

# NORTH MARIN WATER DISTRICT GALLAGHER WELLS AND PIPELINE PROJECT

Gallagher Well No. 2 Installation: CEQA Addendum

Prepared for  
North Marin Water District

January 6, 2021





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# CHAPTER 1

## Background and Purpose of the Addendum

### 1.1 Background

Water for the communities of Point Reyes Station, as well as Olema, Point Reyes National Seashore, Inverness Park, and Paradise Ranch Estates is supplied through one interconnected system, the Point Reyes Water System<sup>1</sup>, by the North Marin Water District (NMWD), a publicly owned utility. The source of the water for the Point Reyes Water System consists of three wells at two sites adjacent to Lagunitas Creek. Two of those wells are currently located on the former U.S Coast Guard property in Point Reyes Station (Coast Guard Wells), and a third well is located on water district property approximately one mile upstream (Gallagher Well No. 1), see **Figure 1** for vicinity location. Historically, NMWD has relied primarily upon the Coast Guard Wells located at the Point Reyes Station Coast Guard Housing Facility to supply water for the entire Point Reyes Water System service area. However, due to the location of the Coast Guard Wells, they are under the influence of flows in the tidal reach of Lagunitas Creek and subject to periodic salinity intrusion and occasional flooding, whereas Gallagher Well No. 1 is located further upstream and is not subject to any flooding or tidal reach of Lagunitas Creek.

The NMWD existing West Marin service area is approximately 24 square miles and is shown on **Figure 2**. As of June 30, 2020, the Point Reyes Water System service area had approximately 782 active service connections serving a population of 1,800, using approximately 233 acre-feet per year (AF/Y).<sup>2</sup> The operating pumping capacity of the existing Gallagher Well No. 1 is approximately 150 gallons per minute [gpm]<sup>3</sup>. The Coast Guard Wells No. 2 and No. 4 have respective pumping capacities of 0.56 cfs (250 gpm) and 0.67 cfs (300 gpm), although when both pumps are running simultaneously, the combined capacity reduces to a total of 0.94 cfs (420 gpm).<sup>4</sup>

An Initial Study/Mitigated Negative Declaration (IS/MND) was completed for the proposed Gallagher Well No. 2 in March of 2009 and is provided as **Appendix A**<sup>5</sup>. Constructed in early 1990's the existing Gallagher Well No. 1 was already on the site at the time of analysis but was not then in use or connected to the NMWD water system. CEQA and permitting for Well No. 1 were completed in the early 1990's. The 2009 project proposed a second well near the first well, as shown on **Figure 3**. Other components described in the 2009 IS/MND for the project have

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<sup>1</sup> This is the name that is used in the LCP to refer to the water system, while NMWD planning documents, including the West Marin Water System Master Plan 2014, call it the "West Marin Water System."

<sup>2</sup> NMWD, FY2019-20. Annual Report

<sup>3</sup> NMWD, 2009

<sup>4</sup> NMWD, 2014. West Marin Water System Master Plan, P.3-3

<sup>5</sup> Leonard Charles and Associates, 2009. Initial Study - Gallagher Wells and Pipeline Project.



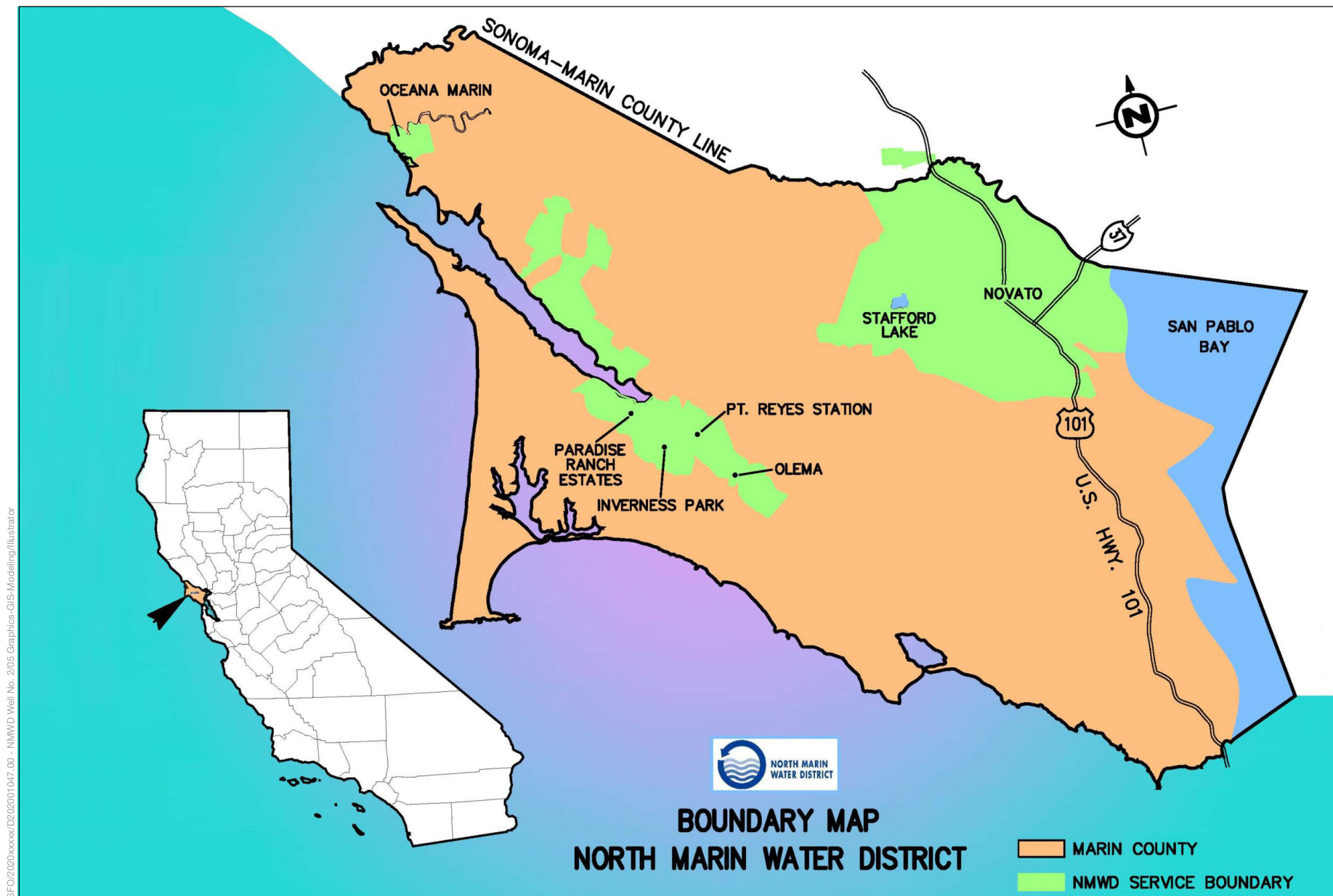


SOURCE: ESA, 2020; ESRI, 2020

Gallagher Well No. 2 Project

**Figure 1**  
Vicinity Map





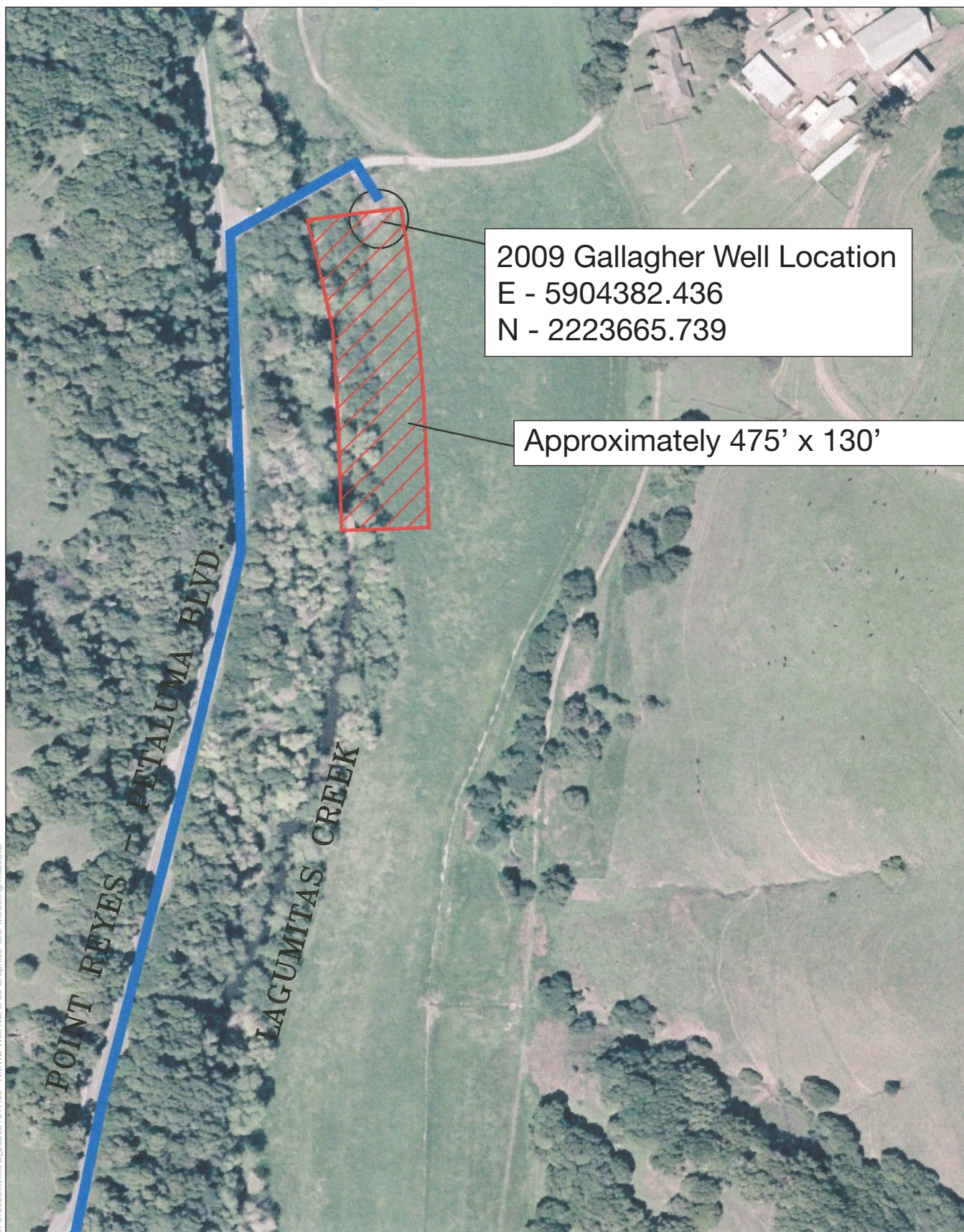
SOURCE: ESA, 2020

Gallagher Well No. 2 Project

**Figure 2**  
NMWD Service Area Boundaries



SFO/2020xxxxx/D2202001/047.00 - NMWD Well No. 2/05 Graphics-GIS-Modeling/Illustrator



SOURCE: North Marin Water District, 2020

Gallagher Well No. 2 Project

**Figure 3**  
2009 Gallagher Well Location

been implemented by NMWD; the point of diversion was finalized in 2012, Water Right Permit 19724 was permanently dedicated to instream uses, and the pipeline from the existing well to the existing water treatment plant was built in 2015. However, proposed Gallagher Well No. 2 has not been built yet and is analyzed further within this Addendum.

## 1.2 Purpose of This Addendum

CEQA Guidelines (Sections §15162 and §15164) allow a Lead Agency to prepare an addendum to an adopted negative declaration “if only minor technical changes or additions are necessary but none of the conditions described in §15162 calling for the preparation of a subsequent EIR or negative declaration have occurred (CEQA Guidelines §15164 (b)).”

The conditions described in §15162 requiring preparation of a subsequent negative declaration include the following:

1. Substantial changes are proposed in the project which will require major revisions to the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;
2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR due to involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or
3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was adopted, shows any of the following:
  - a. The project will have one or more significant effects not discussed in the EIR;
  - b. Significant effects previously examined will be substantially more severe than shown;
  - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
  - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative (CEQA Guidelines §15162 (a)).

This Addendum documents that the project, as modified, does not trigger any of the conditions described above regarding the preparation of a subsequent negative declaration.

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# CHAPTER 2

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## Project Description

### 2.1 Introduction

This addendum examines construction of the previously proposed Gallagher Well No. 2 at NMWD's Gallagher Well site, providing for a total of two wells with a combined capacity of 300 gallons per minute (gpm). The Gallagher Well No. 2 would tie in to the existing Gallagher Well No. 1 raw water transmission pipeline located south of the private Gallagher Ranch access road. Approximately 500 feet of new pipeline would be installed to connect Gallagher Well No. 2 to the existing transmission pipeline (see **Figure 4**).

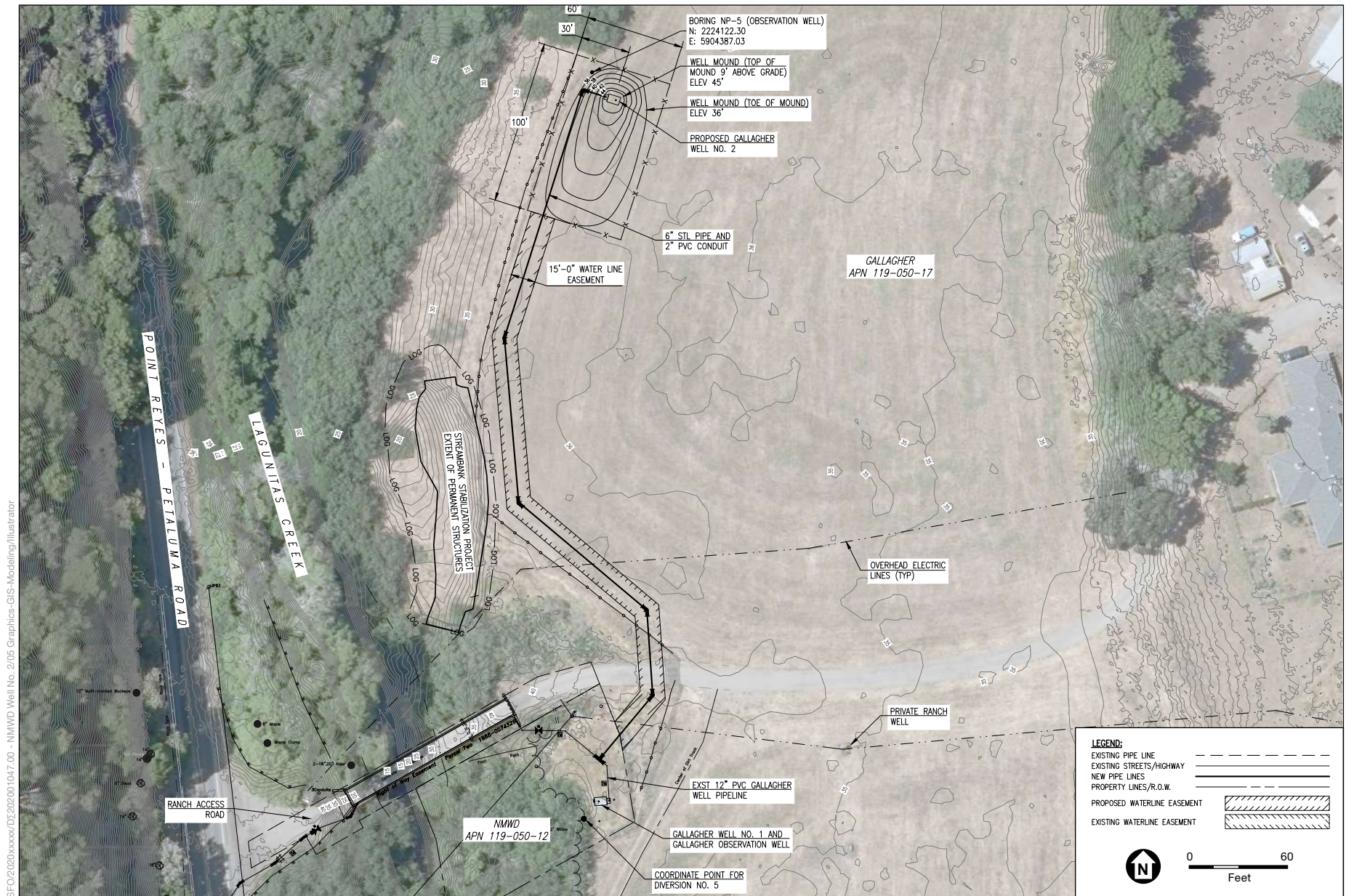
Based upon geologic information collected at the Gallagher Well site, it is anticipated that Gallagher Well No. 2 will be completed to a depth of approximately 59 feet below ground surface. Activities related to the planning, permitting, construction, operation, and maintenance of Gallagher Well No. 2 will be managed by NMWD in a manner to mitigate any potential negative impacts.

Engineering drawings related to construction of Gallagher Well No. 2 will be prepared by a California registered professional engineer and will show the related infrastructure details including but not limited to well design, pump, piping, electrical/instrumentation and easement access. All contractors and their subcontractors engaged to perform for this work shall be licensed by the Contractors State License Board of the State of California and registered public work contractors.

### 2.2 Construction

Gallagher Well No. 2 would be drilled and developed approximately 500 feet north of NMWD's existing Gallagher Well No. 1. The contemplated working area is grass-covered pasture and nearly flat. The working area required by the equipment and materials would be approximately 50 feet by 100 feet. The equipment consists of a 30-foot truck-mounted cable tool drill rig and a flatbed support truck. Access for the drilling equipment would be along the east side of the existing pasture fencing as shown in **Figure 4**. Appropriate fire safety practices would be implemented during construction in accordance with fire protection standards. Setup to bring in equipment and supplies would require about 10 truck trips over a 2- to 3-day period. The drilling equipment would be used to construct a boring approximately two feet in diameter and sixty feet deep. Drilling can be done by many methods. The most common for shallow wells such as Gallagher Well No. 2 is the auger method.





SOURCE: North Marin Water District, 2020

Gallagher Well No. 2 Project



The auger method utilizes spiral augers, usually in 5- foot lengths. The auger stem is turned by a hydraulically-controlled rotary drive head. After drilling the length of an auger, the auger joint is broken and another 5-foot section is added. Cuttings spiral their way up to the surface where they appear around the borehole, making formation identification relatively simple.

If enough clay is present in the formation, the drill hole will remain open when augers are removed. The casing is then placed into the drill hole. After placement of the casing, it is then filled with water and the screen driven out through the plug and exposed to the water bearing formation. Keeping the casing filled with water prevents heaving of sand into the casing when the plug is knocked out. The well is then pumped to remove the fine material from around the screen.

Construction of the pipeline will require one excavator and one backhoe for earthwork and grading tasks; a loader for moving and placing backfill; and smaller equipment for finishing work. Once construction is completed, traffic to and from the site will be minimal. Construction truck traffic includes 10-wheeler trucks to dispose of excavated materials and flatbed semi-trucks for delivery of new pipe.

Construction would consist of two phases: (1) construction of a new well (2-3 weeks of work), and (2) installation of the pipeline and electrical/instrumentation infrastructure (3-5 weeks of work). At most, the construction would last approximately 2 months, but some of the work could be done concurrently.

## 2.3 Operation

Gallagher Well No. 1 was designed to provide pumping capacity of 300 gallons per minute (gpm); however, actual operating pumping performance is approximately 150 gpm. Similarly, Gallagher Well No. 2 would be designed to produce 300 gpm, but is anticipated to have a similar operational flow capacity of approximately 150 gpm. Regardless of operating well performance, NMWD's cumulative operations for both wells will conform to its water rights, which have specific dry year and seasonal limitations. These water rights allow a maximum diversion of 0.961 cubic feet per second (cfs) (292.5 acre-feet maximum) on a year-round basis from the Gallagher Wells and/or the Coast Guard (aka Point Reyes Station) Wells. As part of the 2013 original amended water rights, Water Right Permit 19724, which allowed diversion of 0.699 cfs (maximum of 212.7 acre-feet diverted) on a year-round basis, was dedicated to permanent instream use for fish and wildlife enhancement preservation. The amount of water pumped during project operation would be consistent with said water right authorization. Operations at the new point of diversion, as well as all existing points of diversion, would be controlled and monitored 24/7 via an automated Supervisory Control and Data Acquisition (SCADA) system. Pumping rates are recorded via SCADA and summarized on a daily, monthly and yearly basis. On an annual basis, NMWD submits water reports to the State Division of Water rights to ensure compliance with the District's water rights license and permit conditions.

Construction of Gallagher Well No. 2 would not increase the water supply available to NMWD. NMWD is allowed to take its maximum allowed diversion from multiple points of diversion including the Coast Guard Wells and the Gallagher Wells site. Water diverted from the Gallagher

Wells would replace water that would otherwise be diverted from the Coast Guard Wells. The Coast Guard Wells would continue to be in operation whenever water quality conditions allow. Water would continue to be treated at the existing NMWD treatment facility for manganese and iron removal. Expansion or other modification of the water treatment plant is not required.

To meet water demand in dry years when water cannot be diverted from Lagunitas Creek using Permit 19725, NMWD uses a water exchange with Marin Municipal Water District (MMWD) as established in the 2014 Intertie Agreement. Under the Intertie Agreement, stored water can be released by MMWD into Lagunitas Creek from Kent Lake in exchange for compensation by NMWD. The existing Intertie Agreement between the two districts runs through 2040 and provides for a maximum of 250 AF to be exchanged annually.

## CHAPTER 3

# Evaluation of Environmental Impacts

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The analyses of environmental impacts presented in the Initial Study/Mitigated Negative Declaration (IS/MND) were revisited to determine whether any changes to the analyses were warranted based on refinements to the Gallagher Well No. 2 (identified in the following analysis as “project”). This chapter describes changes that have occurred in the existing environmental conditions within and near the project area as well as environmental impacts associated with the project. Chapter 5, *Mitigation Monitoring and Reporting Program*, contains the mitigation measures from the adopted MND that apply to Gallagher Well No. 2 with revisions incorporated as part of this addendum.

The topics listed below were sufficiently addressed in the 2009 IS/MND and required no additional analysis because either the nature, scale, and timing of the project has not changed in ways relevant to the topic or there has not been a substantial change in the circumstances involving the topic on the project site, nor in the local environment surrounding the site.

- **Aesthetics.** The environmental setting relevant to aesthetics for the project site has not changed since adoption of the MND.
- **Geology and Soils.** The environmental setting relevant to geology and soils for the project site has not changed since adoption of the MND. The project would be exempt from general county zoning and ordinance requirements and no Erosion and Sediment Control Plan (ESCP) would be required.
- **Hazards and Hazardous Materials.** The state and local land use plans, policies, and regulations applicable at the site have not changed since adoption of the MND, and the character of the project would remain agricultural.
- **Mineral Resources.** The nature, scale, and timing of the project have not changed in a manner that would impact mineral resources at the project site. There are no identified mineral resources within the project area.
- **Public Services.** The nature, scale, and timing of the project have not changed in a manner that would impact public services. The project would have no impact on public services.
- **Recreation.** The state and local land use and zoning designations with respect to recreational facilities have not changed for the site and surroundings.
- **Transportation/Traffic.** The state and local laws and regulations with respect to transportation and traffic have not changed for the site and surroundings.
- **Mandatory Findings of Significance.** The closest possible cumulative project not previously identified in the 2009 IS/MND and that could be constructed concurrently with the proposed project is a single family residence at 11815 Shoreline Highway located approximately 2

miles west of the Gallagher Ranch. This single family residential project and additional change in the cumulative projects list and scenario would not alter the cumulative impact conclusions of the IS/MND beyond the discussions included in this addendum.<sup>1</sup> The cumulative impact of pumping both wells is discussed in Section 3.4, Biological Resources. The effects of the Project on human beings are adequately addressed in the 2009 IS/MND except for Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Hydrology and Water Quality, Land Use and Planning, Noise, Population and Housing, and Utilities and Service Systems, all of which are discussed in this addendum. In addition, Energy, Greenhouse Gas Emissions, and Tribal Cultural Resources were not checklist sections analyzed when the 2009 IS/MND was published, but all have been evaluated and included in this addendum.

Changes and additions to the 2009 IS/MND discussion of the remaining and new topics are included below, pursuant to CEQA *Guidelines* Section 15164. The following discussion describes the environmental impacts of the project as compared to the impacts of the approved project as addressed in the IS/MND adopted March 2009. The impact checklist headings for Energy, Greenhouse Gas Emissions, and Tribal Cultural Resources are the new checklist impact designations rather than comparisons to the original impacts like the other sections. These headings were used because these sections were not checklist sections when the 2009 IS/MND was published. These additions do not reflect involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; for these reasons, a subsequent Negative Declaration was not prepared.

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<sup>1</sup> [https://www.marincounty.org/depts/cd/divisions/planning/projects/west-marin/crume\\_cp\\_dr\\_p2788\\_prs](https://www.marincounty.org/depts/cd/divisions/planning/projects/west-marin/crume_cp_dr_p2788_prs)

### 3.1 Agriculture and Forestry Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>AGRICULTURE AND FORESTRY RESOURCES</b>				
<b>— Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

The environmental setting relevant to Agriculture and Forestry Resources for the Project has not changed relative to the setting in the IS/MND. The potential well site contains soils classified as Blucher-Cole complex (2 to 5% slope), which the State has mapped as Soils of Statewide Importance. Existing farmland designations, Williamson Act designations, and forest land designations have not changed since adoption of the MND. However, in 2014, the land was placed in a Marin Agricultural Land Trust (MALT) easement, providing additional protections for farmland and agricultural uses on the site. This is relevant to the agricultural resources discussion, but the project's consistency and impact related to the MALT easement are discussed in Section 3.8, Land Use and Planning.

With respect to Issues c) and d), the 2009 IS/MND did not evaluate forest land conversion or zoning conflicts, as these issues were not part of the original checklist. However, there is no forest land present on or near the project site.

### Findings of Previously Adopted MND

The adopted MND determined that all project impacts related to agricultural resources would be less than significant.

## Discussion

Since adoption of the MND, NMWD has continued to coordinate with the property owners to identify their preferred location for Gallagher Well No. 2 relative to agricultural operations, and has implemented well exploration of other locations with test wells and groundwater monitoring. As a result, NMWD has moved the Gallagher Well No. 2 location to the Gallagher north pasture. Additionally, forestry resources were not included in the original checklist section from the 2009 IS/MND.

The following discussion evaluates whether project changes would result in any new or more severe significant environmental effects than identified in the 2009 IS/MND.

### **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?**

As described in the IS/MND, the area that would be converted to other use would be the wellhead, which would cover approximately 10 feet by 10 feet. This would be considered a less than significant conversion. Fencing would limit agricultural access to approximately 0.15 acres of the 4 acre north pasture, and facilities have been sited to maintain grazing in the north pasture. Therefore, impacts would be less than significant.

