated by the Residential Planned Development. Details of the assumptions made for that analysis are presented in the Transportation Memo by W-Trans in Appendix G.

Intersection Operations

Operating conditions during the AM and PM peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The AM peak hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the PM peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

The study area consists of the section of Chiquita Road connecting to the project access point as well as the following intersections:

1. US 101 South Ramps/Dry Creek Road
2. US 101 North Ramps/Dry Creek Road
3. Grove Street/Dry Creek Road
4. Grove Street/Chiquita Road
5. Grove Street/Healdsburg Avenue

Study Intersections

- **US 101 South Ramps/Dry Creek Road** is a four-legged intersection. The north leg is the US 101 southbound off-ramp and south leg is the on-ramp. The north leg is stop-controlled. There are no crosswalks at the intersection.
- **US 101 North Ramps/Dry Creek Road** is a four-legged intersection where the south leg is the off-ramp for US 101 North. The south leg is stop-controlled. The north leg is the on-ramp to US 101 north.
- **Dry Creek Road** west of US 101 is under the jurisdiction of the County of Sonoma, and the ramps and interchange are under Caltrans jurisdiction, so the US 101 South Ramps intersection is actually completely outside the City of Healdsburg. Only the east Dry Creek Road leg of the US 101 North Ramps intersection is under the City of Healdsburg's jurisdiction; the remaining three-quarters of the intersection belong to Caltrans. However, despite the intersections being predominantly outside their jurisdiction, the City of Healdsburg has been collecting funds with the intent of signalizing both of the interchange intersections to address current and anticipated future deficient operation.
- **Grove Street/Dry Creek Road** is a four-legged signalized intersection. Grove Street, which runs north-south, has permitted left turns and Dry Creek Road, which runs east-west, has protected left turns. There are crosswalks and pedestrian phasing on each leg.

- **Grove Street/Chiquita Road** is a tee-intersection where the side approach, Chiquita Road, is stop-controlled. There is a crosswalk on the Chiquita Road approach.
- **Grove Street/Healdsburg Avenue** is a four legged intersection where the east leg is a private driveway. The east and west approaches are split-phased and the Healdsburg Avenue north and south approaches have protected left turns. There are crosswalks and pedestrian phasing on the south and west legs of the intersection. There is also pedestrian phasing across the private driveway, the east leg.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the vicinity of the proposed project site; however, sidewalk gaps, obstacles, and barriers can be found along some or all of the roadways connecting to the project site. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

- **Dry Creek Road**—Intermittent sidewalk coverage is provided on Dry Creek Road with significant gaps on one or both sides of the street between US 101 and Healdsburg Avenue. Sidewalks are provided along most developed property frontages, but are missing along undeveloped and even some developed parcels. Curb ramps and crosswalks at side street approaches are intermittent, non-existent, or not compliant with current ADA standards. High volumes of traffic, intersection turning movements, interchange movements, etc. are in conflict with pedestrian movements. Lighting is provided by overhead streetlights.
- **Grove Street**—Continuous sidewalks are provided on the east/south side of Grove Street between Dry Creek Road and Healdsburg Avenue. Sidewalks are not provided on the west/north side of the street except along the frontage of the new housing development currently under construction at the corner of Grove Street/Chiquita Road. The sidewalk will be extended along the west side south as far as Grove Court, where a crosswalk with a rectangular rapid flashing beacon is to be installed.
- **Chiquita Road**—No sidewalks currently exist on Chiquita Road, though they will be installed on the south side along the frontage of the Chiquita Grove Subdivision, from US 101 to Grove Street. This under-construction subdivision is substantially changing the character of this section of Chiquita Road from a rural country lane to a standard city street.

Bicycle Facilities

The California Department of Transportation (Caltrans) 2012 Highway Design Manual classifies bikeways into three categories:

- **Class I Multi-Use Path:** a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane:** a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route:** signing only for shared use with motor vehicles within the same travel lane on a street or highway.

Guidance for Class IV Bikeways is provided in Caltrans's 2015 Design Information Bulletin Number 89: Class IV Bikeway Guidance (Separated Bikeways/Cycle Tracks).

- **Class IV Bikeway:** also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include but is not limited to grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, Class II bike lanes exist on Grove Street from north of Dry Creek Road to Healdsburg Avenue. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 16 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the City of Healdsburg Bicycle and Pedestrian Master Plan.

Table 16: Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Grove Street	II	0.60	North of Dry Creek Road	Healdsburg Avenue
Dry Creek Road	III	0.18	Grove Street	Healdsburg Avenue
March Avenue	II	0.47	Healdsburg Avenue	University Avenue
Healdsburg Avenue	III	0.82	Dry Creek Road	Parkland Farms Boulevard
Planned				
Foss Creek Pathway	I	2.45	City Hall	City Limits
Grove Street	II	0.12	Dry Creek Road	North of Dry Creek Road
Grove Street	III	1.0	Vine Street	Dry Creek Road
Healdsburg Avenue	II	0.79	Parkland Farms Boulevard	City Limits
Source: City of Healdsburg Bicycle and Pedestrian Master Plan, Sonoma County Transportation Authority, 2008.				