The construction of the 500-foot long pipeline would temporarily impact a 15-foot wide alignment, an area of approximately 7,500 square feet. This land could not be used for agricultural uses for the duration of construction, approximately 3 to 5 weeks. The project would restore this ground to match original conditions, using the existing soil to cover the pipeline and reseeding and/or replanting with native species. This impact would be reduced to less-than-significant levels, and the impact would not be more severe than that identified in the approved MND.

### **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 land affected by the project site is zoned forest land, timberland, or timberland production. The project would have no impact and the impact would not be more severe than that identified in the approved MND.

As discussed above in *Setting*, the 2009 IS/MND did not evaluate this issue, as the issue was introduced as part of the December 2018 update to the current *CEQA Guidelines*, which occurred after the MND was adopted.

### **Result in the loss of forest land or conversion of forest land to non-forest use?**



No land affected by the project site is zoned forest land, timberland, or timberland production. Therefore, the project would not result in the loss of forest land or conversion of forest land to non-forest use and the impact would not be more severe than that identified in the adopted MND.

As discussed above in *Setting*, the 2009 IS/MND did not evaluate this issue, as the issue was introduced as part of the December 2018 update to the current *CEQA Guidelines*, which occurred after the IS/MND was certified.

**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?**

As previously noted, construction of Gallagher Well No. 2 would result in a minor reduction in grazing area in the north pasture on the Gallagher property. However, its construction would not result in the conversion of the property to non-agricultural uses. The Gallagher property is under a Marin Agricultural Land Trust easement, which provides for conservation of agricultural uses into perpetuity. Consistency of proposed facilities with this easement is further discussed in Section 3.8, Land Use and Planning. Therefore, the project would not result in the conversion of farmland to non-agricultural use or forest land to non-forest use, and impacts would not be more severe than that identified in the adopted MND.

## Conclusion

The proposed project would not impact agricultural resources more than those impacts identified in the 2009 IS/MND. The proposed project would also not have a significant impact on forestry resources.

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## 3.2 Air Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>AIR QUALITY — Would the project:</b>				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The air quality setting relevant to the project site, including applicable regulations and air quality conditions, has not appreciably changed since the adoption of the MND. The Bay Area Air Quality Management District (BAAQMD) continues to be the regional authority for air quality management in the project area and the entire San Francisco Bay Area Air Basin (Bay Area).

The Federal Clean Air Act and the California Clean Air Act both require the establishment of standards for ambient concentrations of air pollutants, called Ambient Air Quality Standards. The state and federal non-attainment status of the Bay Area has not changed since adoption of the MND. The Bay Area continues to experience occasional violations of ozone and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) standards. Therefore, the project area currently is designated as a non-attainment area for violation of the state 1-hour and 8-hour ozone standards, the federal ozone 8-hour standard, the state respirable particulate matter (PM<sub>10</sub>) 24-hour and annual average standards, the state fine particulate matter (PM<sub>2.5</sub>) annual average standard, and the federal PM<sub>2.5</sub> 24-hour standard. The Project area is designated as an attainment area for all other state and federal standards.<sup>2</sup>

## Air Quality Plans

Regional air quality planning in the Bay Area has proceeded since adoption of the MND. On April 19, 2017, the BAAQMD adopted the most recent revision to the Clean Air Plan – the *2017 Clean Air Plan: Spare the Air Cool the Climate*.<sup>3</sup> The primary goals of the *2017 CAP* are to

<sup>2</sup> BAAQMD, 2017a, Air Quality Standards and Attainment Status, available at <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>, last updated January 5, 2017.

<sup>3</sup> BAAQMD, 2017b. Spare the Air Cool the Climate, 2017 Clean Air Plan. Available: [http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf](http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf). Accessed May 23, 2017.

protect public health and protect the climate. The *2017 CAP* includes a wide range of control measures to reduce emissions from combustion-related activities, reduce fossil fuel combustion, improve energy efficiency, and decrease emissions of potent greenhouse gases (GHGs). Some measures focus on reducing individual pollutants such as potent GHGs like methane and black carbon, or harmful fine particles that affect public health. Many of the measures, however, reduce multiple pollutants and serve both to protect public health and to protect the climate.

The *2017 CAP* updates the *2010 Clean Air Plan*, pursuant to air quality planning requirements defined in the California Health and Safety Code. It describes a multi-pollutant strategy to simultaneously reduce emissions and ambient concentrations of ozone, fine particulate matter, toxic air contaminants, as well as GHGs that contribute to climate change. To fulfill state ozone planning requirements, the *2017 CAP* includes all feasible measures to reduce emissions of ozone precursors—reactive organic gases (ROG) and nitrogen oxides (NOx)—and to reduce transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Plan builds upon and enhances the BAAQMD’s efforts to reduce emissions of fine particulate matter and toxic air contaminants. The *2017 CAP* includes the Bay Area’s first-ever comprehensive Regional Climate Protection Strategy (RCPS), which will identify potential rules, control measures, and strategies that the BAAQMD can pursue to reduce GHGs in the Bay Area and lay the groundwork to attain the State’s ambitious GHG reduction targets for 2030 and 2050.

## **BAAQMD Rules, Regulations, and CEQA Guidelines**

Since adoption of the 2009 IS/MND, the BAAQMD CEQA Air Quality Guidelines, which were used to evaluate the potential effects of the project on air quality, faced legal challenge in the State Supreme Court. While the significance thresholds originally adopted by BAAQMD in 2011 are not currently recommended by the BAAQMD, the 2009 IS/MND did not use a quantitative method to estimate emissions and instead used an analytical approach and identified a set of feasible PM10 control measures to mitigate air quality impacts.

The original mitigation measure has been updated to reflect the best available information on control measures.

## **Sensitive Receptors**

The Gallagher Ranch residence is located 450 feet from the proposed well location and would still be a sensitive receptor. The 2009 IS/MND analyzed the Gallagher Ranch residence within 400 to 800 feet from the new well location. Thus, the Gallagher Ranch residence as identified and discussed in the adopted 2009 IS/MND as a sensitive receptor has not changed and remains applicable to the project. No new residential buildings, schools, colleges or universities, daycare facilities, hospitals, or senior-care facilities have been constructed closer to the project site than the sensitive receptors identified in the 2009 IS/MND.

## **Findings of the Previously Adopted MND**

The 2009 IS/MND identified impacts from construction that could be reduced to less than significant with mitigation related to the potential to conflict with the applicable air quality plan, the

potential to violate any air quality standard or contribute to an air quality violation, result in a cumulatively considerable net increase of any criteria pollutant, and exposure of sensitive receptors to substantial pollutants concentrations. The project would not have any operational air pollutants. The mitigation measure identified in the 2009 IS/MND and subsequently adopted by the NMWD (Mitigation Measure AQ-1) is reproduced in Chapter 5, *Mitigation Monitoring and Reporting Program*.

## Discussion

Since adoption of the MND, more information has been developed regarding the precise location of the well. New information has also been developed by BAAQMD related to best control measures for pollutants. The following discussion evaluates whether project changes and changes in circumstances would result in any new or more severe significant environmental effects than identified in the 2009 IS/MND.

### Consistency with Air Quality Plan

The BAAQMD recommends that a project's consistency with the current air quality plan be evaluated using the following three criteria:

- a) the project supports the goals of the air quality plan,
- b) the project includes applicable control measures from the air quality plan, and
- c) the project does not disrupt or hinder implementation of any control measures from the air quality plan.

If it can be concluded with substantial evidence that a project would be consistent with the above three criteria, then the BAAQMD considers it to be consistent with air quality plans prepared for the Bay Area.<sup>4</sup>

As detailed earlier, since adoption of the MND, the air quality plan has been updated with the adoption of the *2017 CAP*. The primary goals of the *2017 CAP* are to protect public health and protect the climate. The BAAQMD-recommended method for determining if a project supports the goals of the current air quality plan is consistency with BAAQMD thresholds of significance. If project emissions would not exceed the thresholds of significance after the application of all feasible mitigation measures, the project would be consistent with the goals of the *2017 CAP*. Because the original project used the qualitative analysis, which is no longer an option for analysis, we do not know the original project emissions estimates.

The current 2017 BAAQMD Guidelines contain the following thresholds for construction (Table 3.2-1). There is only one option provided. Since the PM thresholds apply only to the exhaust portion of the emissions, in addition to showing that project construction emissions are below

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<sup>4</sup> BAAQMD, 2017c, BAAQMD CEQA Air Quality Guidelines, updated May 2017.

these thresholds, all projects are required to implement basic mitigation measures for fugitive dust control.

**TABLE 3.2-1**  
**THRESHOLD OF SIGNIFICANCE FOR CONSTRUCTION-RELATED CRITERIA AIR POLLUTANTS AND PRECURSORS**

Pollutant/Precursor	Daily Average Emission (lb/day)
ROG	54
NO <sub>x</sub>	54
PM <sub>10</sub>	82 <sup>a</sup>
PM <sub>2.5</sub>	54 <sup>a</sup>

NOTES:

a Applies to construction exhaust emissions only.

Refer to Appendix D for support documentation

ABBREVIATIONS:

CO = carbon monoxide

Lb/day = pounds per day

NO<sub>x</sub> = oxides of nitrogen

PM<sub>2.5</sub> = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less

PM<sub>10</sub> = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less

ROG = reactive organic gases

SO<sub>2</sub> = sulfur dioxide

SOURCE: BAAQMD 2017c.

In lieu of project emissions estimates, BAAQMD's screening level sizes were used to determine whether the project would be less than significant for operational and construction-related pollutants. As shown in Table 3.2-2, if projects meet certain screening level sizes based on the type of land use and square footage of the property for their category, the air quality and greenhouse gas impacts can be considered less than significant without quantification of emissions.

Though there is not a specific category that applies to well construction, the project is much smaller than the most applicable screening level size for the closest land use type – General light industry. As shown in the table, the construction-related screening size for general light industry is 259,000 square feet, while the project's area of disturbance is 17,640 square feet, well below the threshold.

As indicated in the following discussion for checklist question b) regarding cumulative increase in pollutants, the project would result in a less-than-significant impact related to construction emissions with the implementation of adopted **Mitigation Measure AQ-1** which includes BAAQMD's applicable recommended fugitive dust control measures. The project would also result in operational emissions less than the significance thresholds. Therefore, the project would be considered to support the primary goals of the *2017 CAP*.

In summary, the project would be consistent with all three criteria listed above to evaluate consistency with the *2017 CAP* and, therefore, would not conflict with or obstruct implementation of the *2017 CAP*.

**TABLE 3.2-2  
OPERATIONAL-RELATED CRITERIA AIR POLLUTANT AND PRECURSOR SCREENING LEVEL SIZES**

Land Use Type	Operational Criteria Pollutant Screening Size	Operational GHG Screening Size	Construction-Related Screening Size
Office park	323 ksf (NOx)	50 ksf	277 ksf (ROG)
Government office building	61 ksf (NOx)	12 ksf	277 ksf (ROG)
Government (civic center)	149 ksf (NOx)	27 ksf	277 ksf (ROG)
Pharmacy/drugstore w/ drive through	49 ksf (NOx)	10 ksf	277 ksf (ROG)
Pharmacy/drugstore w/o drive through	48 ksf (NOx)	10 ksf	277 ksf (ROG)
Medical office building	117 ksf (NOx)	22 ksf	277 ksf (ROG)
Hospital	226 ksf (NOx)	39 ksf	277 ksf (ROG)
Hospital	334 beds (NOx)	84 ksf	337 beds (ROG)
Warehouse	864 ksf (NOx)	64 ksf	259 ksf (NOx)
General light industry	541 ksf (NOx)	121 ksf	259 ksf (NOx)
General light industry	72 acres (NOx)	-	11 acres (NOx)
General light industry	1249 employees (NOx)	-	540 employees (NOx)
General heavy industry	1899 ksf (NOx)	-	259 ksf (NOx)
General heavy industry	281 acres (NOx)	-	11 acres (NOx)
Industrial park	553 ksf (NOx)	65 ksf	259 ksf (NOx)
Industrial park	61 acres (NOx)	-	11 acres (NOx)
Industrial park	1154 employees (NOx)	-	577 employees (NOx)
Manufacturing	992 ksf (NOx)	89 ksf	259 ksf (NOx)

**NOTES:**

Screening levels include indirect and area source emissions. Emissions from engines (e.g., back-up generators) and industrial sources subject to Air District Rules and Regulations embedded in the land uses are not included in the screening estimates and must be added to the above land uses.

Refer to Appendix D for support documentation

**ABBREVIATIONS:**

du = dwelling units

ksf = thousand square feet

NOx = oxides of nitrogen

ROG = reactive organic gases

SOURCE: Modeled by EDAW, 2009; BAAQMD, 2017c.

## Cumulative Increase in Pollutants

According to the BAAQMD, no single project will, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The BAAQMD *CEQA Air Quality Guidelines* recommends using its quantitative thresholds of significance to determine if an individual project's emissions would considerably contribute to cumulative air quality impacts in the region. If a project's emissions exceed the identified significance thresholds, its contribution to cumulative air quality would be considerable, resulting in significant adverse air quality impacts to the region's existing



air quality conditions<sup>5</sup> Alternatively, if a project does not exceed the identified significance thresholds, then the project would not be considered cumulatively considerable and would result in less-than-significant air quality impacts.

As discussed above, the project's inclusion of BAAQMD-required control measures would reduce project impacts such that the project would not contribute a substantial amount of any criteria pollutant. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant.

## Conclusion

Construction emissions associated with the project would be below BAAQMD thresholds with the implementation of updated Mitigation Measures AQ-1. There would be no operational emissions. In addition, the project would not conflict with or hinder implementation of any measures in the *2017 CAP*. Therefore, the project would be consistent with the *2017 CAP* and would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a non-attainment area under an applicable federal or state ambient air quality standard. These impacts would be less than significant.

The project would not result in additional exposure of sensitive receptors to substantial pollutant concentrations, or create additional objectionable odors affecting a substantial number of people and thus would not result in any new or more significant impacts than those identified in the previously adopted MND.

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<sup>5</sup> BAAQMD, 2017c.

### 3.3 Biological Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>BIOLOGICAL RESOURCES —</b>				
<b>Would the project:</b>				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

Following adoption of the 2009 IS/MND, additional biological resource assessments including a habitat assessment, nesting bird survey report, wetland delineation report, and reconnaissance surveys were conducted in November and December of 2019 within the project area for the Gallagher Ranch Streambank Stabilization Project (Gallagher Ranch project). The adjacent Gallagher Ranch project supports similar biological conditions as the proposed project, as the two projects share some common areas. As a result, the Gallagher Ranch project analyses were partly used to characterize existing conditions for biological resources on the project site.

Updated database queries and data sources reviewed for this analysis include the following: California Natural Diversity Database (CNDDDB) list of special-status species occurrences, California Native Plant Society (CNPS) Rare and Endangered Plant Inventory, and the U.S. Fish and Wildlife (USFWS) Information for Planning and Consultation (IPac) list of Federal Endangered and Threatened species that may occur in the project area. As a result of these queries, no new sensitive biological resources were identified aside from those characterized previously.

## Findings of Previously Adopted MND

The adopted 2009 IS/MND determined that all project impacts related to biological resources would be less than significant or less than significant with mitigation. Chapter 5, *Mitigation Monitoring and Reporting Program*, reproduces selected previously adopted mitigation measures applicable to biological resources, with revisions as discussed in this section. Mitigation Measures BR-1 and BR-2 were developed for the 2009 IS/MND; though BR-1 is not applicable, BR-2 has been revised and is described in Chapter 5.

## Discussion

As noted in the project description, the well and pipeline would result in ground disturbance and vegetation removal within areas that were evaluated for these activities in the adopted IS/MND. However, the location of Gallagher Well No. 2 was not specified, and would now be located approximately 450 feet north of the existing Gallagher Well No.1. Both well locations designated for Gallagher Well No. 2 in the 2009 IS/MND and the proposed project are located within 120 feet of the center of Lagunitas Creek (See Figure 3).

Additionally, the connection between groundwater and streamflow related to pumping Gallagher Well No. 2 in combination with Gallagher Well No. 1 has been analyzed by Sutro Science and is provided as **Appendix B**. The analysis involved correlating drawdown data from a 7-day aquifer test with gage and streamflow discharge data recorded at a nearby USGS gaging station on Lagunitas Creek. The report noted that under low stream flow conditions, <sup>6</sup> well pumping is discernable in streamflow data at the USGS gaging station, although it concluded that the effect on water levels was negligible, and that the project would not result in substantial adverse effects on in-stream flows. <sup>7</sup> Additionally, if the minimum flows established by the State Water Resources Control Board (SWRCB) are not maintained, then NMWD will request (as part of its Intertie Agreement) that Marin Municipal Water District (MMWD) release sufficient water to Lagunitas Creek to reestablish at least the minimum flows. As described in the adopted IS/MND, the project would not result in substantial adverse effects on riparian habitat or protected wetlands, or conflict with provisions of an adopted Habitat Conservation Plan, Natural

<sup>6</sup> The report notes that the constant-rate pump test was conducted during late summer when Lagunitas Creek was under Dry Year conditions and experiencing seasonal low flows, which can be considered a worst-case condition.

<sup>7</sup> The report went on to note the magnitude of the observed reduction in streamflow was such that it could not reliably be measured with the current stream gage equipment because it would not exceed the accuracy (plus or minus 8 percent) of that equipment. The report continued to note that even if the observed reduction in streamflow could be reliably measured, the effect would be negligible, and would not substantially reduce stream flow or lower water surface to a degree that would adversely impact stream habitat.

Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Other resource topics are discussed below.

***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 Wildlife or U.S. Fish and Wildlife Service?***

Several special-status species within the local project vicinity were discussed in the 2009 IS/MND. However, updated information and recent reconnaissance-level surveys reports found habitat for the additional following federal and/or state-listed species with a moderate or high potential to occur in or near the project vicinity: Stanford's arrowhead, Point Reyes checkerbloom, congested-headed hayfield tarplant, California giant salamander, foothill yellow-legged frog, northern spotted owl, yellow warbler, Tomales roach, Central California Coast Coho Salmon, and California freshwater shrimp (ESA, 2020). An assessment of the potential for each of these species to occur onsite is provided below. No on-site habitat for roosting bats was identified during the site assessment; hence, bats are not considered further in this analysis.

## Construction

Impacts related to special-status species during project construction are described below.

### ***Special-Status Plants***

The previous 2009 IS/MND did not include an analysis of special-status plants. The following three special-status plants were identified as having a moderate or high potential to occur in the project vicinity<sup>8</sup>: congested headed hayfield tarplant (*Hemizonia congesta* ssp. *congesta*), Stanford's arrowhead (*Sagittaria sanfordii*), and Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*) (ESA, 2020). The congested headed hayfield tarplant, Stanford's arrowhead, and Point Reyes checkerbloom have a California Rare Plant Rank<sup>9</sup> of 1B.1, 1B.2 and 1B.2, respectively. The project vicinity has suitable marsh habitat for all three of these special-status plants along the edges of Lagunitas Creek and in the freshwater emergent wetland<sup>10</sup> at the toe of the slope (ESA, 2020). However, the project site strictly supports upland habitat and does not support these species. Additionally, these species were not identified in 2019 during preconstruction surveys for the Gallagher Ranch project. The project site, which includes the new location of the Gallagher Well No. 2 and connecting pipeline, consists of upland habitat that is subject to grazing and contains predominantly non-native grassland vegetation. Due to prior survey findings and inappropriate conditions on the project site for these species, the likelihood of encountering any special-status plant species is considered low and no impact is anticipated. Therefore, project implementation would not result in any new or more significant impacts than those identified in the previously adopted MND.

<sup>8</sup> Includes a 5-mile buffer from the project site, which includes the footprint of the new Gallagher Well No. 2 location and the connecting pipeline

<sup>9</sup> This rank is for plants that are rare through their range with the majority of them endemic to California.

<sup>10</sup> The emergent wetland habitat occurs below the Ordinary High Water Mark of Lagunitas Creek within the seasonally flooded channel (ESA, 2020).

## Special-Status Wildlife

### Amphibians

Special-status amphibians with the potential to occur within the project vicinity and not previously evaluated in the 2009 IS/MND include California giant salamander and foothill yellow-legged frog.

California giant salamander (*Dicamptodon ensatus*) (CGS) is a California species of special concern. CGS has been observed within 2.5 miles of the project site and there are five occurrence records within 5 miles, although the most recent date is from 1955<sup>11</sup> (CDFW, 2020). Lagunitas Creek provides suitable habitat for egg-laying and juvenile rearing; and wooded uplands provide appropriate terrestrial habitat for adult salamanders. All project work during construction would occur within non-native grassland habitat and would not directly alter any suitable CGS habitat.

The foothill yellow-legged frog (*Rana boylei*) is a California species of special concern that has been observed within 2 miles of the project site (ESA, 2020). The CNDDDB reports five occurrence records within 5 miles with the closest record 1.3 miles southeast of the project site in Nicasio Creek, a tributary to Lagunitas Creek.<sup>12</sup> Lagunitas Creek provides suitable habitat for foothill yellow-legged frog breeding and egg attachment. The foothill yellow-legged frog is strictly an aquatic species that is not expected within annual grassland on the project site. All project work during construction would occur within non-native grassland habitat outside of the riparian corridor, and would not directly alter any suitable foothill yellow-legged frog habitat.

The California red-legged frog (*Rana draytonii*; CRLF) is a semi-aquatic ranid species associated with pond and stream habitats in the regional project vicinity. It is a federally-listed threatened species and California species of special concern. No evidence of CRLF presence was identified during the habitat assessment for the Gallagher Ranch project, nor during preconstruction surveys or project construction. This species is not expected to breed in downstream portions of Lagunitas Creek near the Project site due to high stream flows and generally inappropriate conditions. Due to the absence of nearby aquatic breeding habitat, and presence of grassland habitat on the project site, CRLF are not expected in the Project site.

In the unlikely event that a California giant salamander or foothill yellow-legged frog is present at the time of construction, an individual adult may be injured, harassed, or killed due to proposed activities during the drilling of the well and pipeline installation. In addition, any salamanders or frogs moving away from any disturbance caused by construction may be driven into the open where they are more susceptible to injury or mortality due to predation, vehicular or foot traffic, or other activities. However, any potentially significant impacts to California giant salamander or foothill yellow-legged frog would be reduced to less than significant level with implementation of

<sup>11</sup> CDFW, 2020. California Natural Diversity Data Base (CNDDDB: Tomales, Point Reyes North East, Petaluma, Drakes Bay, Inverness, San Geronimo, Bolinas U.S. Geological Survey (USGS) 7.5-minute series quadrangles)). Accessed November 25, 2020.

<sup>12</sup> CDFW, 2020. California Natural Diversity Data Base (CNDDDB: Tomales, Point Reyes North East, Petaluma, Drakes Bay, Inverness, San Geronimo, Bolinas U.S. Geological Survey (USGS) 7.5-minute series quadrangles)). Accessed November 25, 2020.

### **Mitigation Measure BR-3: Wildlife Exclusion Fencing and Worker Education and Awareness Training.**

#### **Birds**

Bird species, including special-status species, may nest in the riparian woodlands and surrounding trees and shrubs outside of the project site. Birds that may nest in the nearby riparian corridor include yellow warbler (*Setophaga petechial*), a California species of special concern, spotted towhee (*Pipilo maculatus*), mourning dove (*Zenaida macroura*), California scrub jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), Bewick's wren (*Thryomanes bewickii*), western bluebird (*Sialia mexicana*), and tree swallow (*Tachycineta bicolor*). Actively nesting migratory birds are protected under the Migratory Bird Treaty Act and California Fish and Game Code (FGC), and impacts to active nests would constitute as a significant impact. However, implementation of **Mitigation Measure BR-4: Pre-Construction Nesting Bird Surveys** would reduce potential construction impacts on nesting special-status and migratory birds to a less-than significant level.

#### **Invertebrates and Fish**

No potential direct impacts would occur to special-status fish or invertebrates as a result of project construction, as they occur within the main body of Lagunitas Creek, which is outside of the project area. Potential project impacts to listed salmonid species were considered and adequately addressed in the adopted IS/MND and are not repeated here. The discussion below provides an analysis of potential operational impacts to special-status invertebrates and fish that were not considered in the adopted IS/MND.

#### ***California freshwater shrimp***

California freshwater shrimp (*Syncaris pacifica*) is listed as both state and federally endangered, and are native to low elevation (generally less than 380 feet [116 meters]), low gradient (generally less than 1 percent), freshwater, perennial streams in isolated locations within Marin, Napa, and Sonoma Counties, California (ESA, 2020). Existing populations are threatened by introduced fish, deterioration or loss of habitat resulting from water diversion, impoundments, livestock and dairy activities, agricultural activities and developments, flood control activities, gravel mining, timber harvesting, migration barriers, and water pollution (USFWS, 1998). Lagunitas Creek has one of the largest populations of California freshwater shrimp, and is the only shrimp stream that runs through protected lands (Serpa, 2013). There are two CNDDB records for this species within 5 miles of the Project Area. One occurrence record is located on Lagunitas Creek within the Project Area, dated 2010 (CDFW, 2020). The project site contains high to moderate quality California freshwater shrimp habitat, with consolidated mud substrate, willows, and vertical bank profiles in the permanently flooded channel of Lagunitas Creek (ESA, 2020). No project work during construction would directly alter or impact Lagunitas Creek or any suitable habitat for California freshwater shrimp. Therefore, no impact would occur to California freshwater shrimp during construction. Potential project impacts to California freshwater shrimp during operation are discussed below.

### ***Tomales roach***

Tomales roach (*Lavinia symmetricus*) is a California species of special concern. Tomales roach is a small, bronzy, stout-bodied minnow (cyprinids) with an adult size reaching up to 120 mm in length (CDFW, 2019c). This species is restricted to western Marin County drainages of Lagunitas Creek and Walker Creek (CDFW, 2019c). The headwater divide between Walker Creek (Tomales Bay tributary) and Lagunitas Creek consists of a high, marshy valley and during heavy rain events a surface water connection between the two drainages forms (Murphy, 1948). This connection provides a colonization route that could be used by fluvial fishes. Generally, roach are found in small streams and are particularly well adapted to life in intermittent watercourses, dense population are frequently observed in isolated pools (Fry, 1936; Moyle et al., 1982; Leidy, 2007).

Roach spawn in large groups in riffles over small rock substrates that are 3 to 5 cm in diameter. Females repeatedly deposit eggs a few at a time into the interstices between rocks, which are immediately fertilized by one or more attendant males. Eggs hatch in two to three days and the larvae remain in the gravel until larger enough to actively swim. Larval drift may be a significant form of dispersal for roach in some years, and White and Harvey (2003) suggest that the timing of spawning (late spring as flows recede) and apparent short period of drift for individual larvae are adaptation that may reduce the risk of roach drifting downstream into unsuitable habitats (ESA, 2020).

Roach are very resilient fish, but tend to decline or disappear in streams that are dewatered by diversion for residences, pastures, and vineyards; heavily altered by channelization; and invaded by alien predators such as green sunfish (*Lepomis cyanellus*). Tomales roach has been reported by the CNDDDB in 2003 to occur within the project area in Lagunitas Creek. Lagunitas Creek provides suitable habitat for egg-deposit sites and the freshwater emergent wetland located at the toe of the slope may provide suitable habitat. Tomales roach was not seen during the reconnaissance-level surveys in 2019, conducted by ESA, but has high potential to occur within nearby Lagunitas Creek (ESA, 2020). All project work during construction would occur within the uplands habitat and no work would be conducted within Lagunitas Creek. Therefore, no impact would occur to this species during construction. Project impacts to Tomales Roach during operation are discussed below.

## **Operation**

Operation of the project would include pumping of water from a well adjacent to Lagunitas Creek, which could result in adverse impacts to fish, invertebrates, and surrounding habitat described above, if not appropriately mitigated or regulated. All pumping conducted by the Gallagher Well No. 2 would be consistent and within the limits set in the NMWD's water rights license and permit conditions. Additionally, operations at all points of diversion would be continuously monitored by an automated SCADA system, which would record and summarize pumping rates on a daily, monthly, and yearly basis. As described in the 2009 IS/MND, impacts to Lagunitas Creek as a result of reduced streamflow during the dry years would be mitigated by a release of water from Kent Lake, located upstream, to ensure the minimum required flows would be maintained.

In order to understand the cumulative impact caused by operating both supply wells on streamflow conditions in Lagunitas Creek during the late summer/early fall, a technical memorandum and analysis was recently conducted by Sutro Science for the new Gallagher Well No. 2 location. The technical memorandum provides a summary of the project background, surface water and hydrogeologic setting, methodology, and results of data collected from a 7-day aquifer test and recorded gage and streamflow discharge data (Sutro Science, 2020). The results of the technical memorandum suggest that the groundwater aquifer is transmissive and could sustain a safe yield of the proposed new Gallagher Well No. 2, estimated to range between 150 – 175 gpm. Based on the review of the pumping test data and the output from the USGS Point Reyes stream gage, it appears that under low stream flow conditions, such as those present during the constant-rate test in September 2020, groundwater pumping from the proposed Gallagher Well No. 2 location could result in a reduction in creek discharge. However, the magnitude of this reduction would be negligible and would not substantially reduce stream flow or lower water surface to a degree that would adversely impact stream habitat. Based on the Sutro Science hydrologic analysis on the impact of project operation on instream flows, long-term operation of the proposed project may result in small changes to flows in Lagunitas Creek compared to baseline conditions; however, these changes are predicted to be negligible. As a result, any predicted changes in flows would result in negligible changes in habitat conditions in Lagunitas Creek. Therefore, operation of the project would not be expected to significantly alter existing habitat within the creek from the baseline condition.

Therefore, the location of Gallagher Well No. 2, as proposed under the current project, would not result in new or more severe impacts than those disclosed in the 2009 IS/MND, and Mitigation Measure BR-2, developed as part of the 2009 IS/MND, remains adequate to reduce impacts to stream flow in Lagunitas Creek (Sutro Science, 2020), and the text of the measure has been updated to reflect current project status (Chapter 5). Implementation of Mitigation Measure BR-2 would ensure that streamflow of Lagunitas Creek would be maintained and impacts related to stream habitat and associated species would be reduced to a less-than-significant level.

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

Project construction would be conducted within the non-native grassland habitat outside of the Lagunitas Creek riparian corridor. Therefore, project construction would not result in direct adverse effects to any riparian habitat or other sensitive natural community identified in local or regional plans, policies or regulations by the CDFW or USFWS.

***Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?***

Following adoption of the 2009 IS/MND, impacts related to state wetlands have been added for additional consideration in the Biological Resources Appendix G criteria. On November 19, 2019, an aquatic resource delineation field survey was conducted by Environmental Science Associates



for the Gallagher Ranch project, located in the same project area as the currently proposed Gallagher Well, No. 2 project. Project construction would occur on the grassland and would not alter or disturb any federal or state jurisdictional wetlands or waters. Hydrologic interruption is not anticipated under the project based on hydrologic modeling to simulate operational effects to Lagunitas Creek surface water flows (Sutro Science, 2020). Additionally, NMWD, through its Intertie Agreement with MMWD, would ensure that water was released from Kent Lake upstream if necessary to maintain streamflows in Lagunitas Creek, which would prevent hydrological interruption. See discussion of operational streamflow impacts above. Therefore, this impact would be less than significant with mitigation and no new or more severe impacts would occur.

***Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?***

As described in the 2009 IS/MND, the current project would also not cause any substantial barriers to animal or fish movement or migration. Construction of the project would not generate any permanent barriers that would restrict terrestrial wildlife movement. Based on hydrologic modeling that has been conducted to conservatively simulate operational effects to Lagunitas Creek surface water flows, long-term operation of the proposed well is not anticipated to result in adverse changes to spring or winter migratory flows or associated aquatic habitat conditions for migrating fish in Lagunitas Creek compared to baseline conditions. No new or severe impacts would occur and the impact would be less than significant.

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

As discussed in the previous 2009 IS/MND, no tree removal would take place during construction, operation, or maintenance. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources. No new or severe impacts would occur.

***Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?***

As discussed in the 2009 IS/MND, the project would not conflict with any Habitat Conservation Plans, Natural Conservation Community Plans, or any approved local, regional, or State habitat conservation plans. No new or severe impacts would occur.

## Conclusion

With implementation of adopted Mitigation Measures BR-2, BR-3 and BR-4, the proposed project would not result in any new or more significant impacts on sensitive natural communities, riparian habitats, special-status wildlife and plants, movement of wildlife species or use of wildlife nursery sites, protected trees, or wetlands during construction and operation than those identified in the 2009 IS/MND.

### 3.4 Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>CULTURAL RESOURCES — Would the project:</b>				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

The environmental setting relevant to cultural resources for the project has not changed relative to the setting in the 2009 IS/MND. An additional survey for cultural resources was conducted in 2020 for the Gallagher Ranch project, which included the project area in its Area of Potential Effect (APE). Historic property identification efforts included a records search on August 1, 2019 and pedestrian survey of the APE on August 15, 2019. The pedestrian survey resulted in the recordation of one newly identified cultural resource within the APE: Gallagher Bridge, and one previously recorded historic property: Gallagher Ranch, a contributing element to the Olema Valley/Lagunitas Loop Ranches Historic District with a period of significance of 1856 to 1961. The National Resources Conservation Service (NRCS) determined that the Gallagher Bridge as an eligible historic and cultural resource. Although eligible, the bridge would not be affected by construction of Gallagher Well No. 2.

### Findings of Previously Adopted MND

The adopted MND determined that all project impacts related to cultural resources would be less than significant with mitigation. The 2009 IS/MND conducted a Cultural Resources Survey, which found no cultural resources in the area that would be affected by project construction. However, there is always the chance that buried archaeological resources are present and could be discovered while constructing the project. Chapter 5, *Mitigation Monitoring and Reporting Program*, reproduces previously adopted mitigation measures applicable to cultural resources impacts from this project.

### Discussion

As discussed in Chapter 2, Project Description, the project would include ground disturbance for the 0.15 acre well site and the 500-foot long pipeline which would be installed to connect Gallagher Well No. 2 to the existing transmission pipeline. The location of these two project components are shown on **Figure 2-3**. The following discussion evaluates whether project

changes would result in any new or more severe significant environmental effects than identified in the 2009 IS/MND.

### **Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5**

As described in the 2009 IS/MND, the project would not be considered an historical resource as it does not meet the criteria for eligibility for listing in the National Register of Historic Places or California Register of Historical Resources. The Gallagher Bridge is outside the project area and so would not be affected by the project. Though the project is located on the Gallagher Ranch, it is limited to installation of well and pipeline facilities, which would not affect the character of the ranch or its operations, and the project would not cause a substantial adverse change in the significance of the Gallagher Ranch. As such, the project would have no impact on historical resources as defined by CEQA Section 15064.5.

### **Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5**

As described in the IS/MND, no archaeological resources were identified in the project area through background research or field survey. While not expected, the unanticipated discovery of archaeological resources or human remains cannot be entirely discounted. Impacts to archaeological resources would be potentially significant. Implementation of adopted **Mitigation Measure CR-1** would reduce impacts to a less-than-significant level by ensuring appropriate treatment of inadvertently discovered archaeological resources. With implementation of this mitigation measure, the project would not result in any new or more significant impacts to previously unknown archaeological resources than those identified in the adopted MND.

### **Directly or indirectly destroy a unique paleontological resource or site**

There are no known paleontological resources in the project site area, and it is not expected that project construction would affect such resources.

### **Disturb any human remains, including those interred outside of formal cemeteries**

As described in the 2009 IS/MND, no human remains, including those interred outside of formal cemeteries, are in the project site or vicinity. Although unlikely, the discovery of human remains during construction that involves ground disturbance cannot be entirely discounted. Disturbance of human remains would be a potentially significant impact. Implementation of adopted **Mitigation Measure CR-2** would reduce impacts to a less-than-significant level by ensuring appropriate treatment of inadvertently discovered human remains. With implementation of this mitigation measure, the project would not result in any new or more significant impacts to previously unknown human remains than those identified in the adopted MND.

## Cumulative Cultural Resources Impacts

The geographic scope for cumulative effects on cultural resources includes the immediate vicinity of locations where the project could cause disturbance to historical resources, unique archaeological resources, and/or human remains. As the project would not have an impact on historical resources there would be no cumulative impact. Similar to the proposed project, cumulative projects in the project vicinity could have a significant impact on previously undiscovered archaeological resources, including human remains interred outside of formal cemeteries, during ground-disturbing activities. The potential impacts of the project when considered together with similar impacts from other probable future projects in the vicinity could result in a significant cumulative impact on previously unknown archaeological resources or human remains. However, implementation of Mitigation Measures CR-1 and CR-2 would require that work halt in the vicinity of a find until it is evaluated by a Secretary of the Interior-qualified archaeologist, and in the case of human remains the County Coroner. In addition, cumulative projects undergoing CEQA review would have similar types of unanticipated discovery measures. Therefore, with implementation of Mitigation Measures CR-1 and CR-2, the proposed project's contribution to cumulative impacts would not be considerable.

## Conclusion

Implementation of the adopted mitigation measures applicable to cultural resources would reduce possible impacts related to archaeological resources and human remains during construction of the project to a less than significant level, and the project would not result in any new or more significant impacts.

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### 3.5 Energy

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>VI. ENERGY</b> — Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Discussion

Following the publication and approval of the 2009 IS/MND, several updates and amendments to the CEQA Guidelines have occurred, including guidelines outlining the addition of a new Energy impact category to Appendix G discussed in CEQA Guidelines Section 15126.2(b). Discussion of energy impacts and analysis are provided below as a new addition to this CEQA Addendum.

***Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?***

Construction of the project would result in fuel consumption from the use of construction tools and equipment (i.e. drill rig, excavator), haul truck trips, and vehicle trips generated from workers traveling to and from the project site. Construction is anticipated to occur, at most, for approximately 2 months and all construction activities and corresponding fuel energy consumption would be considered temporary and localized, as the use of diesel fuel for heavy-duty equipment would not be a typical condition of the project. Therefore, this impact would be considered less than significant.

Following project construction, operation and maintenance of the new Gallagher No. 2 well would require energy use by NMWD. According to the updated 2015 Marin County Climate Action Plan, NMWD accounted for approximately 0.02% of the countywide energy use.<sup>13</sup> Additionally, energy used during operation of the new Gallagher No. 2 well would replace energy use already accounted for from the Coast Guard Wells. No additional energy use would be required during operation of the project. Therefore, operation and maintenance would not result in the wasteful, inefficient, and/or unnecessary consumption of energy. This impact would be considered less than significant.

<sup>13</sup> Marin County, 2015. *Marin County Climate Action Plan*. Available at: [https://www.marincounty.org/~media/files/departments/cd/planning/sustainability/climate-and-adaptation/execsummarymarincapupdate\\_final\\_20150731.pdf?la=en](https://www.marincounty.org/~media/files/departments/cd/planning/sustainability/climate-and-adaptation/execsummarymarincapupdate_final_20150731.pdf?la=en)

***Conflict with or obstruct a state or local plan or renewable energy or energy efficiency?***

Energy goals outlined in the updated 2015 Marin Countywide Plan consist of the following:

- **Goal EN-1: *Decrease Energy Use.*** Reduce total and per-capita nonrenewable energy waste and peak electricity demand through energy efficiency and conservation
- **Goal EN-2: *Increased Renewable Resource Use.*** Utilize local renewable energy resources, and shift imported energy to renewable resources.
- **Goal EN-3: *Adopt Green Building Standards.*** Integrate green building requirements into the development review and building permit process.

As discussed above, the project would result in a negligible increase in use of diesel fuel and gasoline consumption during construction and would not result in any additional increase in energy use during operation or maintenance of the project. The project would not conflict with or obstruct the local Countywide energy goal plans because it would neither permanently increase energy use nor interfere with the adoption of renewable resources or green building standards. Therefore, no impact would occur.

## Conclusion

A less than significant impact would occur for project impacts related to energy. Although, the project would result in a minimal to negligible increase in fuel consumption during construction, overall long term energy use during operation and maintenance of the project would not differ from existing conditions used by NMWD due to the offset in energy use from the Coast Guard Wells.

### 3.6 Greenhouse Gas Emissions

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>GREENHOUSE GAS EMISSIONS —</b>				
<b>Would the project:</b>				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

Greenhouse Gases were analyzed under the Air Quality section of the 2009 IS/MND, under the discussion of whether the project would violate any air quality standard. Since adoption of the 2009 IS/MND, more greenhouse gas laws and air quality targets have gone into effect.

As a climate action leader, California has continued to demonstrate its commitment to early and aggressive action on climate change. The State Legislature and Governor have adopted ambitious targets to encourage bolder climate action, including statewide greenhouse gas (GHG) emissions reduction targets of reaching:

- 1990 levels by 2020 (Assembly Bill 32 in 2006)
- 40% below 1990 levels by 2030 (Senate Bill 32 in 2016)
- 80% below 1990 levels by 2050 (Executive Order S-3- 05 in 2005)

In September 2018, Governor Brown signed Senate Bill 100 into law, setting a state target of 100% carbon-free electricity by 2045. SB 100 also sets interim requirements for 50% renewable electricity by 2026 and 60% by 2030, superseding previously established targets. Also in September 2018, Governor Brown signed Executive Order B-55-18, which establishes a new statewide goal to “achieve carbon neutrality as soon as possible, no later than 2045, and achieve and maintain net negative emissions thereafter.”

The state and county goals mentioned in the 2009 IS/MND - the State’s target of reducing GHG emissions to 1990 levels by 2020, and the County’s target of reducing the GHG emissions in the County by 15% by 2015 – have been updated since 2009 IS/MND adoption. As discussed above in Air Quality, the BAAQMD 2017 Clean Air Plan.<sup>14</sup> was released after approval of the 2009 IS/MND. The County of Marin Climate Action Plan was updated in November 2014 to include a goal of reducing emissions to 30% below 1990 levels by 2020.<sup>15</sup> CARB’s Climate Change

<sup>14</sup> BAAQMD, 2017b

<sup>15</sup> Marin County, 2015.

Scoping Plan was most recently updated in 2017 to incorporate the 2030 target established by SB 32. The 2017 Scoping Plan Update<sup>16</sup> takes into account the key programs associated with implementation of the AB 32 Scoping Plan—such as GHG reduction programs for cars, trucks, fuels, industry, and electrical generation—and builds upon, in particular, existing programs related to the cap-and-trade regulation; the low carbon fuel standard; much cleaner cars, trucks, and freight movement; power generation for the state using cleaner renewable energy; and strategies to reduce methane emissions from agricultural and other waste by using it to meet the state’s energy needs.

## Findings of the Previously Adopted IS/MND

The 2009 IS/MND identified less than significant impacts with mitigation incorporated associated with the project related to violation of any air quality standards regarding GHG emissions and generation of GHG emissions, noting that the GHG emissions associated with the project would be limited to the construction phase and would not be a significant increment of the cumulative effect on global climate change.

## Discussion

The analysis of the 2009 IS/MND was based on emissions from all project components, including heavy equipment used when installing the well, pipeline, and gauging station and demolishing the Downey Well. Because this addendum only analyzes the installation of the well and the portion of the pipeline connecting the well to the existing pipeline to the treatment plant, the emissions would be less than those previously analyzed. Though greenhouse gas reduction goals have grown since the adoption of the 2009 IS/MND, the project impact would still be limited to the construction phase and would not be a significant increment of the cumulative impact on global climate change.

## Conclusion

The project would not result in any new or more severe environmental effects related to GHG emissions, or conflicts with plans, policies, and regulations adopted regarding GHG emissions, than those identified in the previously adopted 2009 IS/MND.

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<sup>16</sup> CARB, 2017. California’s 2017 Climate Change Scoping Plan, November 2017. Available at [https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping\\_plan\\_2017.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/scoping_plan_2017.pdf).



### 3.7 Hydrology and Water Quality

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>HYDROLOGY AND WATER QUALITY —</b>				
<b>Would the project:</b>				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through addition of impervious surfaces, in a manner which would:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) 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; or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Impede or redirect flood flow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

The environmental setting relevant to hydrology and water quality for the project site has not changed since adoption of the 2009 IS/MND. Since adoption of the 2009 IS/MND, the hydrologic design report required as part of Mitigation Measure BR-2 has been completed, and an additional report on the impacts to instream flows from groundwater pumping has been completed as well. These reports provide more detail to the description of impacts on surface and ground water. The project would use the same pumping rates described and analyzed in the 2009 IS/MND. Regardless of operating well performance, NMWD's cumulative operations for both wells will conform to its water rights, which have specific dry year and seasonal limitations.

## Findings of Previously Adopted IS/MND

The adopted IS/MND determined that all project impacts related to hydrology and water quality would be less than significant or less than significant with mitigation. Chapter 5, *Mitigation Monitoring and Reporting Program*, reproduces previously adopted mitigation measures applicable to hydrology and water quality impacts from this project.

## Discussion

The project would enable the District to pump the amount of water evaluated in the 2009 IS/MND, as described previously. However, this would not change the impact designations identified in the 2009 IS/MND. The amount of water pumped during project operation would be consistent with water right and license authorization. If the minimum flows established by the SWRCB are not maintained, then NMWD will request (as part of its Intertie Agreement) that Marin Municipal Water District (MMWD) release sufficient water to Lagunitas Creek to reestablish at least the minimum flows.

## Surface Water Quality

As described in the 2009 IS/MND (Appendix A), and as further specified in the Suro Science Report (Appendix B), groundwater pumping as part of the project would have the potential to affect the amount of water in the creek during seasonal low flow conditions.<sup>17</sup> As previously noted, flow impacts during dry season pump tests indicate discernable, but de minimus alterations in flows during combined pumping of the two wells. If this flow reduction occurs at all during well operations, it is not of a scale that would alter water temperature.<sup>18</sup> Additionally, NMWD has the ability to request that MMWD release sufficient water from Kent Lake into Lagunitas Creek to avoid negative impacts to water quality and supply in Lagunitas Creek.

## Groundwater Quality

As described in the 2009 IS/MND and in the Suro Science Report (Appendix B), use of the NMWD wells would have the potential to lower groundwater levels in the area. Groundwater quality would not be anticipated to be affected by well operations and thus would not adversely affect groundwater quality in the existing private Gallagher Ranch well through increased pumping. However, the purchase agreement with the owners of Gallagher Ranch provides that NMWD will provide reimbursement for the cost of added power costs for additional pumping or make-up water to a level of beneficial use prior to installation of the District's well. A similar

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<sup>17</sup> As noted above, the report notes that the constant-rate pump test was conducted during late summer when Lagunitas Creek was under Dry Year conditions and experiencing seasonal low flows, which can be considered a worst-case condition.

<sup>18</sup> As noted above, the report states that the magnitude of the observed reduction in streamflow was such that it could not reliably be measured with the current stream gage equipment because it would not exceed the accuracy (plus or minus 8 percent) of that equipment. The report also stated that even if the observed reduction in streamflow could be reliably measured, the effect would be negligible, and would not substantially reduce stream flow or lower water surface to a degree that would adversely impact stream habitat

contingency would be added to purchase of the site for the additional well. Thus, this impact would be mitigated by the purchase agreement, and no mitigation is required.

## Conclusion

The project would not substantially reduce stream flow or lower water surface to a degree that would adversely impact surface water quality. Thus, the location of Gallagher Well No.2, as proposed under the current project, would not result in new or more severe impacts than those disclosed in the 2009 IS/MND, and Mitigation Measure BR-2, developed as part of the 2009 IS/MND, remains adequate to reduce impacts to stream flow in Lagunitas Creek. Further, the project would comply with existing instream flow requirements through NMWD's Intertie agreement with MMWD and thus would not degrade surface water quality. The project would mitigate groundwater quality impacts through its purchase agreement with the owners of the Gallagher Ranch. Thus, there would be no change in impacts from those identified in the 2009 IS/MND.

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### 3.8 Land Use and Planning

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>XI. LAND USE AND PLANNING —</b> Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### Setting

The environmental setting relevant to land use and planning has changed since adoption of the IS/MND. In 2016, the Gallagher Ranch property was placed into an agricultural conservation easement with Marin Agricultural Land Trust (MALT). The MALT easement anticipated NMWD's need to construct a second well at Gallagher Ranch and included specific additional steps to ensure project consistency with the MALT easement, specifically the required preparation of a Water Development Plan.

The land use and zoning for the site has not changed since 2009.

#### Findings of Previously Adopted IS/MND

The adopted IS/MND determined that the project would have no impacts related to land use and planning.

#### Discussion

##### **Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

As described above, the project property is now under a MALT easement. As part of that agreement, NMWD prepared and submitted a draft Water Development Plan (WDP) to MALT for review and approval. The draft WDP did not identify any areas of conflict or inconsistency between the project and the MALT easement; as described above, the MALT easement anticipated NMWD's need to construct a second well at Gallagher Ranch.

Because the project is located in the Coastal Zone, a Coastal Permit will be required for the project, as described in the 2009 IS/MND. The County will need to review the project and confirm this conclusion prior to deciding whether to approve a Coastal Permit and use permit for the well.

## Conclusion

The project would not conflict with existing land use plans, policies, or regulations adopted for the purpose of avoiding or mitigant environmental effects, and the project would still have no impact.

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### 3.9 Noise

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>POPULATION AND HOUSING — Would the project:</b>				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) For a project located within the vicinity of a private airstrip or 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### Setting

The environmental setting relevant to noise has changed somewhat since adoption of the 2009 IS/MND. The proposed project location is now approximately 450 feet north of the existing Well No. 1. This new location is approximately 450 feet from the Gallagher residence, while the previous location would have been between 400 and 800 feet from the Gallagher residence.

The Marin county noise ordinance is the relevant code regulating noise in the area. It has not changed since the adoption of the 2009 IS/MND.

### Findings of Previously Adopted IS/MND

The adopted 2009 IS/MND found that the project would have a less than significant impact with mitigation incorporated related to noise. Construction of the project would generate noise due to the use of heavy construction, but it would be temporary in nature. Drilling the well would require use of a well rig plus other heavy equipment. Noise levels at the Gallagher residence would be expected to be between 50 to 65 decibels during well drilling. This noise would only occur for a few days. Nevertheless, the 2009 IS/MND placed limits on the hours of operation as part of Mitigation Measure N-1.

### Discussion

The project's location 450 feet from the Gallagher residence is within the distance analyzed and found to be less than significant with mitigation the 2009 IS/MND.

Mitigation Measure N-1 has been updated to be consistent with the Marin County Noise Ordinance, which is shown in the mitigation measures in Chapter 5.

## Conclusion

No new or more significant impacts related to noise would occur because of the proposed project. The proposed new location is within the distance analyzed and found to be less than significant with mitigation in the 2009 IS/MND.

Mitigation Measure N-1 has been updated to be consistent with the Marin County Noise Ordinance, which is shown in the mitigation measures in Chapter 5.

### 3.10 Population and Housing

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>POPULATION AND HOUSING — Would the project:</b>				
a) Induce substantial unplanned 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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### Setting

The environmental setting relevant to population and housing has changed since adoption of the 2009 IS/MND. The growth projections from the Countywide Plan EIR used in the 2009 IS/MND are still relevant and were used in NMWD's most recent planning document, the 2014 West Marin Water System Master Plan. Though the growth projections used are similar, the demand projections are more up to date in the 2014 Master Plan, and are described below.

### Findings of Previously Adopted IS/MND

The adopted 2009 IS/MND found that the project would have a less than significant impact related to growth inducement. NMWD has sufficient water rights and supplies from the existing Coast Guard Wells to serve the projected buildout of the West Marin Service Area, as that buildout is described in the EIR prepared for the new Marin Countywide Plan. The 2009 IS/MND noted that if the new well was not developed, then NMWD might not be able to reliably meet the water demand of existing and projected customers, and lacking system reliability, the County might not be able to approve new development. The document discussed this scenario, but argued that this scenario was speculative, particularly because NMWD may be able to supply needed water from alternative supplies.

The 2009 IS/MND concludes that, "the existing rights and supplies, as supplemented by the Gallagher Wells, help NMWD to reliably meet the projected buildout of the service area. The wells would not provide[] water that would induce additional development beyond what is allowed and projected for in the Marin Countywide Plan."<sup>19</sup>

<sup>19</sup> Leonard Charles, 2009. P. 48



## Discussion

Since publication of the 2009 IS/MND, the West Marin Water System Master Plan (2014 Master Plan) has been published, which provides the most recent demand and supply projections for the relevant service area.

The purpose of 2014 Master Plan is to guide immediate and planned future system improvements based on both current operations and future water demands. The 2014 Master Plan uses the same demand projections as the original 2009 IS/MND, which are based on the 2007 Countywide Plan update.<sup>20</sup> Because the projections for demand are the same and there is no change in the supply from Gallagher Well No. 2, potential impact related to growth inducement would remain less than significant. The following discussion describes the demand and supply projections from the 2014 Master Plan and their relationship to growth inducement.

### Projected Demand

The District continually monitors planned development within its distribution system and periodically updates projected buildout water demands. The last update was in November 2013. Buildout demand is estimated at 380 acre feet per year (AF/Y) and maximum day demand is 715,122 gallons per day (gpd).

### Additional Supply to Meet Buildout Demand

The 2014 Master Plan identified a pumping deficit for Point Reyes Station of 445 gpm at buildout and a storage deficit of 38,200 gallons at buildout. However, this deficit was anticipated to be reduced but not completely addressed by the addition of the existing Gallagher Well No. 1 and the proposed project's additional well proposed at the Gallagher Ranch site.<sup>21</sup> It is important to note that the need for increased pumping capacity is not the same as an increased total amount of water needed; NMWD can meet buildout average water demand with its existing facility, but not peak usage. The Master Plan's only recommended additional change was to repair/replace the pump at Coast Guard Well No.2. Because the proposed project would not add additional water supply beyond that necessary to meet demand at buildout, the project is consistent with the most recent growth projections and would not induce growth.

## Conclusion

No new or more significant impacts related to growth inducement would occur because of the proposed project.