Transit Facilities

Sonoma County Transit (SCT) provides fixed route bus service in Healdsburg. SCT Route 60 provides service to destinations throughout the City, connecting to Cloverdale to the north and Santa Rosa to the south and running approximately hourly from 7:00 a.m. to 10:00 p.m. The route travels north on Healdsburg Avenue and south on Grove Street, and stops near the intersection of Grove Street and

Healdsburg Avenue going in both directions. Weekend service runs from 10:00 a.m. to 9:00 p.m. with headways of 1.5 to 2 hours.

Healdsburg Transit provides loop service at approximately one-hour headways on Monday through Saturday from 9:00 a.m. to 4:00 p.m., with stops on Grove Street and Healdsburg Avenue near the project site.

Two bicycles can be carried on most SCT buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on SCT buses at the discretion of the driver.

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system because of a physical or mental disability. SCT Paratransit is designed to serve the needs of individuals with disabilities within Healdsburg.

Regulatory Context

City of Healdsburg

The Level of Service (LOS) standard for Healdsburg is contained in the Healdsburg 2030 General Plan Policy Document, and reads as follows:

> The City shall strive to maintain Level of Service D operation during periods of peak traffic flow at critical intersections, and Level of Service C operation at all other times. These standards shall apply only to intersections of an arterial street with either another arterial or a collector street and intersections of two collector streets. Further, LOS F operation shall be acceptable for a stop-controlled approach to a through street provided the higher levels of delay affect 25 vehicles per hour or less. Attainment of these Levels of Service shall be consistent with the financial resources available and the limits of technical feasibility.

In the Healdsburg 2030 General Plan Update Environmental Impact Report, 2009, the following additional guidance is provided.

> An impact on intersection operation would be considered significant if:
> a) The addition of traffic generated by a project degrades the peak-period LOS of an all-way stop-controlled or signalized intersection from A, B, C, or D (without the project) to E or F (with the project);
> b) The addition of Project generated traffic degrades the overall operation on a minor, stop-controlled approach to an unsignalized intersection from LOS A, B, C, D, or E (without the project) to LOS F (with the project) and the affected approach or movement serves 25 or more vehicles per hour; or
> c) The LOS (without project) is E or F and Project-generated traffic would increase the peak period average vehicle delay by 5 seconds or more.

Caltrans

Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D. Based on previous discussions with Caltrans staff, it is understood that the standard is to be applied to the overall average intersection delay and *not* that associated with any single movement or approach. Under this approach, if one movement experiences very high delay and also has moderate to high traffic volumes, the overall delay and level of service should reflect the critical nature of the condition. However, if one movement is expected to experience high delay but has very low traffic volumes, the overall intersection operation will likely still meet Caltrans standards.

Where intersections are integral to a local jurisdictions transportation system, Caltrans often accepts the operational standard applied by the local agency, in this case, the City of Healdsburg.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing lane configurations and traffic volumes during the AM and PM peak periods. Some of the counts were obtained specifically for this study in June 2016 before local schools dismissed for the summer, while others were taken in July 2014 when schools were not in session, but the City's tourist industry was flourishing. This condition does not include project-generated traffic volumes. Since vehicles currently use the US 101 off-ramps as if there were two approach lanes, for purposes of evaluating operation it was assumed that the ramps have two approach lanes. Existing traffic LOS are provided in Table 17.

Intersection Levels of Service

Table 17: Existing Peak Hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. US 101 S Ramps/Dry Creek Rd	31.5	D	37.8	E
Southbound Approach	***	*F*	***	*F*
2. US 101 N Ramps/Dry Creek Rd	7.6	A	6.4	A
Northbound Approach	*18.7*	*B*	*20.6*	*C*
3. Grove St/Dry Creek Rd	23.7	C	29.1	C
4. Grove St/Chiquita Rd	2.6	A	2.4	A
Southbound Approach	*9.8*	*A*	*9.7*	*A*
5. Grove St/Healdsburg Ave	8.6	A	11.3	B

Notes:
Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds

Environmental Evaluation

Would the project:

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?

Less than significant impact with mitigation incorporated. W-Trans evaluated the project impact on LOS. The following is a summary of the analysis.

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in Trip Generation Manual, 9th Edition, 2012 for "Single Family Detached Housing" (ITE LU 210). Because the existing housing on the site was occupied at the time the counts were collected, the trip generation of these three single-family residences was considered. "Single Family Detached Housing" rates were also applied to determine trips to deduct because of the loss of the existing dwellings.

The proposed project is located at 157 Chiquita Road and is expected to generate an average of 390 net new trips per day, including 31 trips during the AM peak hour and 41 during the PM peak hour. These new trips, indicated in Table 18, represent the increase in traffic associated with the project compared to existing volumes.

Table 18: Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Existing											
Single Family Dwelling	-3 du	9.52	-29	0.75	-2	-1	-1	1.00	-3	-2	-1
Proposed											
Single Family Dwelling	44 du	9.52	419	0.75	33	8	25	1.00	44	28	16
Total	**—**	**—**	**390**	**—**	**31**	**7**	**24**	**—**	**41**	**26**	**15**
Note: du = dwelling unit											

Existing plus Project Intersection Levels of Service

The "Existing Plus Project Intersection" scenario evaluates the addition of project traffic to the study area intersections. A summary of the LOS calculations under this scenario is provided in Table 19.

Table 19: Existing and Existing plus Project Peak-hour Intersection Levels of Service

Study Intersection *Approach*	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 S Ramps/Dry Creek Rd	31.5	D	37.8	E	34.5	D	39.4	E
Southbound Approach	***	*F*	***	*F*	***	*F*	***	*F*
2. US 101 N Ramps/Dry Creek Rd	7.6	A	6.4	A	7.7	A	6.6	A
Northbound Approach	*18.7*	*B*	*20.6*	*C*	*19.0*	*C*	*21.1*	*C*
3. Grove St/Dry Creek Rd	23.7	C	29.1	C	24.4	C	30.6	C
4. Grove St/Chiquita Rd	2.6	A	2.4	A	3.2	A	2.9	A
Southbound Approach	*9.8*	*A*	*9.7*	*A*	*9.9*	*A*	*9.9*	*A*
5. Grove St/Healdsburg Ave	8.6	A	11.3	B	9.2	A	11.8	B

Notes:
Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds

Based on these findings, the intersections are expected to continue operating at acceptable levels of service upon the addition of project trips to the existing volumes.

Baseline Conditions

Baseline operating conditions were determined with traffic from nearby projects that have been approved or are pending added to the existing volumes. The nearby projects included in the analysis are the residential projects of Chiquita Grove, the Midtowne project (also known as Sorrento Square), 110 Dry Creek Road, 1201 Grove Street, and Farmstand together with the commercial project proposed at 255 Dry Creek Road. The locations of the Baseline scenario projects, and trip generation and distribution assumptions for these projects are summarized in Appendix G.

The peak-hour intersection LOS are shown in Table 20 for the baseline conditions before and after planned improvements are implemented. As described below, these improvements are expected to be installed in the spring of 2017.

Table 20: Baseline and Baseline plus Project Peak-hour Intersection Levels of Service

Study Intersection *Approach*	Baseline Conditions				Baseline plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 S Ramps/Dry Creek Rd	**51.5**	**F**	**66.9**	**F**	**55.9**	**F**	**69.4**	**F**
Southbound Approach	**	***F***	**	***F***	**	***F***	**	***F***

Table 20 (cont.): Baseline and Baseline plus Project Peak-hour Intersection Levels of Service

Study Intersection *Approach*	Baseline Conditions				Baseline plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Improvement: AWSC, WB left-turn lane	12.3	B	14.1	B	12.6	B	14.3	B
2. US 101 N Ramps/Dry Creek Rd	8.3	A	7.8	A	8.4	A	8.1	A
Northbound Approach	*21.1*	*C*	*25.1*	*C*	*21.4*	*C*	*25.9*	*C*
Improvement: EB left-turn lane	8.3	A	7.8	A	8.4	A	8.1	A
Northbound Approach	*21.1*	*C*	*25.1*	*D*	*21.4*	*C*	*25.9*	*C*
3. Grove St/Dry Creek Rd	29.6	C	34.5	C	31.3	C	36.7	D
4. Grove St/Chiquita Rd	2.5	A	2.2	A	3.1	A	2.7	A
Southbound Approach	*9.9*	*A*	*9.9*	*A*	*10.0*	*B*	*10.1*	*B*
5. Grove St/Healdsburg Ave	8.9	A	11.6	B	9.4	A	12.1	B

Notes:
Delay is measured in average seconds per vehicle; LOS = Level of Service; results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* ** = delay greater than 120 seconds; **Bold** text = deficient operation; shaded cells = conditions with recommended improvements

In the Dry Creek Intersection Control Traffic Study, Healdsburg, CA Revised Draft Memorandum (2016) by Kimley-Horn, several alternative improvements at the Dry Creek Road interchange were considered short-term solutions to the impending deficient operation. Scenario #3 was selected as the preferred alternative; the description of this option as contained in the study is provided below:

> **Scenario #3**
> Install all-way stop-control (AWSC) at the intersection of Dry Creek Road/US 101 South Ramps and restripe the westbound approach to be a westbound left-turn lane for 125 feet and a westbound through lane. The eastbound approach at the intersection of Dry Creek Road/US 101 north ramps will be restriped to be an eastbound through lane and an eastbound left turn lane for 50 feet. This assumes no change to the intersection control at the Dry Creek Road/US 101 North Ramps and no change to the intersection of Dry Creek Road/Grove Street.

City staff have indicated that work is proceeding to install these improvements in the spring of 2017. It is further anticipated that the cost of these improvements will be borne by the projects currently in the approval process that cause the need for these improvements through proportional-share payments. With all-way stop controls, as detailed above and assuming the south and north ramps would continue to operate as two-lane approaches, under the projected Baseline volumes the intersection of Dry Creek Road/US 101 South Ramps would be expected to operate at an acceptable

service level during both peak periods. Though not operating unacceptably without improvements, the provision of a left-turn pocket as part of the planned improvements would provide some improvement to operation at Dry Creek Road/US 101 North Ramps.