Since publication of the 2009 IS/MND, NMWD has updated its demand and supply projections through its 2014 Master Plan. However, the demand projections have not changed because they are based on the same demand projections as the 2009 IS/MND. The proposed project is consistent and described in the supply projections of the 2014 Master Plan.

<sup>20</sup> NMWD, 2014. *West Marin Water System Master Plan 2014*. P. 4-6

<sup>21</sup> NMWD, 2014. P. 5-11

Because the project would not provide more water supply than is needed for planned buildout demand, the project would not induce substantial unplanned growth, and its impacts on growth would be less than significant.

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## 3.11 Tribal Cultural Resources

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>Tribal Cultural Resources —</b>				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Since the adoption of the 2009 IS/MND, Assembly Bill 52 (AB 52) was passed, which added provisions to the Public Resources Code to evaluate under CEQA impacts to tribal cultural resources, as well as consultation requirements with California Native American tribes (PRC Section 21080.3.1, 21080.3.2, 21082.3). AB 52 applies to projects for which a lead agency has issued a Notice of Preparation (NOP) of an environmental impact report or notice of intent to adopt a negative declaration on or after July 1, 2015. These notices are not required to implement Gallagher Well No. 2. A discussion of tribal cultural resources is provided below.

### Setting

Tribal cultural resources are: 1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are listed, or determined to be eligible for listing in the California Register, or local register of historical resources, as defined in PRC Section 5020.1(k); or, 2) a resource determined by the lead CEQA agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c).

As described in Section 3.4, Cultural Resources, an additional survey for cultural resources was conducted in 2020 for the Gallagher Ranch project, which included the project area in its Area of Potential Effect (APE). The cultural survey report revealed the recordation of one newly identified cultural resource within the project area: Gallagher Bridge, and one previously recorded historic property: Gallagher Ranch, a contributing element of the Olema Valley/Lagunitas Loop Ranches Historic District with a period of significance of 1856 to 1961. The National Resources Conservation Service (NRCS) determined that the Gallagher Bridge as an eligible historic and cultural resource.

On August 8, 2019, the NRCS initiated Native American consultation to listed tribes, in which they received a response form the Federated Indians of Graton Rancheria (FIGR) on October 21,

2019. The FIGR did not express any concerns regarding the APE in the designated area and requested to be notified if anything was discovered during construction.

## Regulatory Setting

### State

In September 2014, the California Legislature passed AB 52, which added provisions to the Public Resources Code to evaluate under CEQA impacts to tribal cultural resources, as well as consultation requirements with California Native American tribes (PRC Section 21080.3.1, 21080.3.2, 21082.3). Lead agencies are required to analyze project impacts to tribal cultural resources separately from archaeological resources (PRC Section 21074; 21083.09). A tribal cultural resource is defined in Public Resources Code section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Regarding impacts to tribal cultural resources, PRC Section 21084.3 states:

- a) Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.
- b) If the lead agency determines that a project may cause a substantial adverse change to a tribal cultural resource, and measures are not otherwise identified in the consultation process provided in Section 21080.3.2, the following are examples of mitigation measures that, if feasible, may be considered to avoid or minimize the significant adverse impacts:
  - 1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
  - 2) Treating the resource with culturally appropriate dignity taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - (A) Protecting the cultural character and integrity of the resource.
    - (B) Protecting the traditional use of the resource.
    - (C) Protecting the confidentiality of the resource.
  - 3) Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
  - 4) Protecting the resource.

## Discussion

**Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

**Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)**

According to the January 28, 2020 cultural survey report, no known tribal cultural resources listed or determined eligible for listing in the California Register, or included in a local register of historical resources as defined in PRC Section 5020.1(k), pursuant to PRC Section 21074(a)(1), would be impacted by the project. Additionally, Native American consultation initiated on August 8, 2020 determined that the Federated Indians of Graton Rancheria on October 21, 2019 did not identify or express any concerns related to tribal cultural resources within the APE.

However, while unlikely, if any previously unrecorded archaeological resource were identified during ground-disturbing construction activities and were found to qualify as a tribal cultural resource pursuant to PRC Section 21074(a)(1) (determined to be eligible for listing in the California Register or in a local register of historical resources), any impacts to the resource resulting from the project could be potentially significant. Any such potential significant impacts would be reduced to a less than significant level by implementing adopted **Mitigation Measure CR-1** and **Mitigation Measure CR-2** (refer to Section 3.4 for details). With implementation of these mitigation measures, the project would not result in any new impacts to tribal cultural resources.

**A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

NMWD did not determine any resource that could potentially be affected by the project to be a tribal cultural resource significant pursuant to criteria set forth in PRC Section 5024.1(c). If any previously unrecorded archeological resource were identified during ground-disturbing construction activities and were found to qualify as a tribal cultural resource pursuant to PRC Section 2107(a)(1) (determined to be eligible for listing in the California Register or in a local register of historical resources), any impacts to the resource resulting from the project could be potentially significant. Any such potential significant impacts would be reduced to a less-than-significant level by implementing Mitigation Measure CR-1. This mitigation measure would

ensure that no further damage to the materials and/or resource area would occur until a qualified archaeologist has evaluated the situation and reported the incident to the Northwest Information Center and the California State Historic Preservation Officer. With implementation of this mitigation measure, the project would not result in any impacts to tribal cultural resources.

## Conclusion

Implementation of the adopted mitigation measures applicable to cultural resources would reduce possible impacts related to tribal cultural resources during construction of the project to a less than significant level, and the project would not result in any new significant impacts.

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## 3.12 Utilities and Service Systems

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Effects Not Identified in Prior IS/MND</i>	<i>Potentially Substantial Increase in Severity of Significant Impact Identified in Prior IS/MND</i>	<i>Sponsor Declines to Adopt Feasible Mitigation Measures or Alternatives</i>	<i>No New or More Severe Significant Effects</i>
<b>Utilities and Service Systems — Would the project:</b>				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## Setting

The environmental setting relevant to Utilities and Service Systems for the Project site has not changed since adoption of the 2009 IS/MND. Checklist question b) has changed to include discussion of whether there would be sufficient water supplies to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years.

## Findings of Previously Adopted IS/MND

The adopted 2009 IS/MND found that the project would have less than significant or less than significant with mitigation incorporated impacts for utilities and service systems. Impacts related to the construction of new or expanded water facilities are assessed and discussed throughout the document, in particular in Biological Resources, Cultural Resources, Geology, Noise, and Utilities.

## Discussion

As discussed above, the first part of Question b) in the above excerpt from the IS checklist now asks whether NMWD has adequate water to serve the project. Because the project would create additional water supply instead of consuming more water, the project would still have no impact, despite the change in the wording of the question.

Discussion of the second part of Question b), whether NMWD has enough water to serve reasonably foreseeable development in addition to the project is described in Section 3.10 Population and Housing. Because the project would not cumulatively contribute to water demand, there is still no impact.

## Conclusion

No new or more significant impacts related to utilities and service systems would occur compared to the impacts identified in the previously adopted IS/MND.

Though the checklist questions have changed slightly, the project has not, such that no new impacts would occur.

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### 3.13 Wildfire

<i>Issues (and Supporting Information Sources):</i>	<i>Potentially Significant Impact</i>	<i>Less Than Significant with Mitigation Incorporated</i>	<i>Less Than Significant Impact</i>	<i>No Impact</i>
<b>WILDFIRE — —</b> If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
<b>Would the project:</b>				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Following the publication and approval of the 2009 IS/MND and Pipeline Project, several updates and amendments to the CEQA Guidelines have occurred, including guidelines outlining the addition of a new Wildfire impact category to Appendix G CEQA Guidelines. Discussion of wildfire impacts and analysis are provided below as a new addition to this CEQA Addendum.

### Setting

The project site is designated as a Moderate Fire Hazard Severity Zone (FHSZ)<sup>22 23</sup> and is under a Federal Responsibility Area<sup>24 25</sup>.

#### ***Substantially impair an adopted emergency response plan or emergency evacuation plan?***

According to the Marin Countywide Plan, the County maintains policies and programs intended to minimize harm to people and property due to environmental hazards such as fire. Marin

<sup>22</sup> The Fire Hazard Severity Zone are developed using a science-based and field tested computer model that assigns a hazard score based on the factors that influence fire likelihood and fire behavior. Many factors are considered such as fire history, existing and potential fuel (natural vegetation), flame length, blowing embers, terrain, and typical weather for the area. There are three hazard zones in state responsibility areas: moderate, high, and very high.

<sup>23</sup> CAL FIRE, 2007. Fact Sheet: California's Fire Hazard Severity Zones, California Department of Forestry and Fire Protection Office of the State Fire Marshal. May 2007. Available online: [https://www.sccgov.org/sites/dpd/DocsForms/Documents/Fire\\_Hazard\\_Zone\\_Fact\\_Sheet.pdf](https://www.sccgov.org/sites/dpd/DocsForms/Documents/Fire_Hazard_Zone_Fact_Sheet.pdf).

<sup>24</sup> Federal Responsibility Area is a legal term defining the area where the federal government has financial responsibility for wildland fire protection.

<sup>25</sup> Marin Geohub, 2020. Fire Hazard Severity Zone. Available online: [https://gisopendata.marincounty.org/datasets/0683285b35354c18a93de194a8e3b70d\\_70?geometry=-122.928%2C38.043%2C-122.602%2C38.090](https://gisopendata.marincounty.org/datasets/0683285b35354c18a93de194a8e3b70d_70?geometry=-122.928%2C38.043%2C-122.602%2C38.090).

County has also prepared an Emergency Operations Plan in order to guide agency and public natural disaster preparedness and response. Although the project would involve several truck trips during construction, no potential lane closures or impacts to evacuation routes is anticipated to occur that would alter the use of any existing roads within the project area. Additionally, operation and maintenance of the project would not include any additional impact to evacuation routes further from existing traffic conditions. Therefore, no designated emergency response plans or evacuation routes would be impaired during project construction, operation, or maintenance. Therefore, this impact would be less than significant.

***Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?***

The project would not include any housing or supply occupancy for any residents. Therefore, the project would not expose any occupants to any pollutant concentration from a potential wildfire. The project is designated as a Moderate Fire Hazard Severity Zone and contains relatively flat terrain and predominantly agricultural grazed land with minimal tree cover along Lagunitas Creek. Wind events are typically fastest over mountains and ridge tops such as Mt. Tamalpais, Loma Alta, and Mt. Burdell compared to low-lying areas.<sup>26</sup> Given the lack of slope, prevailing winds, and surrounding vegetation, the project would have a low to moderate wildfire risk. However, surrounding residents within Gallagher Ranch could be exposed to pollutant concentrations if a fire were to occur as a result of project ignitions. Implementation of fire protection measures as described in the project description would minimize the risk of ignition during construction and reduce the risk of a wildland fire to a less than significant level.

***Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?***

The project would involve the installation of a new water source and associated pipeline infrastructure and would serve as a replacement to the Coast Guard Wells, as described in Chapter 1, Background. No installation or maintenance of any roads, fuel breaks, power lines, or additional utilities would be required by the project. Construction of the new Gallagher No. 2 well would provide higher quality water for the residents of the Point Reyes Station and surrounding area. The project would not limit or restrict any current access to emergency water sources needed for wildfire management. Therefore, the project would not affect or exacerbate fire risk or deplete any emergency water resources. This impact would be less than significant.

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<sup>26</sup> Marin County Fire Department, 2016. Community Wildfire Protection Plan. Marin County Fire Department in collaboration with Fire Safe Marin. July 2016. Available online: <https://drive.google.com/file/d/0Bx15pyv0JoJZXE2WXIwMWtENUE/view>.

***Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?***

The project does not include any housing or structures, and therefore would not expose people or structures to increased risk associated with flooding, landslides, or post-fire slope instability as a result of locating them near such existing risks. Under this criterion, there would be no impact.

## Conclusion

Implementation of fire protection measures during construction of the project would reduce the possible impacts related to wildfire risk and resident exposure to pollutant concentrations to a less than significant level. No additional significant impacts would occur.

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## CHAPTER 4

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### Conclusion

As is evident from the analyses and discussion in Chapter 3, the Gallagher Well No. 2 project would not result in new or more severe significant impacts than those attributable to the project described in the 2009 Gallagher Wells and Pipeline Project Initial Study/Mitigated Negative Declaration (IS/MND).

Further, the analyses and discussion in Chapter 3 do not reflect involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. There have been no changes in circumstances under which the project is undertaken that would result in new significant environmental impacts or substantially more severe impacts, and no new information has become available that would indicate the potential for new significant impacts or substantially more severe impacts than were discussed in the IS/MND. Therefore, no further evaluation is required, and no Subsequent MND is needed pursuant to CEQA Guidelines Section 15162.

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## CHAPTER 5

# Mitigation Monitoring and Reporting Program

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This section describes previously adopted resource protection measures for the project. Where necessary, these mitigation measures have been amended, shown in hardline strikethrough and underline to demonstrate changes from the 2009 IS/MND. Certain mitigation measures are not included because they are no longer relevant to the project. These include:

- **Mitigation Measure BR-1.** No work would be conducted within the stream channel or Downey Well.
  - **Mitigation Measure GS-2.** As a water infrastructure project, the proposed project is exempt from general county zoning and ordinance requirements. Therefore, no Erosion and Sediment Control Plan is required for the project.
  - **Mitigation Measure HWQ-1.** This mitigation measure relates to the abandonment of Downey Well, which is not part of this project.
  - **Mitigation Measure T-1.** No traffic control plan is required because no construction will occur within the Point-Reyes-Petaluma Road right-of-way.
  - **Mitigation Measure U-1.** No utility mitigation will be required because no work will be conducted along Point Reyes-Petaluma Road and no pipelines will cross drainage culverts.
-

## Mitigation Measure BR-2

NMWD shall not divert water from the Gallagher Wells in a manner that adversely affects fish and wildlife residing between the Gallagher Wells and the Coast Guard Wells. To meet this standard, prior to constructing any proposed project improvements, NMWD prepared a final hydrologic design plan describing how and where stream flows will be monitored and how NMWD will maintain flow levels downstream of the Gallagher Well site. This plan addressed the following:

- The location and operation of the relocated gauging station;
- The party responsible for monitoring the Gallagher gauging station;
- Final arrangements with MMWD regarding water releases when necessary;
- Details of how the water release will be initiated and terminated; and
- Prediction process for initiating and terminating water releases.

This plan, as described above, ~~shall be~~ was reviewed ~~and approved~~ by the California Department of Fish and Game (now the California Department of Fish and Wildlife); ~~no comments were provided by the Department within the 60-day review period provided under California Fish and Game Code Section 1602 (a) (4), and in reliance thereon, NMWD connected Gallagher Well No. 1 into the newly constructed transmission pipeline and began delivery of water from the Gallagher Ranch site in 2015. The State Water Resources Control Board made the requested changes to NMWD's Water Rights License and Permit as described in the 2009 IS/MND; now that the location of Gallagher Well No. 2 has been determined in consultation with the property owner, NMWD will submit an administrative update to include the site of Gallagher Well No. 2 as an additional point of diversion under the Water Rights License and Permit. Once approved by this agency, NMWD will apply to the State Water Resources Control Board to make the requested changes to its Water Rights License and Permit.~~

### Mitigation Monitoring and Reporting

The hydrologic design plan was reviewed by the Department prior to connection of Gallagher Well No. 1 to the newly constructed transmission pipeline in 2015. Monitoring and maintaining stream flows will occur throughout the time that the Gallagher Wells are in use. NMWD is responsible for implementing the mitigation and for compliance. The California Department of Fish and Game Wildlife will also monitor for compliance and may alter the required conditions for releases after reviewing the monitoring of streamflow data.

## Mitigation Measure BR-3

NMWD shall implement measures to avoid and minimize potential adverse effects on amphibians within the project area. Prior to conducting work and during work, the following measures shall be implemented:



- Prior to the start of earthwork, the construction work area boundary shall be fenced with a temporary exclusion silt fence to prevent special-status wildlife from entering the site during construction. The fencing shall be three feet high and buried to a depth of at least three inches. Any needed repairs to the fence shall be performed immediately. Final fence design and location shall be determined by the Lead Biologist. Exclusionary fencing shall be removed once construction activities are complete.
- A biological resource education program shall be provided for construction crews and contractors before construction activities begin. The program shall describe the life history and identification of the California giant salamander, foothill yellow-legged frog, and California red-legged frog, protective measures to be implemented if sensitive species are identified or suspected to be in the work area (i.e., immediate notification of the biological monitor, and temporary protective buffers), and penalties for handling or harming these species.
- If any California giant salamander, foothill yellow-legged frog, and/or California red-legged frog is located on-site, work shall be ceased in the immediate area and the U.S. Fish and Wildlife Service or California Department of Fish and Wildlife shall be notified before work is reinitiated.
- During work, all trash that may attract predators shall be properly contained, removed from the work area, and disposed of regularly. NMWD or its contractor shall remove all trash and construction debris from work area on a daily basis.

## Mitigation Measure BR-4

If construction or vegetation removal must be performed during the nesting period (February 1 through August 31), a qualified biologist shall survey the work area to verify the presence or absence of nests no more than 7 days prior to the start of construction activities, including the clearance of vegetation. If no nests are found and the site is cleared of vegetation, no further survey will be required. If active nests are observed, the construction contractor, in consultation with a qualified biologist, shall establish buffer zones around nest areas. Typical nest buffers are 100 feet for passerine birds, depending upon the nature of proposed activities and the sensitivity of the identified bird to disturbance, and 150 to 250 feet for raptors. Construction activities shall be avoided or modified within the buffer area until young birds have fledged, which shall be confirmed by the qualified biologist. Buffer sizes may be reduced from the initially established distances following review by the qualified biologist and/or coordination with California Department of Fish and Wildlife.

## Mitigation Measure CR-1

- If cultural resources are encountered during project construction, avoid altering the materials and their context until a cultural resources consultant has evaluated the situation.
- If applicable, a qualified archaeologist shall monitor subsequent excavations and spoils in the vicinity of the find for additional archaeological resources.
- If the archaeologist determines the discoveries are of importance, the resources shall be properly recovered and curated. The archaeologist shall prepare a summary outlining the methods followed and summarizing the results of the mitigation program. The report shall outline the methods followed, list and describe the resources recovered, map their exact

locations and depths, and include other pertinent information. Identified cultural resources shall be recorded on DPR 523(AJ) historic recordation forms. NMWD shall submit the report to the Northwest Information Center and the California State Historic Preservation Officer.

#### Mitigation Monitoring and Reporting

The mitigation will be implemented whenever warranted throughout the construction phase. The contractor will be responsible for determining the presence of the initial cultural resource find. NMWD will be responsible for engaging the cultural resource specialist. The cultural resource specialist shall be responsible for properly reporting and recording the find(s).

### Mitigation Measure CR-2

This mitigation incorporates the requirement established in Mitigation Measure CR-1 and adds the requirements that in the event that human remains are encountered, the contractor shall stop work in the area and NMWD shall contact the Marin County Coroner in accordance with Section 7050.5 of the State Health and Safety Code.

#### Mitigation Monitoring and Reporting

The mitigation will be implemented whenever warranted throughout the construction phase. The contractor will be responsible for determining the presence of human remains. NMWD will be responsible for contacting the County Coroner.

### Mitigation Measure GS-1

The project shall be constructed to withstand the maximum probable earthquake and to withstand other geologic and soil constraints or hazards, including unstable slopes, differential compaction, liquefaction, and lateral spreading, and it shall avoid creating additional instabilities in areas where slopes may already be unstable. Prior to final design, a design-level geotechnical investigation and report shall be prepared by a qualified geotechnical consultant to specifically identify the extent of geologic constraints and slope instabilities along the pipeline route. The geotechnical investigation shall include site-specific evaluation of the slope stability subsurface conditions, through drilling, logging and sampling of representative borings along the collection system route. This design level investigation and report shall also identify expansive soils and seismic hazards from landsliding, liquefaction, and dynamic densification. Specific measures to be employed to reduce the potential for damaging slope instabilities and failures include design, construction and monitoring measures such as:

- Re-routing of the pipeline to avoid unstable areas;
- Construction of retaining walls and structures in areas of slope and bank instabilities that threaten the stability of the pipeline routes;
- De-watering of areas of slope instabilities to reduce potential for failure;
- Excavation and reconstruction of areas of slope instability, including the installation of subsurface drainage to reduce the potential for future failure;

- Incorporation of isolation (i.e., shutoff) valves at areas of potential problems; and
- Installation of flexible piping/couplings in areas of known instabilities. The project shall be constructed consistent with the criteria as specified in the design recommendations set forth in the geotechnical report. The project shall reduce the potential for damage to the collection/transmission line due to liquefaction and/or dynamic densification during a strong earthquake. The required design-level geotechnical investigation and report shall identify specific areas with liquefiable soils and determine appropriate specific design and construction measures to mitigate the potential hazard. The geotechnical investigation shall include drilling, logging, and sampling in areas of moderate and deep alluvial deposits to evaluate the potential for liquefaction, dynamic densification, lateral spreading and lurch cracking.

#### Mitigation Monitoring and Reporting

The recommended design study will be prepared during final design and recommendations in that study included in the final construction drawings for the project. A qualified geotechnical expert shall review the plans and specifications to ensure compliance. A qualified geotechnical expert shall observe and test site trenching, compaction of fill material, and slide repair to confirm that subsurface conditions are as expected and to adjust elements of the design, if warranted. The contractor will be responsible for implementing the actions. NMWD will determine final compliance.

### Mitigation Measure GS-3

The required design-level geotechnical investigation and report shall identify potential areas of expansive soils and appropriate construction specifications. At a minimum, the following measures for pipeline construction shall be included:

- Trenches shall be backfilled with imported non-expansive fill soils beneath and around pipelines;
- Native soil backfill shall be confined to zones a minimum of one foot above the tops of pipes in non-paved areas; and
- Pavement areas shall be backfilled with an appropriate non-expansive pavement section. If expansive clay soils occur in the construction areas, the required geotechnical report shall develop appropriate design and construction specifications. These would include, for example, over-excavation of expansive soils and replacement with non-expansive engineered fill. The geotechnical investigation shall include the drilling, logging and sampling of boreholes and laboratory testing of physical properties of soil.

#### Mitigation Monitoring and Reporting

The recommended design study will be prepared during final design and recommendations in that study included in the final construction drawings for the project. A qualified geotechnical expert shall review the plans and specifications to ensure compliance. The contractor will be responsible for implementing the actions. NMWD will determine compliance.

## Mitigation Measure H-1

The project construction documents shall include provisions that alert the contractor to the possibility of encountering buried hazardous materials during excavation work and require that, if such materials are encountered, the work in that area shall cease and immediate notification be given to the project engineer/inspector(s) and appropriate regulatory authorities.

### Mitigation Monitoring and Reporting

NMWD shall include these conditions in the construction contract. The contractor shall be responsible for compliance with these conditions. NMWD shall be responsible for determining final compliance.

## Mitigation Measure N-1

Construction of the well shall be limited to the hours of 7:00 a.m. to ~~6~~5:00 p.m. on weekdays and 9:00 a.m. to 5:00 p.m. on Saturdays. No work shall be allowed on ~~Saturdays~~, Sundays, or holidays.

### Mitigation Monitoring and Reporting

The construction hours will be included in the final construction specifications for the project. NMWD will periodically monitor start and stop work times to ensure compliance.

# Appendix A

## 2009 Initial Study Gallagher Wells and Pipeline Project





# **INITIAL STUDY**

## **GALLAGHER WELLS AND PIPELINE PROJECT**

**March 2009**

**Prepared for:** North Marin Water District  
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## 1.0 INTRODUCTION AND BACKGROUND

This Initial Study has been prepared in accordance with the California Environmental Quality Act (CEQA), Public Resources Code 21000 *et seq.* and the *State CEQA Guidelines*, California Code of Regulations Section 15000 *et seq.*

The proposed project includes drilling one additional well at North Marin Water District's (NMWD) Gallagher Wells site and constructing a pipeline to connect the existing and new well at this well site to NMWD's water treatment plant. There is one existing well at this well site, but the well is not connected to the NMWD treatment and delivery system, and it has not been used since it was developed. The water from these wells would be used to supplement the existing Coast Guard Wells, which are the primary water source for the Point Reyes Water Treatment Plant. The proposed project also includes construction of a new stream gauging station, demolition and abandonment of an existing NMWD well (Downey Well), and the transfer of an existing NMWD water right for instream uses. A project site map is shown on Figure 1

## 2.0 PROJECT LOCATION AND SETTING

As shown on Figure 2, the Gallagher Well site is located on a small parcel of land (130 feet by 85 feet; located at 38°04'47"N and 122°47'66"W) owned by NMWD on property commonly called the Gallagher Ranch (14500 Point Reyes-Petaluma Road), which is located 1.3 miles northeast of Highway 1 at Point Reyes Station. Access is provided by Point Reyes-Petaluma Road. The well site is on the south bank of Lagunitas Creek, across the creek from Point Reyes-Petaluma Road near the east end of the private Gallagher Ranch bridge. The proposed pipeline would be installed within the right of way of Point Reyes-Petaluma Road for about a mile where it would connect to an existing pipeline that delivers water from the existing Downey Well site to NMWD's treatment plant, which is located about 500 feet north of the end of Commodore Webster Drive in Point Reyes Station.

The only residence near the well site is the residence on the Gallagher Ranch, which is located about 300+ feet east of the existing well site and 400 to 800 feet from the proposed well site. There are no residences located along the section of Point Reyes-Petaluma Road where the new pipeline would be constructed.

The Downey Well (located at 38°04'35"N and 122°47'38"W) is located within the stream channel of Lagunitas Creek approximately 2,900 feet northeast of the treatment plant. NMWD proposes to abandon this well.

### ***Existing Water Rights***

NMWD diverts water from Lagunitas Creek through a Water License and two Water Right Permits. Water License 4324B allows NMWD to divert water between May 1 and November 1 of each year at a rate not exceeding 0.67 cubic feet per second (cfs) for a maximum diversion of 148.8 acre-feet per year. The authorized points of diversion under this License include the Coast Guard Wells, the Downey Well, and the Giacomini Ranch site. The License contains a

number of stipulations that limit or prohibit diversion when streamflow in Lagunitas Creek falls below levels needed to protect fish and wildlife.

The Water Right Permit 19724 allows diversion of 0.699 cfs (maximum of 212.7 acre-feet diverted) on a year-round basis. Water Right Permit 19725 allows a maximum diversion of 0.961 cfs (292.5 acre-feet maximum) on a year-round basis. The water rights under these two Permits are junior rights that are not available during the summer months (July through October) of dry years. A dry year is defined as a year in which the total precipitation that occurs from October 1 through April 1 is less than 28 inches as measured at the Marin Municipal Water District's Kent precipitation gauge. The Permits authorize diversion from the Coast Guard Wells, Gallagher Well site, Downey Well, and a point upstream from the Green Bridge.

To meet water demand in dry years when water cannot be diverted from Lagunitas Creek due to the restrictions described above, NMWD has an Intertie Agreement with the Marin Municipal Water District (MMWD) to release up to 250 acre-feet of water from Kent Lake. To date, no water has needed to be released under this Intertie Agreement since a dry year has not occurred.