Baseline plus Project Conditions

The Dry Creek Road/US 101 Southbound Ramps intersection operates at an unacceptable service level with our without the project during both peak hours. All other study intersections would operate at an acceptable level of service. In order to address the deficient operation at US 101 South Ramps/Dry Creek, the project should pay its proportional share towards the planned short-term improvement to install all-way stop controls at the southbound ramp intersection and add left-turn lanes at both intersections.

The three projects that would be required to pay a proportional share towards the planned improvement are The Oaks at Foss Creek, 255 Dry Creek Road, and 110 Dry Creek Road. The proportional share is based on the amount of trips a project generates in relation to the total amount of trips generated by all baseline projects. The development is expected to generate an average of 18.6 percent of total trips of existing volumes and baseline volumes, and would therefore be required to pay 18.6 percent of the total improvement costs.

Future and Future plus Project Intersection Levels of Service

The Future Cumulative plus Project scenario evaluates the combined addition of project traffic and approved project traffic to the study area intersections. Where available, segment volumes for the horizon year of 2040 were obtained from the County's gravity demand model and translated to turning movement volumes at most of the study intersections using a combination of the "Furness" method and factoring, depending on how the model was configured at each intersection. The Furness method is an iterative process that employs existing turn movement data, existing link volumes and future link volumes to project likely turning future movement volumes at intersections.

For the intersection of Grove Street/Chiquita Road, Future traffic volumes were developed based on the limited information available in the traffic model. The increment of new traffic projected by subtracting the model's 2010 data from 2040 data was added to the actual counts used in the Existing Conditions scenario at this location.

The lane configurations used for future conditions at the Dry Creek Road study intersections are detailed in Dry Creek Road Infrastructure Needs Analysis for the City of Healdsburg (March 2002). These improvements would include widening Dry Creek Road to two lanes in each direction starting at the US 101 North Ramps to the east of Healdsburg Avenue. An eastbound right-turn lane and westbound left-turn lane would be added at Dry Creek Road/US 101 South Ramps and an eastbound left-turn lane at the US 101 North Ramps (the left-turn lanes will be added in the short term under plans underway by the City).

Since the analysis methodologies used in this 2002 analysis have since been updated, additional modifications at the Dry Creek Road/Grove Street intersection are suggested to achieve acceptable operation under the City's standards based on application of the more current methodology. The

northbound Grove Street approach should be reconfigured to have a spare left-turn lane with protected left-turn phasing and the right-turn lane converted to use for through/right-turn movements. This change in lane assignment and phasing could be achieved with the existing right-of-way on the northbound approach.

These improvements were assumed to exist for purposes of the Future Conditions analysis and are shown in Figure 5 of the Traffic Impact Study (Appendix G). Additionally, since vehicles currently use the US 101 on and off-ramps as two lanes, it was assumed in the analysis that the off-ramps would both be widened and striped to provide two lanes approaching the intersections.

Under the anticipated Future volumes, and with signalization of the US 101 Ramp intersections and the lane reconfigurations along Dry Creek Road shown in Appendix G, Figure 5, the study intersections are expected to operate acceptably. Future operating conditions are summarized in Table 21.

Table 21: Future and Future plus Project Intersection AM and PM Peak-hour Levels of Service

Study Intersection *Approach*	Future Conditions				Future plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. US 101 S Ramps/Dry Creek Rd	35.3	D	32.9	C	35.4	D	33.0	C
2. US 101 N Ramps/Dry Creek Rd	36.1	D	51.9	D	36.3	D	53.1	D
3. Grove St/Dry Creek Rd	27.2	C	44.4	D	28.1	C	46.0	D
4. Grove St/Chiquita Rd	2.4	A	1.9	A	3.0	A	2.4	A
Southbound Approach	*9.9*	*A*	*10.0*	*B*	*10.0*	*B*	*10.2*	*B*
5. Grove St/Healdsburg Ave	7.4	A	10.2	A	7.9	A	10.6	B

Notes:
Delay is measured in average seconds per vehicle; LOS = Level of Service

All LOS would be LOS D or better *with project traffic added* during the AM and PM peak hours. The project would not cause LOS to rise to levels considered significant by the City. The project would not increase peak period average vehicle delay by more than 5 seconds, which is a threshold of significant identified in the City of Healdsburg 2025 General Plan EIR.

Short-term improvements are needed at Dry Creek Road/US 101 South Ramps as an intermediate improvement to address impacts associated with adding traffic projects that are currently going through the approval process. The funding and specific plan for these improvements is discussed further in Mitigation Measure TRANS-3.

Future Improvements

Because the changes to the geometrics and phasing at Dry Creek Road/Grove Street were not previously identified, the proportional share of the cost for modifying this intersection was also estimated. This improvement is not necessary in the short term, so the proportional share was estimated as a percent of the total volume change between current and future conditions. With an estimated planning level cost of about $45,000, the project's 3.1 percent share of the impact translates to a cost of $1,386.

In summary, with the payment of the proportional share of required improvements, the project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness of the circulation system. Payment of the project proportional fee for this improvement is included as Mitigation Measure TRANS-2. Based on the required and additional fee payments to fund traffic improvements the project, impacts would be less than significant.

Queuing

Unsignalized Intersection—Chiquita Road/Grove Street

Southbound right-turn and eastbound left-turn queues were determined using a methodology contained in John T. Gard's "Estimating Maximum Queue Length at Unsignalized Intersections" (ITE Journal, November 2001). The current storage length for the southbound right-turn lane and the eastbound left-turn lane are about 45 feet and 75 feet, respectively. Based on the cumulative weekday volumes during both peaks with the addition of the project trips, the maximum queue was determined to be no more than two vehicles. The queuing analysis is included in the Traffic Analysis.

The existing queue lengths are expected to adequately accommodate the projected queues at the Chiquita Road/Grove Street intersection.

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?

No impact. The project area is not subject to a congestion management program.

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?

No impact. The Healdsburg Municipal Airport is located approximately 1.75 miles northwest of the project site; as such, the project site is located far enough outside of the most commonly used take-off and landing patterns of the airport. The project does not include features that could change air traffic patterns such as tall buildings, smoke emissions, or wildlife attractants. No impacts 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)?

Less than significant impact. The site would be accessed from Chiquita Road 250 feet east of Montepulciano Road. As part of the project, improvements would be made to Montepulciano Road to provide access to Simi Winery only.

As part of the Chiquita Grove Subdivision, improvements are being made to Chiquita Road and the Chiquita Road/Grove Street intersection. The south side of Chiquita Road will be widened to include on-street parking and several landscaping bulb-outs. Pedestrian facilities at the intersection, including sidewalk, curb, and gutter, are being added. Further, a rectangular rapid flashing beacon (RRFB) is being added at the mid-block crosswalk on Grove Street south of Chiquita Road. These modifications will improve pedestrian access and improve the neighborhood character of the area, which promotes lower speeds, which would benefit the project.

Sight distance along Chiquita Road at the project access road was evaluated based on sight distance criteria contained in the Highway Design Manual published by Caltrans. The recommended sight distance at intersections of public streets is based on corner sight distance using the approach travel speeds as the basis for determining the recommended sight distance. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway is evaluated on the basis of stopping sight distance criterion and the approach speed on the major street.

For a 25-mile-per-hour road, the required corner sight distance is 275 feet, for which the stopping sight distance needed is 150 feet. Chiquita Road to the east and west of the proposed access road is fairly open and flat. According to the current site plans, the trees along Chiquita Road west of the proposed access road would be removed with the project and replaced with sidewalks and landscaping. To the east, there is an existing fence on the neighbor's property. Based on the site plan, there would be adequate sight distance to the west of the project access road, assuming appropriate landscaping. To the east, it is expected that the existing fence would obstruct the line of sight but it is understood that with the project, the fence would be replaced and relocated at an adequate setback or reduced in height to open up sight lines.

In order to maintain sight lines for vehicles leaving the site, it is recommended that any landscaping be trimmed such that tree canopies are at least 7 feet above the ground; other landscaping within the sight lines should be limited to low-lying vegetation no greater than 3 feet in height. In addition, signs and monuments planned along the project's frontage should be placed in a manner that does not obstruct sight distance at the project intersections.

It should be noted that sight distance at Montepulciano Road, using a 15-foot site distance setback, is restricted to the west by the presence of the Simi Winery monument sign and large trees. However, most vehicles using the driveway would be large winery trucks that would be able to see above the sign. Any passenger vehicles leaving the site would be able to approach the travel lane for a clear line of sight. Since it is a private driveway with minimal passenger vehicle volumes, the sight distance setback requirements may be inappropriate.

The proposed project would not increase any hazards along Chiquita Road. Further, the internal roadway network includes adequate travel lanes and pedestrian pathways that have been reviewed and deemed adequate by the City Engineer and the project traffic consultant. Consistent with General Plan Policy T-A-2b and Policy T-A-3, the City Engineer has reviewed the roadway designs and has determined they would provide safe and adequate access and circulation for the residential subdivision. The project does not propose sharp curves or dangerous intersections and, thus, project impacts would be less than significant.

e) Result in inadequate emergency access?

Less than significant impact. Emergency access would be provided via Chiquita Road. All parts of the project are accessed through the Chiquita Road entrance, which turns into a roundabout. All internal drive aisles would be subject to California Fire Code requirements, including provisions associated with minimum width and prohibition on parking (where necessary). As such, the project would be provided adequate emergency access and impacts would be less than significant.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Less than significant impact with mitigation incorporated. The Sonoma County Transit provides public transit services within the Healdsburg City limits. There is an existing bus stop on Healdsburg Avenue and Grove Street, approximately 0.06 mile southeast of the project site, and, therefore, the proposed project would be accessible to public transit.