### **3.0 PROPOSED PROJECT DESCRIPTION**

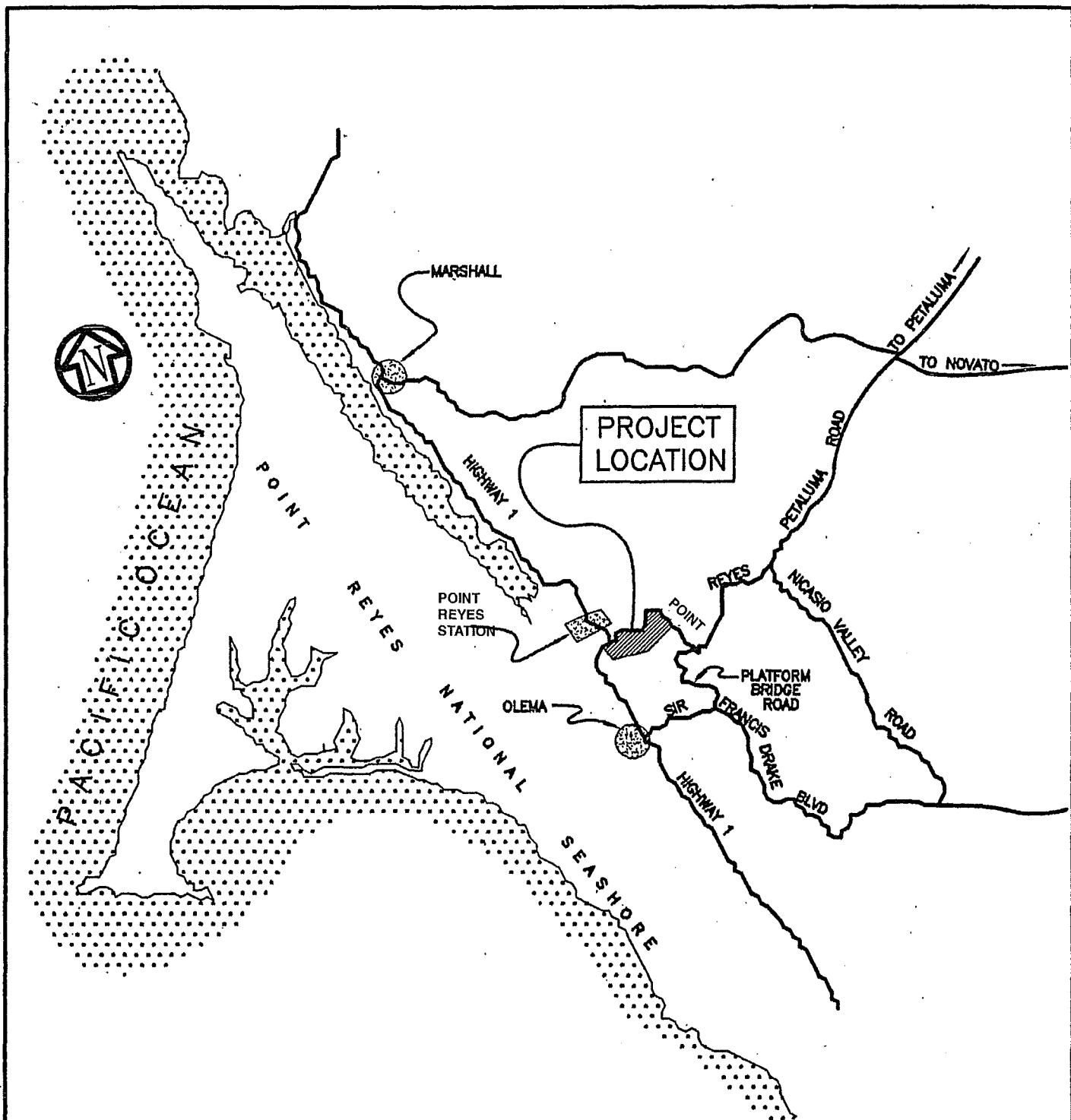
#### **1. Project Objectives and Benefits**

NMWD historically has relied on the two Coast Guard Wells (located to the south of its treatment plant, which is located approximately 500 feet from the end of Commodore Webster Drive at the Point Reyes Station Coast Guard Housing Facility) to supply water for the West Marin service area. Due to the wells' location in the upper tidal reach of Lagunitas Creek, they are under the influence of flows in the tidal reach of Lagunitas Creek and subject to periodic salinity intrusion and occasional flooding. The Gallagher Ranch site is upstream of any flooding and tidal reaches of Lagunitas Creek. However, the existing NMWD Gallagher supply well has a limited flow capacity (170 gallons per minute) and is not connected to the West Marin distribution system. This project would increase the Gallagher Well site's capacity and integrate those wells into the District distribution system. Because the Coast Guard Wells largely have good water quality, are reliable during most months, and have ample recharge, the Coast Guard Wells will continue to be the primary supply.

This historic salinity intrusion problem may be exacerbated by the National Park Service's conversion of the Giacomini Ranch to tidal wetland, which will increase salinity in upstream portions of Lagunitas Creek. According to the Final EIS/EIR for the Giacomini Wetland Restoration Project, the Park Service will not implement the Olema Marsh portion of the restoration project until either further studies are done to determine whether that part of the restoration would increase salinity; new information is received showing that the project would not adversely pose a threat to NMWD water quality; or NMWD constructs the pipeline connecting the Gallagher Wells to the treatment plant.<sup>1</sup> The proposed project would satisfy the third criterion, thereby allowing the Park Service to conduct the proposed Olema Marsh restoration.

---

<sup>1</sup> National Park Service, Giacomini Wetland Restoration Project: Final EIS/EIR, Response C-20, Volume 2, page 8, 2007.



**CSW**

**[St]<sup>2</sup>**

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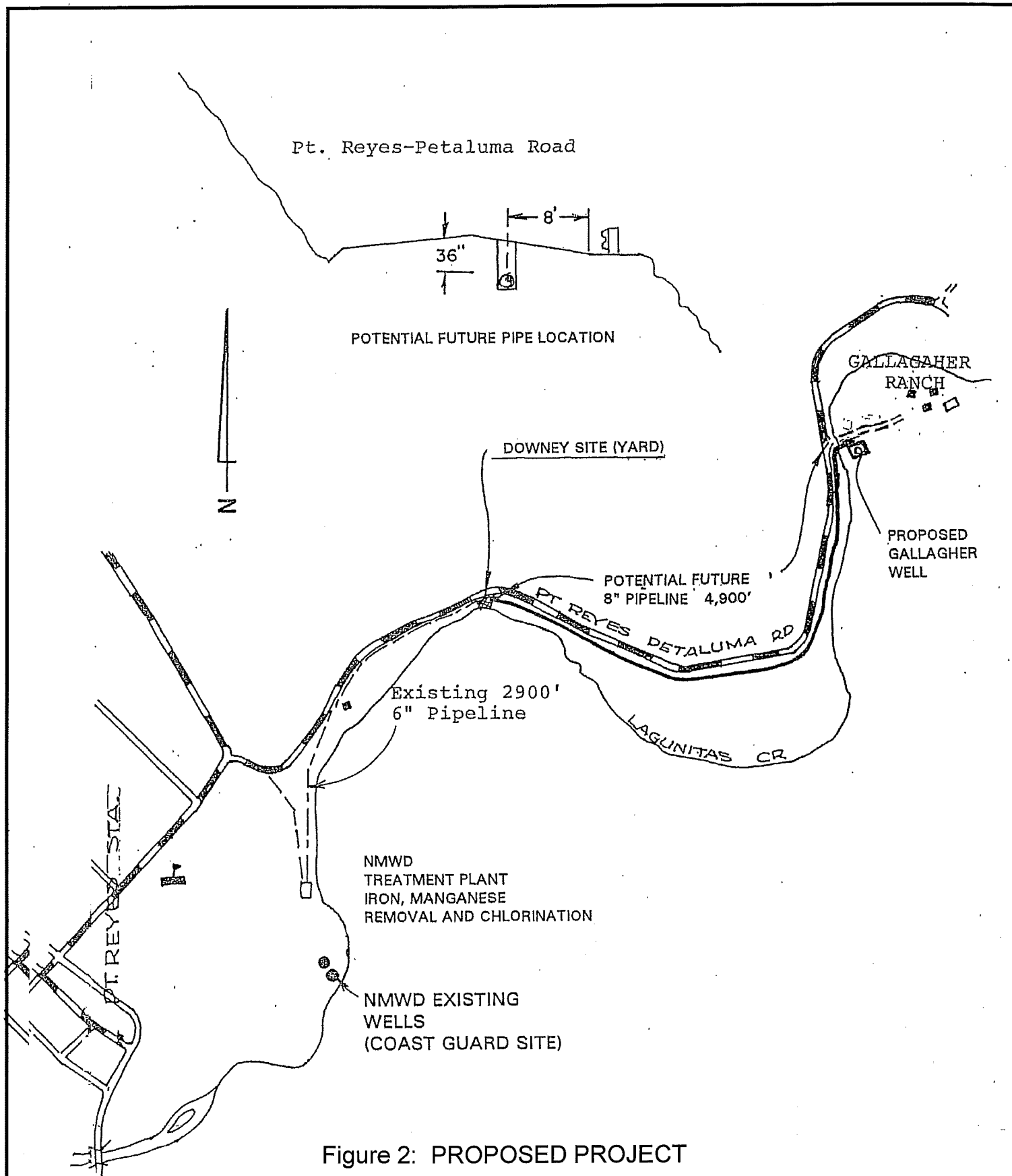
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M:\4101001\VICINITY

**GALLAGHER POINT REYES PIPELINE  
Figure 1: VICINITY MAP**

MARIN COUNTY

CALIFORNIA



NORTH MARIN COUNTY  
WATER DISTRICT  
NOVATO, CALIFORNIA

GALLAGHER RANCH WELL

DES	DR	CH	REC	SCALE
				DATE 6-26-92
APPROVED:				SHEET NO. OF SHEET
RE 11595				NO. Figure 2



FIGURE 3  
PROPOSED GALLAGHER  
WELL SITE

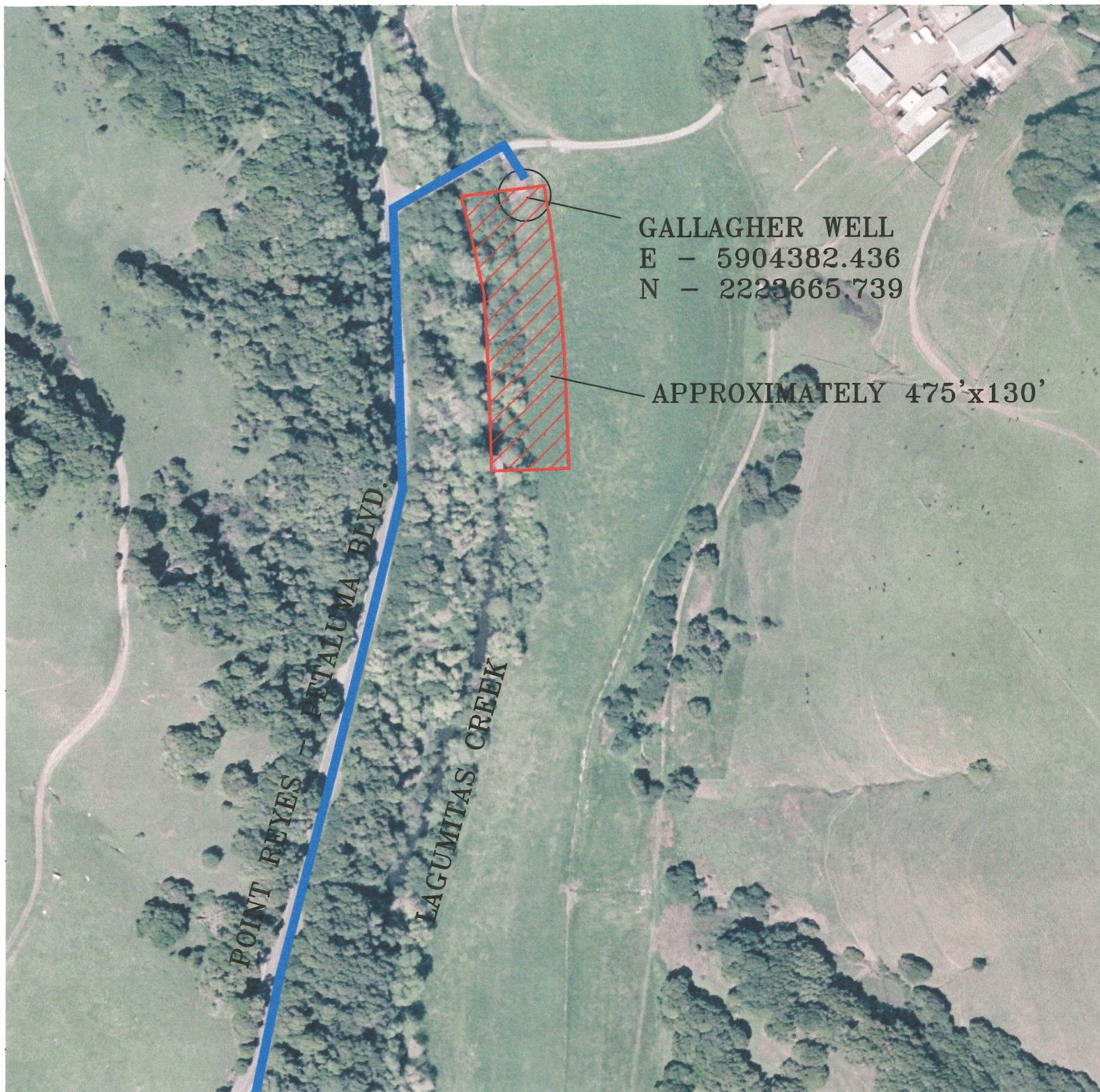


FIGURE 3



Given this background, NMWD's stated project goals and objectives include:

- **Provide Local Water Security.** This new water source would be used during periods of high tides, avoiding saltwater intrusion into the existing primary supply wells (Coast Guard Wells). By establishing a reliable emergency backup source of water upstream of the high tide water influences of Tomales Bay, water service reliability will increase. The new well will serve West Marin communities of Point Reyes Station (including the Coast Guard housing area), Inverness Park, Paradise Ranch Estates, Bear Valley (including the Point Reyes National Seashore) and Olema. The North Marin Water District has an agreement to assist the Inverness Public Utilities District during emergency water shortages. Development of this supplementary supply therefore stands to benefit that community.
- **Protect NMWD Communities' Water Supply From Flooding.** This will be accomplished by providing a reliable and secure source of water during flood events. During such events, the existing primary supply wells (Coast Guard Wells) may be inundated under Lagunitas Creek floodwaters and cannot be used as a source of water until the floodwaters recede.
- **Protect NMWD Communities' Water Supply From Drought.** Lower instream flows in Lagunitas Creek during dry or drought years increases salt-water intrusion at the existing primary supply wells. This project will reduce off-tide pumping at the primary supply wells during dry years. The present off-tide pumping practice is to pump at higher rates before and after high tide events to recapture distribution system storage.

NMWD believes that the project would have the following benefits:

- **Water Supply and Reliability.** The project insures reliable, high quality water supplies during high tide and flood events on Lagunitas Creek. In addition to communities of Point Reyes Station, Olema, Bear Valley, Paradise Ranch Estates and Inverness Park, the Town of Inverness may also benefit because it has an emergency water supply connection to the NMWD West Marin distribution system.
- **Flood Management.** The project provides a dependable means of avoiding effects of flooding in Lagunitas Creek on District's West Marin water supply.
- **Protect Groundwater Quality.** The project insures protection for Coast Guard Wells and the aquifer from saltwater intrusion by avoiding pumping at Coast Guard Wells during periods of high tide and low flows in Lagunitas Creek.
- **Habitat Protection.** The project will reduce North Marin Water District's water supply impacts on Lagunitas Creek for fish habitat.
- **Reduce Conflict Between Water Users** – The project is a preferred alternative to off-tide pumping at higher rates at the existing Coast Guard Wells. The North Marin Water District would provide collaborative support to National Park Service (NPS) on the

Giacomini Wetlands restoration project by working on this new source of water away from the restoration. Off-tide pumping may become increasingly unreliable in future years as salinity intrusion at the Coast Guard Wells near Lagunitas Creek could increase due to the recent restoration of natural hydrologic conditions at the Giacomini Wetlands.

- **Wetland Restoration** – The project allows the National Park Service to implement its planned Olema Marsh restoration, which will allow full implementation of the beneficial Giacomini Wetland Restoration Project.
- **Benefits to Lagunitas Creek** – The project will permanently dedicate 212.7 acre feet (0.699 cfs) of Lagunitas Creek water that the District can currently divert (by transfer of Water Right Permit 19724) to instream uses (i.e., for the benefit of plants, fish, and wildlife using the creek). Reduction in off-tide pumping at higher rates would also benefit the Lagunitas Creek fishery by keeping more water in the stream.

## **2. Wells and Pipeline**

The proposed project includes an additional well and a pipeline to supplement a periodically unreliable water source. The existing Gallagher Well was drilled to a depth of 54 feet and has a sustained yield of about 170 gallons per minute. NMWD proposes to construct one additional well at the Gallagher Wells site to increase the water available from this site to a maximum of 300 gallons per minute. The new well may be installed in an area outside the land currently owned by NMWD. Figures 2 and 3 shows the area where the new well might be drilled. If the proposed new well is outside the land currently owned by NMWD, then NMWD will need to purchase that land from the current owner.

Water from the wells will be piped through grassland to the existing Gallagher Ranch private road/driveway and then along that road to the private bridge. The pipe will be hung from the bridge, so no work would take place within Lagunitas Creek. Water will then be transported by about 4,900 feet of new 12-inch pipeline to be installed along Point Reyes-Petaluma Road to the existing Downey Well site where it would connect to the existing 6-inch pipeline that connects the Downey Well to the District's Point Reyes Treatment Plant. The pipeline proposed along Point Reyes-Petaluma Road would be within the pavement or shoulder of that road.

## **3. Abandonment of the Downey Well and Change the Point of Diversion**

NMWD will abandon the existing Downey Well that lies within the Lagunitas Creek stream channel. This well is a hazard, causes adverse impacts to the stream and produces water with poor water quality. The well was originally constructed on the bank of the stream, but the creek has migrated and captured the wellhead, so that currently it is located in the middle of the creek. Since 1994, this well has been used to deliver raw water to the Giacomini Ranch for irrigation. The existing well head will be removed in the following way:

- The entire 12-inch well casing will be filled with bentonite (clay) chips.
- An excavator will be driven to the edge of the streambank (no equipment will enter the stream channel). Using a hoe ram attachment, the concrete surrounding the well head will

be broken into 3-5 large pieces. Using a clam shell attachment to the excavator, the pieces of concrete will be removed from the stream bed.

- The well pipe will be cut off to be below the water level (about 2-4 feet would be cut off).

There is an existing access road to the well site. NMWD annually uses this road to conduct maintenance of the well. To get near the well head, NMWD places 3-foot concrete blocks over the portion of this road nearest the streambank to allow access by heavy equipment. The concrete blocks are removed each year following completion of well maintenance. This same procedure would be used to allow access by the excavator, though because the excavator has a longer reach than the equipment used to maintain the well, fewer concrete blocks would need to be installed for well removal.

NMWD proposes to amend its Water Right 4324B and Permit 19725 to add the Gallagher Well site as a point of diversion. NMWD will petition the State Water Resources Control Board (SWRCB) to change the approved points of diversion for License 4324B from the Giacomini Ranch, Coast Guard Wells, and Downey Well to the Coast Guard Wells, Downey Well site, and the Gallagher Wells.

#### **4. Gauging Station**

An existing stream gauging station is located between Point Reyes-Petaluma Road and Lagunitas Creek immediately north of the Gallagher Ranch driveway. In order to gauge the streamflow downstream of the area where the existing and the new Gallagher Well would be located, the stream gauge will be relocated to a point about 1,200 feet south of the existing Gallagher Well. This site was identified as an appropriate site by NMWD and U.S. Geological Survey (USGS) staff during a March 17, 2008 site visit. The stream gauge station meets USGS standards; it would be a very small installation measuring approximately 3 feet by 3 feet by 4 feet; it would be elevated to be above the 100-year flood elevation. It would be constructed on the east side of the creek with access from the Gallagher Ranch pasture that borders this section of the creek. It would be powered by either an electrical line from a nearby power pole or a solar cell. It would contain a telephone or cell phone connection to send data.

#### **5. Dedication of Water for In-Stream Uses**

As allowed under California Water Code Section 1707, NMWD proposes to dedicate the water that the District can now divert under its Water Right Permit 19724 to permanent instream use. The Permit allows diversion of 212.7 acre feet of water per year (at a maximum rate of 0.699 cubic feet per second). NMWD will petition the State Water Resources Control Board (SWRCB) to change the place of use and purpose of use for 0.699 cubic feet per second (cfs) of water diverted from Lagunitas Creek under Water Right Permit 19724 for municipal uses in the NMWD West Marin Service Area for the purpose of preserving and enhancing wetland habitat, and fish and wildlife resources in Lagunitas Creek pursuant to Water Code Section 1707. The new place of use is defined as instream flows for the protection, preservation, restoration and recovery of aquatic organisms, including but not limited to coho salmon and steelhead trout pursuant to Recovery Planning measures to be developed under the Memorandum of Understanding Among National Marine Fishery Service, California Department of Fish and



Game, Army Corps of Engineers, Fish Net4C, counties of Mendocino, Sonoma, Marin, San Mateo, Santa Cruz and Monterey and the County of Humboldt as executed on May 16, 2002.

## **6. Construction Process and Phasing**

Construction of the pipeline will require one excavator and one backhoe for earthwork and grading tasks; a loader for moving and placing backfill; and smaller equipment for finishing work. Once construction is completed, traffic to and from the site will be minimal. Construction truck traffic includes 10-wheeler trucks to dispose of excavated materials and flatbed semi trucks for delivery of new pipe.

Removal of the Downey wellhead will require the use of an excavator a dump truck to remove the broken concrete, and hand power tools. It is estimated that this process can be completed in two days.

Installation of the gauging station would require a small truck to haul the equipment and hand tools to install.

Construction of the project would consist of four phases: (1) drilling of a new well (three weeks of work), (2) installation of the pipeline along Point Reyes-Petaluma Road (two months of work), (3) demolition of the Downey Well (two days), and 4) installation of the relocated gauging station (two days). At most, the construction would last 4 months, but some of the work could be done conterminously.

## **4.0 LEAD AGENCY**

### **1. Project Title**

Gallagher Wells and Pipeline Project

### **2. Lead Agency Name and Address**

North Marin Water District  
P.O. Box 146  
Novato, CA 94948

### **3. Contact Person and Phone Number**

Mr. Drew McIntyre  
Chief Engineer  
North Marin Water District  
P.O. Box 146  
Novato, CA 94948  
415.897.4133

## **5.0 OTHER PERMITS AND REGULATORY OVERSIGHT**

The North Marin Water District is the public agency responsible for approving and carrying out the proposed project and is considered the Lead Agency under CEQA. NMWD is responsible for preparing this Initial Study. NMWD will approve the Mitigated Negative Declaration prepared for the proposed project and either approve or reject the project after the Mitigated Negative Declaration has been circulated for public review and comment.

The California State Water Resources Control Board, Division of Water Rights would need to approve the proposed changes to Water License 4324B and Water Right Permits 19724 and 19725.

The California Department of Fish and Game will need to approve a Streambed Alteration Agreement to allow the instream work needed to abandon the Downey Well and possibly to install pipes for the relocated gauging station.

The California Department of Fish and Game will review the proposed project and Water License amendment to ensure that the project will not significantly affect fish or other wildlife. It is expected that Point Reyes National Seashore will also review the proposed project since much of the section of creek that might be affected downstream of Gallagher Wells is within the Golden Gate National Recreation Area (GGNRA) (and Point Reyes National Seashore administers this portion of GGNRA), plus the project would allow the Park Service to implement the Olema Marsh Restoration project.

The County of Marin will need to issue an Encroachment Permit for installing the pipeline and a Well Abandonment Permit for abandoning Downey Well. Because the project is within the Coastal Zone, the County is a Responsible Agency that would need to approve a Coastal Development Permit for the project. The new well site is on property classified and zoned as Coastal Agricultural Production Zone. A well is a conditional use in this zone, and it requires the County to approve a Use Permit.

## **6.0 RELATED PROJECTS**

A review of the Marin County Community Development Agency's most recent inventory of proposed development projects as of September 2008 (*PROPDEV44*, published in October 2008), shows that there are two other proposed projects in the Point Reyes Station area; they are:

- Reuse of the existing Grandi Building at 11101 Highway One in Point Reyes Station for 3 residential units, 22 hotel rooms, and 17,361 square feet of retail use. This project has been approved.
- The Bar-Or Subdivision/Lot Line Adjustment would allow a 5-lot subdivision of 21.3-acre property off Viento Way in Point Reyes Station. This subdivision has been already approved, but no development is proposed at this time.

The proposed project will not increase the water supply available to NMWD. NMWD is allowed to take its maximum allowed diversion from its existing Coast Guard Wells. The District has adequate capacity from these wells to serve projected buildout in the area as described in the 2007 Marin Countywide Plan.

## 7.0 INITIAL STUDY CHECKLIST

This section documents the anticipated environmental effects of the proposed project using an Initial Study Checklist and providing a brief explanation supporting the findings of each checklist item.

### ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is "Less Than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

Agriculture Resources

☐

Aesthetics

☐

Air Quality

☒

Biological Resources

☒

Cultural Resources

☒

Geology & Soils

☒

Hazards & Hazardous Materials

☒

Hydrology/Water Quality

☒

Land Use & Planning

☐

Mineral Resources

☐

Population & Housing

☐

Noise

☒

Public Services

☐

Recreation

☐

Transportation & Traffic

☒

Utilities & Service Systems

☒

Mandatory Findings of Significance

☒

## 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 in the project have been made by or agreed to by the applicant. A **Mitigated Negative Declaration** will be prepared.

\_\_\_\_\_   x   \_\_\_\_\_

I find that the proposed project **may** have a significant effect on the environment, and an **Environmental Impact Report** is required.

\_\_\_\_\_

I find that the proposed project **may** have a "potentially significant impact" or "potentially significant unless mitigated impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **Environmental Impact Report** is required, however 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 an earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

\_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Mr. Drew McIntyre, Chief Engineer  
North Marin Water District

## **EVALUATION OF ENVIRONMENTAL IMPACTS**

This Initial Study is based on CEQA's Environmental Checklist Form. Each item on the checklist is answered as either "potentially significant impact," "less than significant with mitigation incorporated," "less than significant," or "no impact" depending on the anticipated level of impact. The checklist is followed by explanatory comments corresponding to each checklist item.

A "no impact" response indicates that it is clear that the project will not have any impact. In some cases, the explanation to this response may include reference to an adopted plan or map. A "less than significant impact" response indicates that there will be some impact but that the level of impact is insufficiently substantial to be deemed significant. The text explains the rationale for this conclusion. A "less than significant impact with mitigation incorporated" response indicates that there will be a potentially significant impact, but the Initial Study determines there are adequate mitigations, which are described and have been included in the project, to reduce the level of impact to an insignificant level. Finally, a "potentially significant impact" response would indicate that the Initial Study cannot identify mitigation measures to adequately reduce the impact to a level that is less than significant. In the latter case, an EIR would be required, but no "potentially significant impacts" have been identified for this proposed project.

## **DISCUSSION OF ENVIRONMENTAL IMPACTS**

The proposed project will have potentially significant impacts in the areas of air quality, biological resources, cultural resources, geology and soils, hazardous materials, hydrology and water quality, noise, transportation and traffic, and utilities and service systems. All potentially significant impacts identified in this Initial Study can be reduced to a level that is less than significant if mitigation measures recommended in this Initial Study are incorporated into the project.

## I. Aesthetics

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

- a. *Have a substantial adverse effect on a scenic vista?* **Less than significant impact.**

Once the construction phase is finished, project improvements would not be visible from public vantage points. The small gauging station enclosure would be screened by vegetation between Point Reyes-Petaluma Road and the creek. The well head vault would be almost flush with the ground surface. Piping would be underground, except where it attached to the underside of the Gallagher Ranch bridge. The pump control steel cabinet would be aboveground but screened for public view by roadside vegetation from Point Reyes/Petaluma Road. The project would not alter existing open space views in the area.

- 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.**

See the discussion above under Item I(a).

- c. *Substantially degrade the existing visual character or quality of the site and its surroundings?* **Less than significant impact.**

See the discussion above under Item I(a).

- d. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?* **No impact.**

The project will not include lights nor improvements that generate any substantial amount of glare.

## II. Agricultural Resources

<i>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. Would the project:</i>				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>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?</i>			x	
b. <i>Conflict with existing zoning for agricultural use, or a Williamson Act contract?</i>			x	
c. <i>Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?</i>				x

- 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? **Less than significant impact.***

The potential well site contains soils classified as Blucher-Cole complex (2 to 5% slope). The State has mapped this area as Farmland of Statewide Importance. However, the area that would be converted to other use would be the wellhead, which would cover approximately 10 square feet. This would be considered a less than significant conversion. While NMWD would fence off an area of about 0.25 acre surrounding the new well to limit access by grazing animals, this would not be a conversion of the prime soils; since they would remain available for possible future agricultural use. Even if excluding livestock from the one-quarter acre well site is considered as "conversion," this is still such a small amount of land (about 10,000 square feet) that the impact is considered less than significant.

- b. *Conflict with existing zoning for agricultural use, or a Williamson Act contract? **Less than significant impact.***

The new well would not interfere with adjacent grazing uses. A small area surrounding the new well would be purchased and fenced off, but the loss of as much as 0.25 acre would not adversely impact grazing operations of the Gallagher Ranch. The owners of the Gallagher Ranch property filed their intention to not renew a Williamson Act contract on the property on July 1, 2005. The proposed project would not affect this non-renewal process.

- c. *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?* **No impact.**

See the discussion in the previous item. The project will not significantly affect agricultural operations in the area. If future use of the proposed Gallagher Wells in some fashion adversely affects the production of the private well on the Gallagher Ranch, the loss of water from this well will be offset by NMWD providing make-up water for the ranch.

### III. Air Quality

<i>Where available, the significance criteria by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:</i>				
	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>Conflict with or obstruct implementation of the applicable air quality plan?</i>		X		
b. <i>Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</i>		X		
c. <i>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)?</i>		X		
d. <i>Expose sensitive receptors to substantial pollutant concentrations?</i>		X		
e. <i>Create objectionable odors affecting a substantial number of people?</i>				X

- a. *Conflict with or obstruct implementation of the applicable air quality plan?* **Less than significant with mitigation incorporated.**

Once construction of the project is completed, the project will not result in any emissions of air pollutants. Construction emissions will include emissions from gas and diesel powered equipment and small particulates (i.e., dust) generated during pipeline construction.



Heavy equipment used for well drilling, pipeline excavation and placement, well demolition, and hauling equipment and supplies could create fugitive dust and emit nitrogen oxides (NO), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>) hydrocarbons (HC), and particulate matter with a diameter of less than 10 microns (PM<sub>10</sub>). The construction emissions and movement of soil would be short term and temporary, but could still cause adverse effects on local air quality.

The Bay Area Air Quality Management District (BAAQMD) includes construction emissions in the emission inventory that is the basis for regional air quality plans. Construction emissions are not expected to impede attainment or maintenance of air quality standards in the Bay Area.

The BAAQMD, in its CEQA Guidelines, has developed an analytical approach that obviates the need to quantitatively estimate those emissions. Instead, BAAQMD has identified a set of feasible PM<sub>10</sub> control measures for construction activities. The project includes those controls as Mitigation Measure AQ-1 described below, to reduce the effects of construction activities.

#### **Mitigation Measure AQ-1**

In accordance with the BAAQMD CEQA Guidelines (BAAQMD, 1999), the project shall implement the following actions (that are pertinent to this project) to control dust from escaping from the site:

- 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 streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;
- Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more);
- Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.);
- Limit traffic speeds on unpaved roads to 15 miles per hour (mph) in construction areas;
- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph;
- Minimize idling time; and
- Maintain properly tuned equipment.

In addition to the measures identified above, construction activities are also required to comply with all applicable BAAQMD rules and regulations, specifically Rule 8-15 regarding asphalt paving and Regulation 6 regarding particulate matter and visible emissions.

### **Mitigation Monitoring and Reporting**

The mitigation measures shall be implemented throughout the construction phase. NMWD shall include the requirements in the construction contract. The contractor shall be responsible for implementation.

### **Impact Significance After Mitigation**

Implementation of these standard dust control measures will reduce dust to levels that the BAAQMD recognizes as being acceptable. The impact would be reduced to a level that is less than significant.

- b. *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?* **Less than significant with mitigation incorporated.**

As noted above, the project will include the BAAQMD-required control measures so that the project is not expected to violate any air quality standard.

Construction of the project will require the use of energy that will result in the emission of greenhouse gases (GHG) to the environment that would adversely affect the earth's climate and aggravate global climate change (GCC). The project itself is too small to have a significant impact on GCC. Though the project itself would not measurably affect GCC, it is an increment, albeit a very small one, in the cumulative development of the area and statewide that would adversely affect GCC. The State has adopted a target of reducing GHG emissions to 1990 levels by 2020, and the County has adopted a target of reducing the GHG emissions in the County by 15% by 2015. The Gallagher Wells site would require the use of a 15-horsepower pump to pump water to the treatment facility. However, when this pump is in use, the existing pump at the Coast Guard Wells site would not be in use. So, there would not be an increase in electrical demand. The project's contribution to GCC would be limited to emissions from heavy equipment used when installing the well, pipeline, and gauging station and demolishing the Downey Well. This small amount of GHG emissions would be further offset by the fact that developing this alternate well allows the National Park Service to implement its planned Olema Marsh restoration, which will allow full implementation of the Giacomini Wetland Restoration Project (see further discussion of this beneficial impact of the project under Checklist Item IV(a) below. This restoration would have substantial benefits as described in the EIS/EIR prepared for that project. Benefits would include establishing more vegetation and woody vegetation, which would sequester carbon. The project's GHG emissions would be limited to the construction phase and would not be a significant increment of the cumulative impact on GCC. In fact, the restoration made possible by the project might result in sufficient carbon sequestration to at least offset these short-term emissions.

- 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 with mitigation incorporated.**

As noted above, the project will include the BAAQMD-required control measures so that the project is not expected to contribute a substantial amount of any criteria pollutant.

- d. *Expose sensitive receptors to substantial pollutant concentrations?* **Less than significant with mitigation incorporated.**

There are no residences near the gauging station or the Downey well site. There are no residences located along the section of Point Reyes-Petaluma Road where the new pipeline would be constructed. The residence at the Gallagher Ranch is 400 to 800 feet from where the new well would be drilled (depending on the final well location). As noted above, the project will include the BAAQMD-required control measures so that the project is not expected to contribute a substantial amount of any criteria pollutant. It is not expected that even during the relatively brief construction phase that the project would expose nearby residents or other sensitive receptors to substantial pollution concentrations.

- e. *Create objectionable odors affecting a substantial number of people?* **No impact.**

The project would not have the potential to generate objectionable odors.

## IV. Biological Resources

<i>Would the project:</i>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	<i>Have a substantial adverse effect, either directly or through habitat modification, 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 US Fish and Wildlife Service?</i>		x		
b.	<i>Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?</i>		x		
c.	<i>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?</i>		x		
d.	<i>Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</i>			x	
e.	<i>Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</i>				x
f.	<i>Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?</i>				x

- a. *Have a substantial adverse effect, either directly or through habitat modification, 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 US Fish and Wildlife Service? Less than significant with mitigation incorporated.*

Lagunitas Creek originates on the north slope of Mt. Tamalpais and flows in a northwesterly direction for 25 miles to where it discharges in Tomales Bay. It is an important stream that supports approximately 10% of the remaining coho salmon run in Northern California. Marin Municipal Water District (MMWD) maintains four dams in the upper part of the watershed as well as Nicasio Reservoir on a tributary of Lagunitas Creek with the water behind these dams supplying much of the potable water demand of Southern Marin County. Preservation and restoration of this stream has been a major focus of environmental groups and governmental agencies since at least the 1980s.

In assessing the impacts of the proposed change in diversion point to add the Gallagher Wells and the new pumping from the Gallagher Wells on biological resources as well as hydrologic resources, the analysis in this Initial Study focuses on the adverse changes to the environment between the new point of diversion at the Gallagher Wells site and the existing points of diversion at the Coast Guard Wells. The State has previously accepted potential impacts that might occur from NMWD's diversion of Lagunitas Creek water when approving NMWD's existing Water Right License and its two Water Right Permits and determined that the impacts have been appropriately mitigated when establishing the conditions for the license and the two permits. The license and permits allow diversion from the Downey Well site. Therefore, the State has approved NMWD to divert all its water rights from that point, though historically the District has only used the Downey Well for limited times and on a periodic basis. To ensure a worst case assessment, this Initial Study assesses impacts to biological resources between Gallagher Wells and the Coast Guard Wells.

Lagunitas Creek from the Gallagher Wells site to the Coast Guard Wells supports several special status species, including:

- southwestern river otter (*Lontra canadensis sonora* – a California Species of Concern)
- northwestern pond turtle (*Clemmys marmorata marmorata* – a California Species of Concern)
- California freshwater shrimp (*Syncaris pacifica* - federally endangered species)
- California red-legged frog (*Rana aurora draytonii* - federally threatened species and a California Species of Concern)
- Central California coast coho salmon (*Oncorhynchus kisutch* - federally endangered species)
- Central Coast steelhead trout (*Oncorhynchus mykiss irideus* - federally threatened species)
- Southern Oregon/California coastal chinook salmon (*Oncorhynchus tshawytscha* - federally threatened species)

According to the EIS/EIR prepared for the Giacomini Wetland Restoration Project, the riparian corridor along the creek likely supports a number of other special status species, including sharp-shinned hawk (*Accipiter striatus* – a California Species of Concern), Cooper's hawk (*Accipiter cooperi* – a California Species of Concern), yellow warbler (*Dendroica petechia brewsteri* – a California Species of Concern), willow flycatcher (*Empidonax traillii brewsteri* – nesting sites are State Endangered), yellow-breasted chat (*Icteria virens* – a California Species of Concern), and Least Bell's vireo (*Vireo bellii pusillus* – federally and state endangered species).<sup>2</sup>

Lagunitas Creek is designated as Critical Habitat for central Coast Coho Salmon (federally endangered) and Central Coast Steelhead Trout (*Oncorhynchus mykiss*) (federally threatened)

The reach from the Gallagher Wells site to the Coast Guard Well site is not optimal habitat for salmonid spawning nor winter rearing due to the low slope and high incidence of sand and fine particle deposition.<sup>3</sup> However, occasional spawning could occur in this stretch.

The existing and new Gallagher Wells will pump water from surrounding gravels and indirectly from Lagunitas Creek through the permeable gravel strata in which the wells are located and which is contiguous to the streambed. This pumping would occur at the times that NMWD cannot use the Coast Guard Wells due to flooding or the potential risk of salt-water intrusion. Because this pumping will draw from subsurface water storage which is replenished by the stream surface flow (and to a lesser extent by local occurring infiltration of surface water) over a wide area, it is possible that pumping could reduce subsurface storage to the degree that surface flows would be affected. This would likely occur during the dry season when surface flows are already low. A reduction in the flow of Lagunitas Creek could have a significant impact on aquatic wildlife and fish in the stream between the Gallagher Wells site and the Coast Guard Wells site. There would be no impact downstream of the Coast Guard Wells site since NMWD currently pumps the same amount of water from wells at this site as it proposes to pump from the Gallagher Wells site. Therefore, as a worst case, impacts to streamflow would be limited to the approximately 1.7 mile-section of Lagunitas Creek between the two well sites. Much of this section of the creek is within the GGNRA.

The State has established minimum instream flows needed to support fish and wildlife in Lagunitas Creek. NMWD is prohibited from diverting water from Lagunitas Creek when:

- From May 1 through June 15 of any year wetter than a "dry year" (which is defined as any year in which total precipitation that occurs from the previous October 1 through April 1 does not exceed 28 inches as measured at MMWD's Kent Lake Precipitation Gauge), whenever there is less than 12 cfs in the creek as measured at the USGS Park Gauge (located in Samuel P. Taylor State Park);

<sup>2</sup> Data on special status species were taken from the *Draft Giacomini Wetland Restoration Project EIS/EIR*, November 2006.

<sup>3</sup> J. Nelson and W. Wilson, 1993, citing studies done by B. Hecht, D. Kelley, and Entrix, Inc.

- From May 1 through June 15 of any dry year whenever there is less than 10 cfs in the creek as measured at the USGS Park Gauge;
- From June 16 through November 1 of any year wetter than a dry year whenever there is less than 8 cfs in the creek as measured at the USGS Park Gauge; and
- From June 16 through November 1 of any dry year whenever there is less than 6 cfs in the creek as measured at the USGS Park Gauge.

Water License 4324B requires NMWD to file a Dry Year Water Shortage Report following each dry year. That report must describe flow conditions in the creek as compared at the Park Gauge and the Gallagher Gauge and all NMWD diversions. A public workshop to receive public comment is required prior to adoption of the final report.

Under Water Right Order 95-17 MMWD is required to release water from Kent Lake to meet minimum flows at the USGS Park Gauge. These minimum flow requirements are the same as listed above. Some additional streamflow enters Lagunitas Creek downstream of the USGS Park Gauge, notably from Devil's Gulch, Cheda Creek, and Nicasio Creek, so streamflows past the Gallagher Wells site are higher than the flows required at the USGS Park Gauge. On April 21, 2008, the flows at the Park Gauge were about 16 cfs while they were about 18 cfs at the Gallagher Gauge. MMWD reports that their monitoring of fish populations indicates that their summer water releases have been beneficial for juvenile salmonids.

These same minimum flows would be required in the section between the Gallagher Wells and the Coast Guard Wells to ensure that pumping from the Gallagher Wells does not reduce the minimum required flows to a level that adversely affects fish and aquatic wildlife. Unless flows are maintained at these required levels, there could be an increase in water temperature and a loss of habitat, and this would be a potentially significant impact on biological resources. Recognizing this potential impact, NMWD proposes to relocate the existing gauging station downstream of the Gallagher Wells site. By monitoring the relocated Gallagher Gauge, NMWD will be able to tell whether pumping affects the streamflow and whether the minimum required flows are sustained. If the minimum flows are not maintained, then NMWD will request (as part of its Intertie Agreement) that MMWD release sufficient water to Lagunitas Creek to reestablish at least the minimum flows.

Alternatively, after reviewing the streamflow monitoring, the California Department of Fish and Game may conclude that the reduction in streamflow below the Gallagher Wells is so small that it does not significantly reduce habitat available to fish, and that additional releases from Kent Lake are not warranted, or at least not warranted at certain times of the year.

MMWD states that it takes about 12 hours for water released from Peter's Dam at Kent Lake to reach the Gallagher Wells site.<sup>4</sup> Therefore, there could be a portion of a day

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<sup>4</sup> Dana Roxon, MMWD, personal communication, 4/25/08.

when flows might be reduced below the Gallagher Wells diversion before the make-up water reaches the site. If this flow reduction occurs at all, it would not be expected to significantly affect water temperature. There could be small decrease in habitat available (due to areas that are shallowly inundated being dewatered to have insufficient depth to support resident fish) for that portion of the day until the make-up water arrived.

Any reduction in streamflow between Gallagher Wells and the Coast Guard Wells would occur for about 12 hours after the start of any diversion period. These diversions would occur infrequently. The reduction in habitat, if any, would be minimal. This impact could be further reduced by monitoring the effects that diversion from Gallagher Wells has on streamflow during different times of the year and dry years compared to non dry years. Based on this monitoring plus predicting periods of high tides or when saltwater intrusion could be expected, NMWD can request that MMWD release water before the diversion begins to allow time for the make-up water to reach the Gallagher Wells site.

### ***Downey Well***

An excavator will be driven to the edge of the streambank (no equipment will enter the stream channel). There is an existing access road to the well site. NMWD annually uses this road to conduct maintenance of the well. To get near the well head, NMWD places 3-foot concrete blocks over the portion of this road nearest the streambank to allow access by heavy equipment. The concrete blocks are removed each year following completion of well maintenance. This same procedure would be used to allow access by the excavator, though because the excavator has a longer reach than the equipment used to maintain the well, fewer concrete blocks would need to be installed for well removal.

The entire 12-inch well casing will be filled with bentonite (clay) chips. The existing corrugated metal protection around the wellhead would be removed. Using a hoe ram attachment, the concrete surrounding the well head will be broken into 3-5 large pieces. Using a clam shell attachment to the excavator, the pieces of concrete will be removed from the stream bed. The well pipe will be cut off to be below the water level (about 2-4 feet would be cut off) and removed.

Because the wellhead is in the stream, it will be necessary to dewater the area immediately surrounding the wellhead. A final plan for well removal has not been completed. Discussions with a contractor contacted by NMWD indicate that the well will be isolated by installing of sandbags around the wellhead and pumping the water within the sandbags back to Lagunitas Creek. Once the area within the sandbags is dewatered, the wellhead and top 2 to 4 feet of pipe will be removed and the remaining pipe filled with gravel. The sandbags would then be removed.<sup>5</sup>

The disturbance of the area immediately surrounding the wellhead could result in some downstream siltation once the creek is returned to its normal course, but the amount of siltation would be expected to be insubstantial. Nevertheless, any increase in siltation of Lagunitas Creek due to well demolition would be a potentially significant impact. See

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<sup>5</sup> Mike Clementino, Maggiora Ghillotti, personal communication, 4/19/08.



the discussion under Checklist Item VIII(f) for a more detailed discussion of how well demolition might adversely affect groundwater quality, and the mitigation for that impact. That mitigation (Mitigation HWQ-1) also applies to the potential siltation impact discussed above.

### ***Dedication of Water Rights***

The proposed dedication of 212.7 acre feet (0.699 cfs) of Lagunitas Creek water that the District can currently divert to instream uses for the benefit of plants, fish, and wildlife using the creek is a beneficial impact of the project. This component of the project would not require any mitigation.

### ***Other Beneficial Impacts***

The project would reduce the need to pump at the Coast Guard Wells during high tides or other conditions where pumping could cause salt-water intrusion and contamination of the aquifer. The project would reduce the need for increased off-tide pumping (which is currently done to compensate for the times when high tides prohibit pumping). This would benefit fish downstream of the Coast Guard Wells by keeping more water in the stream. Finally, this additional diversion point removes the potential impact of increased periods of salt-water intrusion on NMWD's water supply. As such, NMWD would then have implemented one of the alternatives agreed to by NMWD and the National Park Service. This would permit the National Park Service to implement its planned Olema Marsh restoration, which will allow full implementation of the Giacomini Wetland Restoration Project. This restoration would have substantial benefits as described in the EIS/EIR prepared for that project.

### ***Summary***

The principal potential adverse impacts would be a short-term reduction of aquatic habitat for fish and aquatic wildlife in the approximately 1.8-mile reach of Lagunitas Creek between the Gallagher Wells site and the Coast Guard Wells site as a result of reduced streamflow, particularly during the summer months of dry years. However, this impact would be reduced by NMWD's proposed plan of additional releases of water to the creek from Kent Lake to ensure that the minimum required flows are maintained. The program of stream monitoring and water releases must be finalized and approved by the California Department of Fish and Game and the State Water Resources Control Board.

There are also potentially significant impacts resulting from demolition of the Downey Well. There are beneficial impacts resulting from dedication of water under one of the two Water Right Permits to instream uses.

### ***Mitigation Measure BR-1***

NMWD shall not cause substantial damage to the streambed or streambanks when conducting work within the stream channel. To meet this standard, NMWD shall obtain a Streambed Alteration Agreement (SAA) from the California Department of Fish and

Game to address all components of removing the Downey Well (including dewatering methods) and for installing piping for the relocated gauging station. NMWD shall abide by all conditions set forth in the SAA.

#### **Mitigation Monitoring and Reporting**

The conditions set forth in the SAA will be implemented whenever warranted throughout the construction phase. The contractor will be responsible for implementing the requirements. NMWD will ensure compliance.

#### **Impact Significance After Mitigation**

Conducting the work in the stream channel per the conditions of an approved SAA would reduce the impact to a less than significant level.

#### **Mitigation Measure BR-2**

NMWD shall not divert water from the Gallagher Wells to adversely affect fish and wildlife residing between the Gallagher Wells and the Coast Guard Wells. To meet this standard, prior to constructing any proposed project improvements, NMWD will prepare a final hydrologic design plan describing how and where streamflows will be monitored and how NMWD will maintain flow levels downstream of the Gallagher Wells site. This plan shall address at least the following:

- The location and operation of the relocated gauging station;
- The party responsible for monitoring the Gallagher gauging station;
- Final arrangements with MMWD regarding water releases when necessary;
- Details of how the water release will be initiated and terminated; and
- Prediction process for initiating and terminating water releases.

This plan shall be reviewed and approved by the California Department of Fish and Game. Once approved by this agency, NMWD will apply to the State Water Resources Control Board to make the requested changes to its Water Rights License and Permit.

#### **Mitigation Monitoring and Reporting**

The hydrologic design plan will be approved prior to any construction. Monitoring and maintaining streamflows will occur throughout the time that the Gallagher Wells are in use. NMWD is responsible for implementing the mitigation and for compliance. The California Department of Fish and Game will also monitor for compliance and may alter the required conditions for releases after reviewing the monitoring of streamflow data.

#### **Impact Significance After Mitigation**

Implementing this mitigation will ensure that changing the point of diversion would not adversely affect fish and aquatic wildlife. The impact would be reduced to a less than significant level.

- b. *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service? **Less than significant with mitigation incorporated.***

Two components of the proposed project would require work within the stream channel of Lagunitas Creek. Removing the existing well head of the Downey Well will require that an excavator, working from the top of the bank, pull the existing wellhead, as was described above. No riparian vegetation would be removed to abandon the well. The relocated gauging station would be constructed on the edge of the Gallagher Ranch pasture and would not require removal of riparian or vegetation other than annual grasses. The piping that would be installed in the creek to measure the flows would not require removal of any riparian vegetation.

During the periods when water was pumped from the Gallagher Wells it is possible that the pumping could reduce the groundwater aquifer to a level where riparian vegetation would be affected. However, the riparian vegetation at the well site area is almost entirely confined to the stream channel and adjacent banks. The stream channel is bounded on the west by Petaluma–Point Reyes Road and on the east by the pastureland on Gallagher Ranch. This riparian zone would be watered by the streamflow and underflow of the creek, and this streamflow and underflow is replenished by flows from upstream. The surface water flows will be maintained at the levels required by Water Right Order 95-17 and, if necessary, by NMWD requesting MMWD to release water to maintain the required minimum flows. These surface flows recharge the stream underflow so that underflow should continue to be available to provide necessary water for riparian vegetation in the area near the well site. Mitigation Measure BR-2 would apply to this impact. Given this mitigation, it is not expected that periodic pumping from the Gallagher Wells would adversely affect riparian vegetation between the Gallagher Wells site and the Coast Guard Wells site.

The project would have substantial benefits for Lagunitas Creek habitat, including: 1) reducing the potential salt-water contamination of the aquifer beneath the creek up to the Coast Guard Wells diversion point and reducing peak diversions from the creek during off-tide pumping episodes; 2) allowing the National Park Service to implement its planned Olema Marsh restoration project that would enhance wetland habitat; and 3) providing water under Water Right Permit 19724 for instream uses that would benefit fish and riparian habitat. These benefits are substantial and would outweigh what are expected to be minimal, if any, impacts on riparian habitat between the Gallagher Wells site and the Downey Well site or the Coast Guard Wells site.

- 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 with mitigation incorporated.***

The only wetlands that would be potentially affected are the streambed of Lagunitas Creek. Mitigation measures recommended for Checklist Item IV(a) apply to this impact. As described in the discussion of Checklist Items IV(a and b) above, the project would not adversely affect the streambed habitat. The project would benefit wetland habitat by allowing the National Park Service to implement its planned Olema Marsh restoration, which will allow full implementation of the beneficial Giacomini Wetland Restoration Project.

- d. *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?* **Less than significant impact.**

The project components would not cause any barrier to animal or fish movement or migration. Potential impacts to streamflows needed for fish and aquatic wildlife were discussed above under Checklist Item IV(a), and the mitigations recommended under that Checklist Item also apply to this impact.

- e. *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?* **No impact.**

The project would not require cutting trees or removing other sensitive plants, and it would not conflict with local policies or ordinances protecting biological resources.

- 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 construction activities would not conflict with any Habitat Conservation Plans, Natural Conservation Community Plans, or any approved local, regional, or State habitat conservation plans. The proposed dedication of certain water rights for instream flows for the protection, preservation, restoration and recovery of aquatic organisms, including but not limited to coho salmon and steelhead trout, is consistent with the Recovery Planning measures to be developed under the Memorandum of Understanding Among National Marine Fishery Service, California Department of Fish and Game, Army Corps of Engineers, Fish Net4C, the Counties of Mendocino, Sonoma, Marin, San Mateo, Santa Cruz and Monterey, and the County of Humboldt.

## V. Cultural Resources

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

- a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? **Less than significant with mitigation incorporated.**

A Cultural Resources Survey was conducted for the project and is included in Appendix A of this Initial Study. That survey found no cultural resources in the area that would be affected by project construction. However, there is always the chance that buried archaeological resources are present and could be discovered while constructing the project. These resources could be damaged by project construction, and that would be a potentially significant impact.