There are no existing sidewalks along the southern frontage on Chiquita Road or along Montepulciano Road. There are sidewalks along the frontage of Healdsburg Avenue. According to the most current site plan, sidewalks are proposed along Chiquita Road and throughout the roadways within the project area. The project would improve the existing pathways within the site and will be upgraded to meet the City's Standards. A sidewalk or suitable pedestrian connection should be provided connecting the project site to existing facilities on Grove Street. Lack of suitable connection would require pedestrians to cross Chiquita Road mid-block, or walk along the edge of the roadway to east of the site which is substandard in width. This would create a potential safety issue for pedestrians, particularly children or those with mobility limitations. Pedestrian improvement is specified in Mitigation Measure TRANS-1 and would reduce impacts to less than significant.

There are existing bicycle lanes located along Healdsburg Avenue and Chiquita Road. These existing facilities help provide adequate access for bicyclists. The bicycle lanes along Chiquita Road are considered "Low Volume," consequently, the project site is not required to add "sharrows" along the roadways to alert drivers that cyclists are likely to occupy a portion of the travel lane. As such, no adverse impacts on alternative transportation would occur. Thus, impacts would be less than significant.

Mitigation Measures

Prior to certificate of occupancy, the following mitigation measures must be completed to the City's satisfaction:

MM TRANS-1 Prior to the certificate of occupancy for the project, a minimum 4-foot-wide all-weather pedestrian pathway (asphalt sidewalk with asphalt curb) shall be provided by the project within the existing City right-of-way, along the north side of Chiquita Road and connecting the project site sidewalk improvements to the existing sidewalk facilities located east of the development at the intersection of Chiquita Road and Grove Street.

MM TRANS-2 In addition to standard traffic impact fees required for new residential development, the project shall pay its proportional share of additional identified unplanned roadway restriping improvements that are required to modify the Dry Creek Road/Grove Street to accommodate a left turn bay along the Dry Creek Frontage pursuant to City Standards. The project is required to fund its identified 3.1 percent share of the estimated $45,000 cost of this improvement, which would require a project payment of $1,386.00 prior to issuance of construction permits or occupancy of the project.

MM TRANS-3 Prior to the issuance of a building permit for the project, the project shall pay its proportional share towards the planned short-term improvement to install all-way stop signs at the US 101 southbound ramp intersection with Dry Creek Road and add left-turn lanes on Dry Creek Road at both intersections The project proportional share of this improvement is 18.6 percent of the projected cost.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
17. Utilities and Service Systems *Would the project:*				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or 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?	☐	☐	☒	☐

Environmental Evaluation

Would the project:

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

Less than significant impact. The City of Healdsburg's sewage collection, treatment, and disposal facilities that serve the City are owned and operated by the City of Healdsburg. The City's wastewater treatment plant (WWTP) is located approximately one mile southwest of the city limits, on Foreman Lane just south of the confluence of Dry Creek and the Russian River. The treatment plant is designed to accommodate a maximum daily flow of 4.0 mgd. The WWTP has a permitted

dry-weather capacity of 1.4 mgd. Currently the City uses and provides recycled water to customers. The unused capacity available for development and growth under the General Plan is a minimum of 0.42 mgd. The project is estimated to generate 8,955 gallons per day (0.007 mgd) of effluent daily, refer to Table 22. Therefore, its effluent could be accommodated within the available unused treatment capacity, which would not exceed wastewater treatment requirements. Therefore, impacts would be less than significant.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less than significant impact. The City of Healdsburg would provide wastewater collection and treatment services to the proposed project. Table 22 provides a very conservative (higher than anticipated) projection of wastewater generation estimate for the proposed project using a standard industry assumption that wastewater represents 90 percent of domestic water usage. This yields an average daily generation of 8,955 gallons per day.

Table 22: Wastewater Generation Estimate

Total Daily Water Demand	Domestic Water Demand (40% of Total Daily Water Demand)	Daily Wastewater Generation (90% of Domestic Water Demand)
24,875 gallons	9,950 gallons	8,955 gallons (0.009 mgd)
Source: FCS, 2016.		

The project could be readily served by the City's existing wastewater utilities without the need to expand the existing treatment facilities. Therefore, the project would not require construction of new water or wastewater treatment facilities or expansion of existing facilities, and impacts would be less than significant.

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?

Less than significant impact. The State of California is authorized to administer various aspects of the NDPES General Construction Permit. The project is a 44 unit single-family home community with 104 parking spaces. The construction of this community will remove a total of approximately 21,900 square feet of impervious surfaces over the 7.41-acre project site. Because of the project's size, stormwater must be reduced or non-stormwater discharges into stormwater systems must be eliminated and a SWPPP must be prepared in compliance with the General Construction Permit. In order to further minimize pollutants of concern, site design BMPs and source control BMPs will be included as part of the project. BMPs for the project include:

- **Rain Garden**
  1. Priority 1 rain gardens were used for all volume and treatment BMPs. Rain gardens allow for maximum volume retention and infiltration, are easy to build, and require little

maintenance. All of the rain gardens are sized to retain the 100% design goal for volume capture shown in the calculations in the Preliminary SUSMP Report for the project.

- **BMP Maintenance**

Vegetated Swales and Vegetated Areas for Impervious Disconnection Area

1. Inspect twice annually and prior to rain events for blocked or clogged inlets, eroded areas, sedimentation and trash or debris accumulation.
2. Obstructions and trash shall be removed and properly disposed of.
3. Pesticides and fertilizers shall not be used in the impervious disconnection area. Non-floatable mulch should be used instead.
4. Plants should be pruned, weeds pulled and dead plants replaced as needed. Observe level and condition of mulch. Add to, re-grade or replace as needed (non-floatable mulch required).
5. Mow and irrigate during dry weather to the extent necessary to keep vegetation alive.