### **Mitigation Measure CR-1**

- If cultural resources are encountered during project construction, avoid altering the materials and their context until a cultural resources consultant has evaluated the situation.
- If applicable, a qualified archaeologist shall monitor subsequent excavations and spoils in the vicinity of the find for additional archaeological resources.
- If the archaeologist determines the discoveries are of importance, the resources shall be properly recovered and curated. The archaeologist shall prepare a summary outlining the methods followed and summarizing the results of the mitigation program. The report shall outline the methods followed, list and describe the resources recovered, map their exact locations and depths, and include other pertinent information. Identified cultural resources shall be recorded on DPR 523(A-J) historic recordation forms. NMWD shall submit the report to the Northwest Information Center and the California State Historic Preservation Officer.

### **Mitigation Monitoring and Reporting**

The mitigation will be implemented whenever warranted throughout the construction phase. The contractor will be responsible for determining the presence of the initial cultural resource find. NMWD will be responsible for engaging the cultural resource specialist. The cultural resource specialist shall be responsible for properly reporting and recording the find(s).

### **Impact Significance After Mitigation**

Assessing and curating any archaeological resources found during construction per Mitigation Measure CR-1 will reduce the impacts to potential archaeological resources to a less than significant level.

- b. *Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?* **Less than significant with mitigation incorporated.**

As described above, it is not expected that archaeological resources occur on the project site. However, it is always possible that archaeological or historical resources could be unearthed during project construction. Damaging such resources would constitute a significant adverse impact. Mitigation Measure CR-1 applies also to this impact, and this mitigation measure would reduce the impact to a less than significant level.

- c. *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature/?* **No impact.**

There are no known paleontological resources in the project site area, and it is not expected that project construction would affect such resources.

- d. *Disturb any human remains, including those interred outside of formal cemeteries?* **Less than significant with mitigation incorporated.**

See the discussion under Impact V(a). While there is no reason to suspect the presence of human remains on the project site, it is possible that currently unknown remains may occur.

### **Mitigation Measure CR-2**

This mitigation incorporates the requirement established in Mitigation Measure CR-1 and adds the requirements that in the event that human remains are encountered, the contractor shall stop work in the area and NMWD shall contact the Marin County Coroner in accordance with Section 7050.5 of the State Health and Safety Code.

### **Mitigation Monitoring and Reporting**

The mitigation will be implemented whenever warranted throughout the construction phase. The contractor will be responsible for determining the presence of human remains. NMWD will be responsible for contacting the County Coroner.

### **Impact Significance After Mitigation**

The recommended mitigation will ensure that any unknown human remains found on the site will be accorded appropriate reburial or disposition. The impact will be reduced to a less than significant level.

## VI. Geology and Soils

Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:		x		
i.	Rupture of 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?		x		
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?		x		
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?		x		
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative water disposal systems where sewers are not available for the disposal of waste water?				x

- a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
- i. Rupture of 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.**



- ii. *Strong seismic ground shaking?* **Less than significant with mitigation incorporated.**
- iii. *Seismic-related ground failure, including liquefaction?* **Less than significant with mitigation incorporated.**
- iv. *Landslides?* **Less than significant with mitigation incorporated.**

A geotechnical investigation of the proposed pipeline was conducted for NMWD by Geomatrix. Their complete report (*Phase I Geologic/Geotechnical Study for the Gallagher Well Pipeline, Point Reyes Station*) is included in Appendix B of this Initial Study. The following discussion under this criterion and the other criteria under Geology and Soils summarizes the more detailed discussion in the appended geotechnical study. The reader who requires a more thorough understanding of the geological setting and project impacts is directed to that study.

Geomatrix found that site conditions would pose a less than significant impact as regards surface rupture and landslides. Because the project site is within one to two miles of the San Andreas Fault, strong ground shaking can be expected from earthquakes on that fault. Such ground shaking could lead to liquefaction; lateral spreading, and ground failure, and this would be a potentially significant impact.

It is possible that a major earthquake could damage the well or cause liquefiable soils to clog the well. Finally, the gauging station could be damaged during an earthquake.

#### **Mitigation Measure GS-1**

The project shall be constructed to withstand the maximum probable earthquake and to withstand other geologic and soil constraints or hazards, including unstable slopes, differential compaction, liquefaction, and lateral spreading, and it shall avoid creating additional instabilities in areas where slopes may already be unstable. Prior to final design, a design-level geotechnical investigation and report shall be prepared by a qualified geotechnical consultant to specifically identify the extent of geologic constraints and slope instabilities along the pipeline route. The geotechnical investigation shall include site-specific evaluation of the slope stability subsurface conditions, through drilling, logging and sampling of representative borings along the collection system route. This design level investigation and report shall also identify expansive soils and seismic hazards from landsliding, liquefaction, and dynamic densification. Specific measures to be employed to reduce the potential for damaging slope instabilities and failures include design, construction and monitoring measures such as:

- Re-routing of the pipeline to avoid unstable areas;
- Construction of retaining walls and structures in areas of slope and bank instabilities that threaten the stability of the pipeline routes;
- De-watering of areas of slope instabilities to reduce potential for failure;

- Excavation and reconstruction of areas of slope instability, including the installation of subsurface drainage to reduce the potential for future failure;
- Incorporation of isolation (i.e., shutoff) valves at areas of potential problems; and
- Installation of flexible piping/couplings in areas of known instabilities.

The project shall be constructed consistent with the criteria as specified in the design recommendations set forth in the geotechnical report.

The project shall reduce the potential for damage to the collection/transmission line due to liquefaction and/or dynamic densification during a strong earthquake. The required design-level geotechnical investigation and report shall identify specific areas with liquefiable soils and determine appropriate specific design and construction measures to mitigate the potential hazard. The geotechnical investigation shall include drilling, logging, and sampling in areas of moderate and deep alluvial deposits to evaluate the potential for liquefaction, dynamic densification, lateral spreading and lurch cracking.

#### **Mitigation Monitoring and Reporting**

The recommended design study will be prepared during final design and recommendations in that study included in the final construction drawings for the project. A qualified geotechnical expert shall review the plans and specifications to ensure compliance. A qualified geotechnical expert shall observe and test site trenching, compaction of fill material, and slide repair to confirm that subsurface conditions are as expected and to adjust elements of the design, if warranted. The contractor will be responsible for implementing the actions. NMWD will determine final compliance.

#### **Impact Significance After Mitigation**

It is expected that compliance with the final design factors would allow the pipeline, well, and gauging station to withstand expected seismic activity. The impact would be reduced to a less than significant level.

- b. Result in substantial soil erosion or the loss of topsoil?* **Less than significant with mitigation incorporated.**

Soil erosion can cause a variety of environmental impacts. Eroded soil contains nitrogen, phosphorus, and other nutrients. When carried into water bodies, these nutrients can trigger algal blooms that reduce water clarity, deplete oxygen, and create odors. Excessive deposition of sediments in streams may blanket fauna. The increased turbidity from the erosion may also reduce photosynthesis that produces food supply and natural aquatic habitats. Eroded soil could also be deposited in local drainageways, possibly interfering with the natural flow of storm waters, causing flooding where it would not otherwise occur, or accelerating channel erosion.

The pipeline would be completed in the Point Reyes-Petaluma Road right-of-way in areas with relatively level terrain, but in reasonably close proximity to Lagunitas Creek. The trenches for the pipeline would be excavated and the excavated dirt trucked away. The trench would be backfilled with imported aggregate, re-paved, and otherwise restored to match original conditions to avoid or minimize the potential for soil erosion to occur. The potential for erosion is relatively small, but considered potentially significant.

Excess material from the well drilling would be hauled away and would not be a significant source of erodible material. Installation of the pipes for the gauging station would require minimal work in the stream channel and would not include trenching. This project component would not be expected to cause erosion.

### **Mitigation Measure GS-2**

The project shall avoid causing soil erosion. As a condition of County approval of the encroachment permit and approval for well closure, NMWD shall prepare and obtain County approval of an Erosion and Sediment Control Plan, including measures to minimize the impacts from erosion and sedimentation during construction of the pipeline and closure of the Downey Well. Plans for work within the County right-of-way (ROW) shall conform to all applicable County standards for control of erosion and sedimentation. The Erosion and Sediment Control Plan shall include application of erosion control measures including, but not limited to, the following:

- Require site construction best management practices, including restricting trenching and well demolition to the dry season, winterization, traffic control, and dust control; and
- Protect receiving drainage channels from sedimentation and retain sediment in the project area by using silt fencing, fiber roll sediment barriers, diversion dikes and swales, sediment basins, and sediment traps.

### **Mitigation Monitoring and Reporting**

NMWD shall include these conditions in the construction contract. The contractor shall be responsible for compliance with these conditions. NMWD shall be responsible for determining final compliance.

### **Impact Significance After Mitigation**

Implementation of these standard mitigation measures would reduce the chance of soil erosion to a less than significant level.

- 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 with mitigation incorporated.**

The Geomatrix report identified several geologic and soil constraints, including:

- Potential slope failure hazards due to Lagunitas Creek impinging on the fillslope that contains portions of Point Reyes-Petaluma Road;
- Potential lateral spreading could occur during a seismic event;
- A potentially unstable slope above Point Reyes-Petaluma Road approximately 500 feet south of the Gallagher Ranch bridge;
- Potentially unstable slopes where the road crosses alluvium and colluvium-filled tributary valleys; and
- Differential compaction in the fills beneath Point Reyes-Petaluma Road.

These are all significant constraints. Unless the pipeline is properly designed and constructed, these constraints could cause pipeline rupture or damage, and that would be a potentially significant impact. This potential impact is addressed by Mitigation Measure GS-1, which would reduce the impact to a less than significant level.

- d. *Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1974), creating substantial risks to life or property? **Less than significant with mitigation incorporated.***

There is potential of expansive soils on the pipeline route. The required geotechnical report will make a final determination of the presence of such soils and design the project accordingly.

### **Mitigation Measure GS-3**

The required design-level geotechnical investigation and report shall identify potential areas of expansive soils and appropriate construction specifications. At a minimum, the following measures for pipeline construction shall be included:

- Trenches shall be backfilled with imported non-expansive fill soils beneath and around pipelines;
- Native soil backfill shall be confined to zones a minimum of one foot above the tops of pipes in non-paved areas; and
- Pavement areas shall be backfilled with an appropriate non-expansive pavement section.

If expansive clay soils occur in the construction areas, the required geotechnical report shall develop appropriate design and construction specifications. These would include, for example, over-excavation of expansive soils and replacement with non-expansive engineered fill. The geotechnical investigation shall include the drilling, logging and sampling of boreholes and laboratory testing of physical properties of soil.

### **Mitigation Monitoring and Reporting**

The recommended design study will be prepared during final design and recommendations in that study included in the final construction drawings for the project. A qualified geotechnical expert shall review the plans and specifications to ensure compliance. The contractor will be responsible for implementing the actions. NMWD will determine compliance.

### **Impact Significance After Mitigation**

It is expected that compliance with the final design factors would allow the pipeline, well, and gauging station to withstand expected seismic activity. The impact would be reduced to a less than significant level.

- e. *Have soils incapable of adequately supporting the use of septic tanks or alternative water disposal systems where sewers are not available for the disposal of waste water?*  
**No impact.**

The project does not require construction of waste disposal systems.

## VII. Hazards and Hazardous Materials

<i>Would the project:</i>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?		x		
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?			x	
c.	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				x
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?				x
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, would the project result in a safety hazard for people residing or working in the project area.				x
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?				x
g.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		x		
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?				x

- a. *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?* **Less than significant with mitigation incorporated.**

Construction of project facilities would involve well drilling, pipeline trenching, and removal of an existing wellhead. Trenching excavations would typically range in depth from about 3 to 5 feet. Although there are no known hazardous waste sites in locations planned for excavation work, there is always the possibility that such wastes might be discovered during trenching. If hazardous materials are encountered and exposed during construction, this could pose a public health or safety threat to workers and/or residents, or create the possibility of discharge and water quality impacts on Lagunitas Creek and Tomales Bay. This is a potentially significant impact.

**Mitigation Measure H-1**

The project construction documents shall include provisions that alert the contractor to the possibility of encountering buried hazardous materials during excavation work and require that, if such materials are encountered, the work in that area shall cease and immediate notification be given to the project engineer/inspector(s) and appropriate regulatory authorities.

**Mitigation Monitoring and Reporting**

NMWD shall include these conditions in the construction contract. The contractor shall be responsible for compliance with these conditions. NMWD shall be responsible for determining final compliance.

**Impact Significance After Mitigation**

Implementation of the recommended mitigation measures above would reduce the potential impacts associated with the uncovering of buried hazardous materials to a less than significant level.

- 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.**

The project includes construction of a well, pipeline, and gauging station and does not propose any transport, use, or disposal of hazardous materials. No hazardous materials will be stored on the site. During construction of the project, construction vehicles will use gasoline and diesel. These activities would be typical of any construction project and would not create any unusual hazardous conditions.

- c. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?* **No impact.**

The project includes construction of a well, pipeline, and gauging station and does not propose any transport, use, or disposal of hazardous materials. No hazardous materials will be stored on the site, and there would be no potential for exposure of hazardous materials at nearby schools. In addition, the site is not within one-quarter mile of a 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?* **No impact.**

There are no known hazardous material sites on or near the project site.

- 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, would the project result in a safety hazard for people residing or working in the project area.* **No impact.**

The site is not within the area of any airport land use plan. The County Airport at Gness Field is the only civilian airport facility in the county. Gness Field is located over thirteen miles to the east of the project site. Use of Gness Field would not pose a hazard to workers constructing the project.

- 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.**

The project is not within the vicinity of a private airstrip.

- g. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?* **Less than significant with mitigation incorporated.**

Approximately 4,900 lineal feet of pipeline would be installed in the Point Reyes-Petaluma Road right-of-way. It is expected that it would take about two months to install this pipeline. Because the work would be done within or immediately adjacent to the road, construction would require lane closure(s). These lane closures could interfere with emergency response. See the more detailed discussion of lane closures under Checklist Item XV(a). Mitigation Measure T-1 applies to this impact and would reduce it to a less than significant level.

- 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 will not include the construction of residences or a business where people will work.



## VIII. Hydrology and Water Quality

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>Violate any water quality standards or waste discharge requirements?</i>		x		
b. <i>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)?</i>			x	
c. <i>Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</i>		x		
d. <i>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?</i>				x
e. <i>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?</i>				x
f. <i>Otherwise substantially degrade water quality?</i>		x		
g. <i>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?</i>				x
h. <i>Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</i>			x	
i. <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?</i>				x
j. <i>Inundation by seiche, tsunami, or mudflow?</i>				x

- a. Violate any water quality standards or waste discharge requirements? **Less than significant with mitigation incorporated.**

Water quality within the area is under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB) which sets forth water quality objectives for the area in the *San Francisco Bay Region Water Quality Control Plan* (Basin Plan). The RWQCB is the local agency that issues wastewater discharge permits under the National Pollutant Discharge Elimination System (NPDES). The RWQCB requires construction stormwater permits for projects that disturb one acre or more. The project would disturb less than 0.5 acre and would not need to obtain a construction stormwater permit.

As discussed previously under Impact VI(b), the project could result in soil erosion and sedimentation of Lagunitas Creek. Mitigation Measure GS-2 will reduce soil erosion impacts to a level that is less than significant thereby reducing impacts to water quality to a less than significant level.

The project would further the Basin Plan objective of providing water for plants, fish, and wildlife by permanently dedicating 212.7 acre feet (0.699 cfs) of Lagunitas Creek water that the District can currently divert to instream uses (i.e., for the benefit of plants, fish, and wildlife using the creek). Reduction in off-tide pumping at higher rates would also benefit the Lagunitas Creek fishery by keeping more water in the stream.

- 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.**

During the times when the Gallagher Wells are used, there would be a withdrawal of water from the local aquifer or gravel basin. The only other user of the local aquifer is the Gallagher Ranch. The next nearest residential use is about one mile downstream of the well site. The existing Gallagher Well is about 150 feet from the private well serving the Gallagher Ranch. Use of the NMWD wells could deplete the groundwater in the area and adversely affect this private well. This is a potentially significant impact. However, the purchase agreement for the existing well with the owners of Gallagher Ranch provides that NMWD will provide reimbursement for the cost of added power costs for additional pumping or make-up water to a level of beneficial use prior to installation of the District's well. A similar contingency would be added to purchase of the site for the additional well. Thus, this impact would be mitigated by the purchase agreement, and no mitigation is required.

- c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?* **Less than significant with mitigation incorporated.**

The project would not alter the drainage pattern of the area. The pipeline would be constructed in the road right-of-way and would not change area drainage patterns. Removal of the Downey Well would slightly change how water flows across the well site (because the 6-foot diameter metal pipe that protects the top of the well would be removed). However, this would be considered a beneficial impact since it would return streamflow conditions to a more natural state. This change would not cause erosion or siltation. The small piping used to gauge streamflows would not significantly alter streamflow past the gauging station.

Removal of the Downey Well could result in siltation. A final plan for well removal has not been completed. Discussions with a contractor contacted by NMWD indicate that the well will be isolated by installation of sandbags around the wellhead and pumping the water within the sandbags back to Lagunitas Creek. Once the area within the sandbags is dewatered, the entire 12-inch well casing would be filled with bentonite (clay) chips, and the wellhead and top 2 to 4 feet of pipe will be removed. The sandbags would then be removed. The disturbance of the area immediately surrounding the wellhead could result in some downstream siltation once the creek is returned to its normal course, but the amount of siltation would be expected to be insubstantial. Any siltation impacts or other impacts to streamflow would be mitigated by the conditions set forth in the required Streambed Alteration Agreement; see Mitigation Measure BR-1.

- 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?* **No impact.**

The project would not alter the existing drainage pattern of the area as described above under Impact VIII(c). The only increase in impervious surface will be the footprint of the very small gauging station, and this would not measurably increase runoff.

- 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?* **No impact.**

As discussed in Checklist Item VIII(d), the project would not increase impervious surface in the watershed. As such, there would be no project-generated pollution from future runoff.

- f. *Otherwise substantially degrade water quality?* **Less than significant with mitigation incorporated.**

Unless the Downey Well is carefully demolished and abandoned, there is the potential for surface water from Lagunitas Creek traveling through the abandoned well shaft and entering groundwater below the creek. This assumes that the well is tapping a groundwater aquifer that is separated by an impermeable layer from Lagunitas Creek underflow. However the well casing will be filled with bentonite (clay) chips), which should prevent surface water entering a groundwater basin and potentially contaminating that aquifer.

Other than this potential contamination impact and the potential impacts from soil erosion, as discussed previously under Impact VI(b), the project will not include features that will affect water quality. The project would benefit water quality in Lagunitas Creek by permanently dedicating 212.7 acre feet (0.699 cfs) of Lagunitas Creek water that the District can currently divert to instream uses.

#### **Mitigation Measure HWQ-1**

NMWD shall not allow pollution of a groundwater aquifer beneath the Downey Well Site. To accomplish this requirement, NMWD shall develop a final well demolition and abandonment plan under the guidance of a C57 licensed well driller. The well-driller shall examine the surface and subsurface conditions of Lagunitas Creek and the aquifer beneath the creek and identify the demolition and abandonment procedures necessary to protect water quality in the creek and the gravel basin or aquifer. The driller shall determine the need to divert the stream during demolition; the need to pump before or during construction; the choice of materials to fill the well; the need to cap the well to prevent movement of surface water to a groundwater aquifer; and any other requirements established by the County of Marin Department of Environmental Health Services.

The plan shall be reviewed and approved by the California Department of Fish and Game, California Department of Water Resources, and the Marin County Environmental Health Services Division of the Community Development Agency.

#### **Mitigation Monitoring and Reporting**

NMWD shall have the plan prepared and approved prior to obtaining the Well Abandonment Permit. The C57 well driller shall be responsible for compliance with these conditions. NMWD and Marin County Environmental Health Services Division of the Community Development Agency shall be responsible for determining final compliance.

#### **Impact Significance After Mitigation**

The mitigation measure was developed with input from the Marin County Environmental Health Services Division.<sup>6</sup> Implementation of the recommended mitigation measures above would reduce the potential impacts associated with groundwater contamination to a less-than-significant level.

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<sup>6</sup> Scott Callow, Environmental Health Services Division, personal communication, 4/18/08.

- 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?* **No impact.**

The project does not include the construction of housing.

- h. *Place within a 100-year flood hazard area structures which would impede or redirect flood flows?* **Less than significant impact.**

The project would remove an existing obstacle in the stream channel (the Downey Well). The small gauging station would be elevated above the 100-year elevation. The small footprint of this gauging station would not affect flood flows, plus its size would be approximately the same as the wellhead that is being removed.

- 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?* **No impact.**

The project does not include the construction of residences or businesses and would not subject people to the risk of flooding.

- j. *Inundation by seiche, tsunami, or mudflow?* **No impact.**

The project area would not be affected by tsunami, seiche, or substantive mudflows.

## IX. Land Use and Planning

<i>Would the project:</i>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	<i>Physically divide an established community?</i>				X
b.	<i>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?</i>				X
c.	<i>Conflict with any applicable habitat conservation plan or natural community conservation plan?</i>				X

- a. *Physically divide an established community?* **No impact.**

The project is distant from the community of Point Reyes Station, plus the facilities are primarily belowground. The project would not physically divide a 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?* **No impact.**

The project site is within the Coastal Zone of Marin County. The Marin County Unit II Local Coastal Plan (LCP classifies the site as C-APZ-60 Coastal – Agricultural Production Zone, 60 acre minimum parcel size). Water facilities like wells are an allowed conditional use in this land use classification. As noted in the discussion of Agricultural Resources, the proposed well would not significantly affect agricultural production on the Gallagher Ranch or in the Coastal Zone of the County. Allowing the well would appear consistent with the LCP and the County Code. The County will need to review the project and confirm this conclusion prior to deciding whether to approve a Coastal Permit and use permit for the well.

- c. *Conflict with any applicable habitat conservation plan or natural community conservation plan?* **No impact.**

There is no adopted habitat conservation plan or natural community conservation plan for the area that would be affected by the project.

## X. Mineral Resources

Would the project:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				x
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?				x

- 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.**

There are no identified mineral resources within the project area. The project will not directly or indirectly affect any known mineral resources.

- b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? **No impact.**

The *Marin Countywide Plan* does not identify a mineral resource recovery site near the project site.

## XI. Noise

Would the project result in:		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	<i>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?</i>		x		
b.	<i>Exposure of persons to or generation of excessive groundborne vibration of groundborne noise levels?</i>				x
c.	<i>A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</i>				x
d.	<i>A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?</i>		x		
e.	<i>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?</i>				x
f.	<i>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?</i>				x

- 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 with mitigation incorporated.**

The project will not generate noise once construction is completed. The project does not include construction of residences or places of employment. As such, it will not place people in locations where they would be exposed to excessive noise levels. Construction of the project will generate noise due to the use of heavy construction equipment. Construction of the entire project will take about 26 weeks.

The principal equipment required for pipeline construction work along the Point Reyes-Petaluma Road right-of-way is anticipated to include (a) backhoe/excavator, (b) front-end loader, (c) dump truck(s), (d) water truck, (e) hand-held mechanical compaction equipment, and (f) paving equipment. This construction work, which would install about 4,900 lineal feet of pipeline, is expected to take up to three months. Peak noise would



be expected to be in the 80 to 88 decibels (dBA) range at a distance of 50 feet from the noise source. There are no residences located along the pipeline route, so residents or other sensitive receptors would not be affected.

Demolition of the Downey Well will take 2 days. The nearest residence is several hundred feet distant. It is possible that the demolition might be audible, but the noise generated would not be substantial and would only last for portions of 2 days.

Drilling the well would require use of a well rig plus other heavy equipment. Maximum noise levels during construction are expected to be about 75 to 85 decibels (dBA) at 50 feet (these are noise levels generated by this type of heavy equipment). Noise levels decrease by about 6 dBA for each doubling of the distance between the noise source and the receptor. The residence on the Gallagher Ranch is located about 400 to 800 feet from the potential well site. Noise levels would be expected to be between 50 to 65 decibels during well drilling. This noise would only occur for a few days, nevertheless, limits on the hours of operation is an appropriate mitigation.

The *Marin Countywide Plan* specifies that “during all phases of construction, measures should be taken to minimize the exposure of neighboring properties to excessive noise levels from construction-related activity.” In addition, Marin County reserves the right to set hours for construction-related activities involving the use of machinery, power tools or hammering. The hours of construction would be determined by the type of construction, site location and noise sensitivity of nearby land uses and would be specified in the conditions of approval for the project.

#### **Mitigation Measure N-1**

Construction of the well shall be limited to the hours of 7:00 a.m. to 5:00 p.m. on weekdays. No work shall be allowed on Saturdays, Sundays, or holidays.

#### **Mitigation Monitoring and Reporting**

The construction hours will be included in the final construction specifications for the project. NMWD will periodically monitor start and stop work times to ensure compliance.

#### **Impact Significance After Mitigation**

The mitigation measure ensures that construction noise would not bother the residences near the well site outside of normal working hours nor on weekends and holidays. This would reduce the impact to a less than significant level.

- b. *Exposure of persons to or generation of excessive groundborne vibration of groundborne noise levels?* **No impact.**

Project construction is not expected to generate substantial groundborne noise or vibrations, especially since the nearest residence is 400 to 800 feet from where the well will be drilled.

- c. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?* **No impact.**

Once project construction is completed, the project will not generate noise.

- d. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?* **Less than significant with mitigation incorporated.**

As described above under Impact XI(a), project construction will generate short-term noise. However, as described under that impact, it is expected that the impact will be less than significant with the incorporation of limits on when construction can occur.

- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?* **No impact.**

The project site is thirteen miles from the nearest public airport.

- 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.**

The project is not near a private airstrip, and the project does not include housing or employment where people would be susceptible to noise.

## XII. Population and Housing

<i>Would the project:</i>		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	<i>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)?</i>			X	
b.	<i>Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</i>				X
c.	<i>Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</i>				X

- 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.**

NMWD has sufficient water rights and supplies from the existing Coast Guard Wells to serve the projected buildout of the West Marin Service Area, as that buildout is described in the EIR prepared for the new Marin Countywide Plan.<sup>7</sup> The Gallagher Wells will be used to supply water during high tide and drought conditions where pumping of the Coast Guard Wells increases the risk of saltwater intrusion, or in flood conditions where the Coast Guard Wells are inundated. As such, the Gallagher Wells increase the reliability of the water system.

It could be argued that if this new well was not developed and the existing and new Gallagher Wells were not connected to the water system that NMWD might not be able to reliably meet water demand of existing as well as new customers, and that lacking system reliability, the County might not approve new development. However, it is speculative that NMWD would be unable to supply needed water from existing wells (perhaps conducting additional off-tide pumping and/or using additional storage to allow pumping under conditions when saltwater intrusion might occur). In addition, the existing rights and supplies, as supplemented by the Gallagher Wells, help NMWD to reliably meet the projected buildout of the service area. The wells would not provide water that would induce additional development beyond what is allowed and projected for in the Marin Countywide Plan. The Countywide Plan EIR states that water connections would increase from 776 connections in 2005 to a maximum buildout of 1,075 connections in 2030. The plan estimates that there would be the addition of as many as 292 new dwelling units. At 2.5 persons per unit, this would equal 730 additional people, or less than 30 people per year. This would not be considered substantial population growth, and it is consistent with the Countywide Plan. The project would not induce growth beyond that allowed under the Countywide Plan. The impact is less than significant.