Rain Gardens

1. Inspect twice annually and prior to rain events for blocked or clogged inlets, eroded areas, sedimentation and trash or debris accumulation.
2. Obstructions and trash shall be removed and properly disposed of.
3. Pesticides and fertilizers shall not be used in the impervious disconnection area. Non-floatable mulch should be used instead.
4. Plants should be pruned, weeds pulled and dead plants replaced as needed. Observe level and condition of mulch. Add to, re-grade, or replace as needed (non-floatable mulch required).
5. Inspect twice during the rainy season for ponded water. If ponded water is observed, the first few inches of topsoil should be removed and replaced. If ponded water is still present, further grading and replacement may be necessary to prevent mosquito breeding.

Inclusion of the above BMPs and the SWPPP would mitigate impacts associated with stormwater runoff levels to a less than significant impact and no construction or expansion of municipal stormwater facilities would be required. Additionally, by adhering to the City's Conditions of Approval, impacts regarding implementation of new stormwater drainage facilities or expansion of new facilities would be less than significant.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

Less than significant impact. The City of Healdsburg's water system is supplied from three well fields: one on Dry Creek with three operational wells and two on the Russian River with eight operational wells. Distribution system facilities include eight storage tanks service six separate pressure zones within the distribution system, five pump stations and the necessary water mains and appurtenances for purveying water within the service area. Current storage capacity is 7.9 million gallons. Total water use in the urban service area during 2007 was approximately 2.15 mgd. The City of Healdsburg currently serves a population of approximately 11,500.

Table 23 provides the water demand estimate for the proposed project using a standard industry water demand estimate of 2,500 gallons per acre per day. This yields an average daily demand of 0.076 acre-foot and an average annual demand of 27.86 acre-feet.

Table 23: Water Demand Estimate

Project Acreage	Water Demand Rate	Water Demand	
		Daily	Annual
9.95	2,500 gallons/acre/day	24,875 gallons 0.076 (acre-foot)	9.1 million gallons 27.86 (acre-feet)

Note:
1 acre-foot = 325,851 gallons
Source: FCS, 2016.

The proposed project's annual demand of 27.86 acre-feet would represent less than 1 percent of the total potable water supplies anticipated by the City of Healdsburg 2010 Urban Water Management Plan for every year shown from 2015 to 2035; refer to Table 24.

Table 24 summarizes the supply and demand comparisons set forth in the City of Healdsburg 2010 Urban Water Management Plan for normal year, single dry year, and multiple dry year scenarios between 2015 and 2035. As shown in the table, the Urban Water Management Plan anticipates the adequate potable and non-potable water supplies would be available under all water year scenarios. Moreover, because the project site is within the City of Healdsburg's service area and has been planned for mixed uses by the City of Healdsburg's General Plan, the Urban Water Management Plan has accounted for its water demand in its water demand projections. Impacts would be less than significant.

Table 24: Urban Water Management Plan Planning Assumptions

Scenario	Category	Acre-Feet				
		2015	2020	2025	2030	2035
Normal Year	Supply	4,307	4,611	4,611	4,611	4,821
	Demand	2,388	2,510	2,638	2,745	2,857
	Difference	1,919	2,101	1,973	1,866	1,964
Single Dry Year	Supply	4,307	4,611	4,611	4,611	4,821
	Demand	2,388	2,510	2,638	2,745	2,857
	Difference	1,919	2,101	1,973	1,866	1,964
Multiple Dry Year—1st Year	Supply	4,307	4,611	4,611	4,611	4,821
	Demand	2,388	2,510	2,638	2,745	2,857
	Difference	1,919	2,101	1,973	1,866	1,964
Multiple Dry Year—2nd Year	Supply	4,307	4,611	4,611	4,611	4,821
	Demand	2,388	2,510	2,638	2,745	2,857
	Difference	1,919	2,101	1,973	1,866	1,964
Multiple Dry Year—3rd Year	Supply	4,307	4,611	4,611	4,611	4,821
	Demand	2,388	2,510	2,638	2,745	2,857
	Difference	1,919	2,101	1,973	1,866	1,964

Note:
Supply values include potable and non-potable water sources.
Source: City of Healdsburg Urban Water Management Plan, 2010.

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?

Less than significant impact. Table 22 provides the wastewater generation estimate for the proposed project using a standard industry assumption that wastewater represents 90 percent of domestic water usage. This yields an average daily generation of 8,955 gallons per day. As discussed in Impact 17a and 17b, the Healdsburg Wastewater Treatment Plant has adequate capacity to serve the project. Therefore, impacts would be less than significant.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than significant impact. Using a standard residential waste generation rate of 10 pounds of waste per unit per day, the potential 44 new single-family residences to be constructed would generate 390 pounds of solid waste daily 0.22 ton or approximately 80.3 tons annually. Solid waste from the City of Healdsburg is currently transferred first to the North County Transfer Station and

then transported to landfill sites located outside of Sonoma County where adequate capacity exists. Landfills outside of Sonoma County include Redwood Sanitary Landfill near Novato, Potrero Hills Sanitary Landfill near Suisun City, and Altamont Landfill near Livermore. Collectively, these disposal facilities have more than 100 million cubic yards of remaining capacity. Therefore, impacts to landfills would be less than significant.

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

Less than significant impact. The project would be served with curbside solid waste, recycling, and green waste collection service, which are standard services for residential uses in Healdsburg and comply with federal, state, and local regulations related to solid waste. Given project characteristics, no further recycling or waste reduction requirements would be applicable to the project. Additionally, the project would be required to comply with the City's Conditions of Approval.

Environmental Issues	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
18. Mandatory Findings of Significance				
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?	☐	☒	☐	☐

Environmental Evaluation

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?

Less than significant impact with mitigation incorporated. The proposed project may result in several impacts associated with biological resources and cultural resources that would be significant if left unmitigated. Mitigation Measures BIO-1a, BIO-1b, BIO-2, BIO-3, and BIO-4; and CUL-1, CUL-2, and CUL-3 would fully mitigate all potential impacts to levels of less than significant. With the implementation of these mitigation measures, the proposed project would have less than significant impacts.

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)?

Less than significant impact with mitigation incorporated. All cumulative impacts with relation to aesthetics, air quality, geology and soils, and noise are either less than significant after mitigation has been incorporated, or less than significant and do not require mitigation. Mitigation Measures AES-1 and AES-2; AQ-1, BIO-1a, BIO-1b, BIO-2, BIO-3, and BIO-4; CUL-1, CUL-2, and CUL-3; GEO-1; and NOI-1 through NOI-3 would provide sufficient mitigation to reduce all potential impacts to levels of less than significant. Given the projects size and impacts with associated mitigation measures, the effects of this project are not considered relative to the effects of past, current, and probably future projects. Therefore, the proposed project would not result in cumulatively considerable impacts on these areas. Thus, impacts would be less than significant.

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

Less than significant impact with mitigation incorporated. As described throughout the preceding environmental checklist, the project would not have any substantial environmental effects on human beings, either directly or indirectly. All impacts identified throughout this Initial Study/Mitigated Negative Declaration (IS/MND) have either been mitigated to less than significant levels or do not require mitigation. The proposed mitigation measures, once implemented, would ensure that no substantial adverse effects on human beings would result from the project. Therefore, impacts would be less than significant.

SECTION 3: REFERENCES

City of Healdsburg. 2005. Storm Water Management Program.

City of Healdsburg. 2015. Healdsburg Urban Water Management Plan.

City of Healdsburg. 2009. Healdsburg 2030 General Plan Environmental Impact Report.

City of Healdsburg. 2010. Healdsburg 2030 General Plan Background Report.

City of Healdsburg. 2011. Healdsburg 2030 General Plan Policy Document.

City of Healdsburg. 2011. Local Hazard Mitigation Plan.

City of Healdsburg. 2014. Healdsburg Municipal Code.

City of Healdsburg. 2009. City of Healdsburg Design Review Manual

DRG Builders, Inc. 2015. Phase I and Limited Phase II Environmental Assessment 111, 145, 153, 157, & 165 Chiquita Road, Healdsburg, California.

EnviroStor. 2016. Hazardous Materials Database.

GeoTracker. 2016. Hazardous Materials Database.

Horticultural Associates. 2015. Tree Preservation and Mitigation Report.

Lamphier-Gregory. 2016. Oakmont Meadows Residential Development Project, Initial Study and Mitigated Negative Declaration, City of South San Francisco.

United States Geological Survey. 2016. San Francisco Bay Area Liquefaction Hazard Map.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 4: LIST OF PREPARERS

FirstCarbon Solutions
1350 Treat Boulevard, Suite 380
Walnut Creek, CA 94597
Phone: 925.357.2562
Fax: 916.357.2572

Project Director ..... Mary Bean
Project Manager ..... Elizabeth Johnson
Air Quality Analyst ..... Makeba Pease
Noise Analyst ..... Phil Ault
Archaeologist ..... Dana DePietro, PhD
Environmental Analyst ..... Liza Baskir
Environmental Analyst ..... Paul Smallman
Editor ..... Ed Livingston
Word Processor ..... Ericka Rodriguez
GIS/Graphics ..... John De Martino
Reprographics ..... Octavio Perez

Dalene Whitlock
Whitlock & Weinberger Transportation (W-trans), Inc.
490 Mendocino Avenue, Suite 201
Santa Rosa, CA 95401
Phone: 707.542.9500
Fax: 707.542.9540

Illingworth & Rodkin, Inc.
Acoustics and Air Quality
1 Willowbrook Court, Suite 120
Petaluma, CA 94954
Phone: 707.794-0400
Fax: 707.794-0405

Analytical Environmental Services
1801 7th Street, Suite 100
Sacramento, CA 95811
Phone: 916.447.3479
Fax: 916.447-1665

THIS PAGE INTENTIONALLY LEFT BLANK