- b. *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?* **No impact.**

The project sites do not contain housing, and the project will not require that residences be demolished or removed.

- c. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?* **No impact.**

The project sites do not contain housing, and no people will be displaced during project construction or operation.

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<sup>7</sup> Chris DeGabriele, North Marin Water District, personal communication, 1/11/08.

### XIII. Public Services

<i>Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</i>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
<i>Fire protection?</i>				X
<i>Police protection?</i>				X
<i>Schools?</i>				X
<i>Parks?</i>				X
<i>Other public facilities?</i>				X

- a. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the 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:*

*Fire protection?* **No impact.**

The project components are not susceptible to fire. They will not require response from the Marin County Fire Department.

*Police protection?* **No impact.**

Pipelines, wells, and gauging stations are not projects requiring police response. The project will not substantially increase the demand for police protection.

*Schools?* **No impact.**

The project does not include the construction of housing or new employment opportunities. There will be no direct impact on schools.

*Parks?* **No impact.**

The project will not require new or physically altered parks.

Other public facilities? **No impact.**

The project will not create a demand for improvements to other public facilities.

## XIV. Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>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?</i>				X
b. <i>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?</i>				X

- 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?* **No impact.**

The project does not include the construction of new housing nor employment opportunities. The project will not create any direct demand for recreational facilities.

- 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 recreational facilities nor require the construction or expansion of such facilities.

## XV. Transportation/Traffic

<i>Would the project result in:</i>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections?</i>		x		
b. <i>Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?</i>			x	
c. <i>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?</i>				x
d. <i>Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</i>				x
e. <i>Result in inadequate emergency access?</i>				x
f. <i>Result in inadequate parking capacity?</i>				x
g. <i>Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</i>				x

- a. *Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections?* **Less than significant with mitigation incorporated.**

Construction of the project would consist of four phases: (1) drilling of a new well (three weeks of work), (2) installation of the pipeline along Point Reyes-Petaluma Road (two months of work), (3) demolition of the Downey Well (two days), and 4) installation of the relocated gauging station (two days). The pipeline installation would require traffic control on Point Reyes-Petaluma Road, typically limiting vehicle passage to a single lane over a distance of about 0.1 mile during construction hours. The pipeline installation may also require traffic in both directions to stop for a short time (e.g., 5 to 10 minutes). Construction of the new well and gauging station, and demolition of the Downey Well, would not require closure of Point Reyes-Petaluma Road.

The project would generate traffic during these construction phases, including heavy trucks transporting construction equipment, pipe, and other supplies. The project would also generate trips by workers and agency overseers. It is projected that over the approximately 3-month construction period, the project would generate approximately 5 to 10 worker trips per day and 3 to 6 heavy truck trips per day. It is expected that most of these trips would be via Point Reyes-Petaluma Road connecting with other County roads to Highway 101 via Petaluma, Novato, or Sir Francis Drake Boulevard. However, aggregate or other supplies might be supplied via Nicasio Valley Road to Point Reyes-Petaluma Road.

The impact would be less than significant because the number of trips would not cause a permanent decrease in the level of service on any State highway or County road or at any intersections along those highways or roads. In addition all intersections along Point Reyes-Petaluma Road that might be affected by project construction traffic operate at LOS B or better.

As noted above, the pipeline that would connect the Gallagher Wells to the existing Downey Well pipeline would be constructed within or on the shoulder of Point Reyes-Petaluma Road. Approximately 4,900 lineal feet of pipeline would be installed along this road. It is expected that it would take two months to install this pipeline. Because the work would be done within or immediately adjacent to the road, construction would require lane closure(s), as described above. These lane closures would cause an inconvenience to local residents, workers, and recreational travelers. The closures would disrupt bicycle use of the road and could interfere with emergency response.

NMWD would be required to replace disturbed pavement in Point Reyes-Petaluma Road to the County's satisfaction. This requirement would be established in the required Encroachment Permit. This would ensure that the impact of construction-caused pavement damage was reduced to a less than significant level.

The short-term impact of lane closures would be a potentially significant impact.

#### **Mitigation Measure T-1**

NMWD shall develop and implement a traffic control plan for construction operations. A traffic control plan will be required by the County of Marin prior to construction in order to obtain approval for an encroachment permit for work within the Point Reyes-Petaluma right-of-way. The traffic control plan shall also be provided to the Marin County Office of Emergency Services and the Marin County Fire Department for review and approval. Requirements of the plan relative to minimizing impacts on emergency access and evacuation plans include the following:

- Contact information and protocol to halt work and temporarily allow through traffic in the case of an emergency; and
- Inventory and procedures for placing steel plates over trenches to allow the temporary safe passage of traffic.

### **Mitigation Monitoring and Reporting**

The plan will be developed as part of the application for an Encroachment Permit. The plan shall be implemented by the contractor during pipeline construction. NMWD will periodically monitor to ensure compliance.

### **Impact Significance After Mitigation**

These mitigation measures would reduce the impact from disruption or interference of an emergency plan or evacuation plan to a less-than-significant level.

- b. *Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?* **Less than significant impact.**

See the discussion under Impact XV(a) above. Construction-generated traffic will consist of an average of about 8-16 two-way trips per day for about 60 days. This would not result in any permanent change in the level of service on Point Reyes-Petaluma Road or any other public streets.

- 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 project is over thirteen miles from the nearest public airport and will not cause any change in air traffic patterns.

- d. *Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?* **No impact.**

Once construction is completed, the project would not affect local roadways or intersections. See the discussion under Checklist Item XV(a) about traffic disruptions during pipeline construction.

- e. *Result in inadequate emergency access?* **No impact.**

The project does not require emergency access, and, thus, would not affect emergency access.

- f. *Result in inadequate parking capacity?* **No impact.**

The project does not require parking.



- g. *Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?* **No impact.**

The project would not conflict with any plans or policies adopted by the County of Marin to encourage alternative means of transportation such as bicycles. See the discussion under Checklist Item XV(a) about short-term traffic disruptions that would potentially affect bicycle use during pipeline construction.

## XVI. Utilities and Service Systems

<i>Would the project:</i>	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</i>				X
b. <i>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?</i>		X		
c. <i>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?</i>		X		
d. <i>Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</i>				X
e. <i>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?</i>				X
f. <i>Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?</i>			X	
g. <i>Comply with federal, state, and local statutes and regulations related to solid waste?</i>			X	

- a. *Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?* **No impact.**

The project will not generate wastewater and thus not exceed wastewater treatment requirements of the 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?* **Less than significant with mitigation incorporated.**

Water diverted from the Gallagher Wells would replace water diverted from the Coast Guard Wells during times of high tides, drought conditions, or flooding. Water would be treated at the existing NMWD treatment facility for manganese and iron removal. Expansion of the water treatment plant is not required. The specific effects of this water project are assessed and mitigated in this document, and mitigations are identified where warranted.

- 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 with mitigation incorporated.**

There are 17 highway drainage culverts crossing Point Reyes-Petaluma Road in the section where the new pipeline would be constructed. These drainage culverts receive runoff flows from the hills and tributary streams originating in the hills on the north side of the road. The contributing watershed areas are small. The culverts range in size from 15 to 30 inches in diameter. Some of these culverts may have deteriorated and may need to be replaced during pipeline installation. Depending upon their condition and proximity to the pipeline, the culverts could be cut or crushed by excavating or compaction equipment, and this could impede drainage flow unless properly repaired. This is a potentially significant impact. The actual crossings of culverts that do not need to be replaced can be accomplished by using a steel offset or lowering the pipeline trench to clear the culvert by at least 12 inches.

#### **Mitigation Measure U-1**

The project shall avoid disturbing or impeding the flow of water in drainage culverts. Potential impacts on the flow conditions in existing road drainage culverts from the construction of the proposed pipeline along Point Reyes-Petaluma Road can be mitigated by developing specific plans for each pipeline crossing that include the following measures, as applicable:

- Locate and survey each drainage crossing for use in preparation of plans and specifications;
- Provide a protective sleeve around the pipeline where the pipeline crosses over the top of the drainage culvert;

- Provide a minimum vertical separation distance of at least 0.5 feet between the pipeline and drainage culvert or as otherwise required by the County of Marin;
- Consult with the County of Marin and develop plans that conform with all County of Marin requirements regarding pipeline placement and design in the vicinity of drainage culvert crossings;
- Provide for replacement or repair of any drainage culverts damaged as a result of project construction; and/or
- Allow for the use of horizontal directional drilling methods.

The plans and specifications shall be submitted for review and approval by the County of Marin.

#### **Mitigation Monitoring and Reporting**

Plans for each culvert crossing will be developed as part of the final design plan. Implementation will be the responsibility of the contractor. NMWD and the County of Marin will be responsible for final monitoring.

#### **Impact Significance After Mitigation**

Implementation of the above mitigation measure would reduce the potential impact on existing drainage facilities from pipeline construction to a less-than-significant level.

- d. *Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?* **No impact.**

The project is a water delivery facility. It does not increase the demand for water.

- 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?* **No impact.**

The project does not generate wastewater and thus does not use any capacity in any wastewater treatment and disposal facility.

- f. *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?* **Less than significant impact.**

All excess material removed from the well and pipeline trench would be disposed of at an approved location for receiving clean fill. The small amount of waste material from demolishing the Downey Well (about one pickup load) would be transported to the

County landfill. The NMWD contractor will be required to dispose of any waste material per County and State requirements at an acceptable disposal site. The small amount of waste that might end up in a landfill would not be expected to significantly reduce the capacity of that landfill.

- g. *Comply with federal, state, and local statutes and regulations related to solid waste?*  
**Less than significant impact.**

Excess excavated materials and any other waste will be disposed of in compliance with applicable regulations related to solid waste.

## XVII. Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. <i>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?</i>		x		
b. <i>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)?</i>		x		
c. <i>Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?</i>		x		

- 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 with mitigation incorporated.**

The project would not significantly affect vegetation, terrestrial wildlife, or cultural resources at any of the sites. Potential sedimentation of Lagunitas Creek can be reduced to a less than significant level by mitigation measures recommended in this report. With implementation of recommended mitigation measures, the project would not reduce streamflows in Lagunitas Creek, and therefore would not adversely affect fish or aquatic wildlife living downstream of the Gallagher Wells. The abandonment of the Downey Well would be done in a manner that would avoid groundwater contamination.

The project would have beneficial impacts on fish and other biological resources by permanently dedicating a water right to divert water to instream uses. It would further benefit biological resources by removing the constraint on the National Park Service to implement its planned Olema Marsh restoration, which will allow full implementation of the beneficial Giacomini Wetland Restoration Project. The project also protects the groundwater from salt-water intrusion in the Coast Guard Wells area by avoiding pumping at Coast Guard Wells during periods of high tide and low flows in Lagunitas Creek.

Other project components that could be expected to cause some degradation of the environment include short-term air quality and noise impacts. All these impacts can be reduced to a less than significant level by implementing the mitigation measures recommended in this report. It is concluded that by implementing the mitigation measures recommended in this Initial Study, the project would not significantly degrade the environment and would have substantive beneficial impacts for biological resources.

- 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 with mitigation incorporated.**

As described in Section 6.0 of this Initial Study, there are two projects in the Point Reyes Station area that have been approved but not constructed. One is a 5-lot subdivision and the other is reuse of a historic building in downtown Point Reyes Station. Neither of those projects would contribute any impact to the section of Lagunitas Creek or the proposed well site affected by the proposed project. The proposed project would not have any impact on the resources in Point Reyes Station that might be affected by construction of these two other projects except that they would use water provided by NMWD. However, NMWD would provide them with water whether or not the proposed project was approved and constructed. The proposed project does not contribute to any increased demand for water. There would be some potential for cumulative air quality and traffic impacts during the construction phase of the proposed project. However, the project's increment, after mitigation, would not be cumulatively considerable. Inclusion of recommended mitigations reduces the project's contribution to any possible cumulative impacts to a less than significant level.

The proposed project will not increase the water supply available to NMWD. NMWD is allowed to take its maximum allowed diversion from its existing Coast Guard Wells (in

addition to two other permitted diversion points). The District has adequate capacity from these wells to serve projected buildout in the area as described in the 2007 Marin Countywide Plan. Therefore, the project would not induce any development in the service area. Allowed development under the new Countywide Plan could occur with or without the project.

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?* **Less than significant with mitigation incorporated.**

As discussed in previous sections of this Initial Study, project construction could generate air pollution and noise which could adversely affect workers and nearby residents. The mitigation measures recommended to control dust and noise would reduce these impacts to a less than significant level. The project, including recommended mitigation measures, would not have an adverse effect on human beings. The project would have the beneficial effect of ensuring water reliability during periods of high tides, flooding, and salt-water intrusion allowing NMWD to serve customers in its service area.

## 8.0 DETERMINATION OF SIGNIFICANT EFFECT

On the basis of this Initial Study, I find that the proposed project would not have a significant effect on the environment. A Mitigated Negative Declaration will be prepared.

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Drew McIntyre  
North Marin Water District

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Date

## 9.0 BIBLIOGRAPHY AND PERSONS CONTACTED

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### **Persons Contacted**

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## **10.0 REPORT PREPARATION**

### ***Leonard Charles and Associates***

- Leonard Charles, Ph.D., Project Manager and Environmental Analyst
- Lynn Milliman, Environmental Analyst



## Appendix B

Groundwater and Streamflow  
Response Analysis at North Marin  
Water District Gallagher Well Site,  
Lagunitas Creek, Marin County, CA



# Technical Memorandum

Date: December 21, 2020

To: Jim O'Toole, Senior Vice President, Environmental Science Associates  
Ari Frink, Senior Associate, Environmental Science Associates

From: Pete Hudson, P.G #6730, CEG #2348, Senior Geologist, Sutro Science, LLC  
Justin Taplin, MA, Senior Environmental Scientist, Sutro Science, LLC

Subject: Groundwater and Streamflow Response Analysis at North Marin Water District (NMWD)  
Gallagher Well Site, Lagunitas Creek, Marin County, California.

Sutro Science, LLC (Sutro) has prepared this Technical Memorandum (TM) to present results of a groundwater and streamflow response analysis at the North Marin Water District's (NMWD) Gallagher Ranch Well Site (Gallagher well site) located at 14500 Point Reyes-Petaluma Road in Marin County (**Figure 1**). The analysis involved correlating drawdown data from a 7-day aquifer test with gage and stream discharge (streamflow) data recorded at a nearby USGS gaging station to determine if groundwater pumping from the test well on the Gallagher well site influenced streamflow on Lagunitas Creek. This study is intended to present additional analyses required for CEQA review and to support permitting of a proposed second groundwater supply well at the Gallagher well site. This TM discusses the project background, describes the surface water and hydrogeologic setting, presents the assessment methodology, and provides our findings and conclusions.

## Background

NMWD constructed Well No.1 on the Gallagher Well site in 1993, which remained unused until a pipeline connecting it to the NMWD treatment plant was constructed in 2015. CEQA documentation for the pipeline and a second groundwater supply well was completed in 2009 but the second well was not constructed. Currently, in response to the need for a supplemental domestic supply, NMWD is preparing environmental documentation to install the second well (Well No. 2) but in a location that differs from that proposed in the 2009 Initial Study/Mitigated Negative Declaration (IS/MND). The new location of Well No. 2 is in the pasture about 450 feet north of Well No. 1. Well No. 1 and Well No. 2 would operate simultaneously. Although the 2009 CEQA documentation analyzed the impacts of diverting 300 gallons per minute (gpm), the second well had not yet been constructed. The second well would allow NMWD to effectively double the current groundwater withdrawal from the Gallagher Ranch site. Therefore, it was determined that it was appropriate to analyze the potential effect of the combined pumping on instream flows in Lagunitas Creek to comply with the requirements of CEQA and other regulations including the Local Coastal Program.

Since 2014, PES Environmental, Inc. (PES) has performed various groundwater characterization studies at the Gallagher Well site on behalf of NMWD. Most recently (October 28, 2020) PES submitted a report documenting

the results of a step drawdown test and a 7-day constant-rate aquifer test it conducted on a test well (NP-5) located at the proposed location of Well No. 2 (**Figure 1**). The aquifer tests were conducted while Well No. 1 was actively pumping and thus provided an opportunity to ascertain the potential effects of operating two active supply wells on the stream flows in Lagunitas Creek during the late summer/early fall, low stream flow seasonal period.

## Surface Water and Hydrogeologic Setting.

Lagunitas Creek drains a watershed area of about 103 square miles and flows about 22 miles from its headwaters on Mount Tamalpais to Tomales Bay. The upper 8 miles of Lagunitas Creek is controlled by four dams (Lagunitas, Alpine, Bon Tempe and Peters). Gallagher Ranch is approximately 8 miles downstream from Kent Lake (Peters Dam) and 2 miles from Point Reyes Station and the Tomales Bay estuary. Gallagher Ranch and the proposed well site are situated on alluvial deposits within an inside bend of Lagunitas Creek.

The gage height of Lagunitas Creek is measured and the streamflow is then calculated from two U.S. Geological Survey (USGS) gaging stations: one at Samuel P. Taylor State Park (USGS 11460400 aka “Park gage”), located about 3 miles downstream of Peters Dam (far outside of the zone of influence of the Gallagher Well site) and one adjacent to and within the zone of influence of the Gallagher Well site (USGS 11460600 – Point Reyes).<sup>1</sup> Discharge fluctuations identified in the Park gage are often identified after a time delay in a muted response at the Point Reyes gage. During a sample period between September 1, 2020 and October 31, 2020, the gage height at the Point Reyes gage fluctuated between a low of 0.89 feet and 1.04 feet and streamflow was calculated to be between 4.29 and 6.92 cubic feet per second (cfs). During the same period, the gage height at the Park gage fluctuated between 5.5 cfs and the flow was calculated to be 7 cfs. The Park gage and the Point Reyes gage are both monitored and maintained by USGS staff, who also occasionally obtain field measurements to inform releases or flow reductions from the Peters Dam. The data obtained from the Point Reyes gage is considered fair with accuracy within plus or minus 8 percent.<sup>2</sup>

Subsurface exploration completed by PES since 2014 found that Gallagher Ranch is underlain by unconsolidated alluvial deposits extending from the ground surface to the underlying bedrock surface at a depth of about 55 to 60 feet. These sediments consist of clays and silt mixtures, sandy silts, and coarse-grained sands and gravel. The bedrock underlying the unconsolidated sediments has been described by PES as belonging to the Franciscan Complex.<sup>3</sup> Groundwater occurs in the unconsolidated alluvial sediments under unconfined and semi-confined conditions. The saturated thickness of the unconfined alluvial aquifer ranges from approximately 38 feet to 41 feet below ground surface (bgs). The saturated alluvium in the vicinity of NP-5 consists of predominantly well-graded sands with gravels and occurrences of gravel lenses and cobbles at depths greater than 27 feet (bgs). An 11-foot thick layer of gravel and sand was observed in boring NP-4. PES concluded that the alluvial aquifer at depths greater than 27 feet represents a sequence of alluvial deposits considered to be moderately transmissive.<sup>4</sup> Lithologic logs completed during drilling of soil borings record first encountered groundwater ranging from 14- to 16-feet bgs

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<sup>1</sup> Calculating streamflow involves recording continuous water level measurements and then applying a mathematical relationship between stage (water level) and discharge to compute streamflow.

<sup>2</sup> Watson, Andy. USGS, Personal Communication.

<sup>3</sup> PES Environmental Inc. (PES) Results of Aquifer Testing Program, Gallagher Well Site, Gallagher Wells and Pipeline Project, Northeast of Point Reyes Station, California. Prepared for the North Marin Water District. February 14, 2014

<sup>4</sup> PES 2020. Supplemental Exploration for Potential Groundwater Supply Well. Gallagher Ranch Property – North Pasture Area, Gallagher Well Project, Point Reyes Station, California. October 28, 2020

(October 2019)<sup>5</sup> and 17 to 20 feet bgs (October 2020)<sup>6</sup>. Static water levels in the completed test well (NP-5), and observations wells (NP-2 and NP-3) ranged from approximately 17 feet bgs (NP-5) to 18 feet bgs (NP-2, NP-3). Groundwater flow direction or gradient could not be determined due to the absence of vertical elevation control but for the purposes of this analysis, it is inferred that groundwater flows to the west and possibly southwest beneath the Gallagher Ranch site.

## Methodology

The methodology used to determine whether groundwater pumping affected creek water level and streamflow relied on two primary data sources: 1) the USGS measured gage height and calculated streamflow data from the Point Reyes gage, as provided through the USGS National Water Information System Web-Interface<sup>7</sup> and 2) results of the 72-hour pump test as described and graphically represented in PES, 2020b<sup>8</sup>. The calculated stream flow data from the Park gage was also reviewed for comparison purposes and to assess diurnal and extended period flow and gage fluctuation. The focus period of the analysis was that of the pump test that operated from September 22 to September 29, 2020. The gage and streamflow data available from the USGS Web Interface data was refined using a 24-hour daily average to remove the diurnal and extended period fluctuations and capture trends that may indicate subtle responses in flow and gage height due to groundwater pumping.

## Findings

The following section discusses the findings of the groundwater and streamflow response analysis. Several figures have been provided for illustration purposes. **Figure 2** is a reprint of Plate 6 from the October 28, 2020 PES report<sup>9</sup> that graphically represents the groundwater aquifer response during the 7-day constant-rate pumping test. **Figure 3** shows the raw gage data obtained from the USGS Web-Interface from the period of July 1 to October 31, 2020. This figure displays the degree of streamflow fluctuation, including that from diurnal variation, throughout the summer of 2020. **Figure 4** compares streamflow data from the Samuel P Taylor and Point Reyes gaging stations shown as 24-hour daily average flows, with an orange arrow added to indicate the duration of the pump test. **Figure 5** is an expanded view of the calculated raw streamflow data obtained from the Point Reyes gaging station, showing the duration of the constant-rate pump test. **Figure 6** provides another representation of Lagunitas Creek streamflow response during the constant rate pump test, comparing average flow from September 1 to October 1 and average flow during the pump test. **Figure 7** is a graph of the gage height data obtained from the Point Reyes gage with an overlay of the constant rate pump test period.

### ***Groundwater Response to 72-Hour Constant Rate Pump Test***

The 72-hour constant-rate pump test commenced in the afternoon of September 22 and ended at 22:00 on September 29. Groundwater was pumped at a constant rate of 140 gallons per minute (gpm) or about 0.3 cfs. The pump operated continuously, except for a 3-hour interruption in pumping on September 24, 2020, which was caused by depleted

<sup>5</sup> PES Environmental Inc. (PES), 2020a Report of Exploration for Potential Groundwater Supply Location, Gallagher Ranch Property - North Pasture Area Gallagher Wells Project Point Reyes Station, California. August 18 2020

<sup>6</sup> PES Environmental Inc. (PES), 2020b Supplemental Exploration for Potential Groundwater Supply Well. Gallagher Ranch Property - North Pasture Area, Gallagher Wells Project, Point Reyes Station, California.

<sup>7</sup> [https://waterdata.usgs.gov/nwis/uv?cb\\_00060=on&cb\\_00065=on&format=gif\\_stats&site\\_no=11460600](https://waterdata.usgs.gov/nwis/uv?cb_00060=on&cb_00065=on&format=gif_stats&site_no=11460600)

<sup>8</sup> PES Environmental Inc. (PES), 2020b. Supplemental Exploration for Potential Groundwater Supply Well. Gallagher Ranch Property - North Pasture Area, Gallagher Well Project, Point Reyes Station, California. October 28, 2020

<sup>9</sup> Ibid. Plate 6

fuel in the electric generator. As shown in **Figure 2**, maximum groundwater drawdown in the test well (NP-5) was 5.6 feet, 0.3 feet in NP-2 (located 95 feet northeast of NP-5) and 0.6 feet in NP-3 (located 79 feet east of NP-5) (see **Figure 1**). The groundwater levels were stable throughout the duration of the pump test suggesting that the pumping cone (aka cone of depression) created by the groundwater extraction at the test well reached steady state conditions 12 hours after the start of the pump test.<sup>10</sup> PES stated that, given the distance from NP-5 to the Lagunitas Creek (approximately 130 feet), it is likely that the pumping cone extended out to Lagunitas Creek.<sup>11</sup> Data represented on **Figure 2** also suggests that groundwater levels recovered relatively quickly after the pump test ended. PES reports that groundwater levels recovered to 94 percent within one minute after pumping stopped, 97 percent after 60 minutes and 99 percent after 140 minutes. This rate of recovery is indicative of a transmissive aquifer.<sup>12</sup>

### ***Fluctuation in Measured Streamflow***

As shown in **Figures 3 and 4**, Lagunitas Creek discharge rates fluctuated between 4 cfs to a high of 8 cfs between July 1 and October 31, 2020. Extended fluctuations in computed stream flow (such as those recorded between August 17 and October 6, 2020) can be the result of several factors including releases or flow reductions at Peters Dam on Kent Lake, human interactions between the Park gage and the Point Reyes gage, including groundwater pumping from private domestic or irrigation supply wells, increased runoff, leachfield flows, stream diversions, or operational anomalies at the gage itself, which could be precipitated by debris accumulation or changes in the stream bed (i.e. introduced or dislodged woody debris). Diurnal fluctuations can sometimes be attributed to evapotranspiration and irrigation runoff and alone can account for cyclic daily variations of 0.2 to 0.3 cfs. Larger fluctuations in flow throughout the reach of Lagunitas Creek between Kent Lake and Gallagher Ranch are typically attributed to releases or flow reductions at Kent Lake.

### ***Changes in Lagunitas Creek Streamflow Due to Groundwater Pumping at Well No. 2 Site***

**Figure 5** provides an expanded view of the streamflow data shown in **Figure 3** for the period of September 18 and October 2. **Figure 6** is Lagunitas Creek streamflow data through the month of September expressed as mean daily discharges showing average summer flow and average flow during the constant head pump test. Changes in the streamflow and gage height data that were recorded at the Point Reyes gage during the period of the constant-rate pump test are subtle to the degree that they could be construed as mere responses to diurnal or anomalous fluctuations in the flow. This is especially the case considering the degree of fluctuation observed over extended periods of time in this reach of Lagunitas Creek. However, upon closer inspection and by graphing the data using a 24-hour moving average, what appears to be a slight decreasing trend occurs during the latter days of the pump test. This can be seen graphically in **Figure 5**. The most revealing observation from the gage station data may be the (increasing) streamflow response following the cessation of the pump test on September 29. While this response may have been a coincidental increase in flow due to other factors, the correlation with the cessation of pumping is too close to completely disregard. In general, based on the review of the streamflow data, there appears to be some response in the streamflow and gage height, albeit slight, from the groundwater pumping at the Well No. 2 site. The magnitude of the streamflow decreases supposedly caused by the groundwater pumping is on the order of 0.2 to 0.3 cfs, which is below the accuracy (plus or minus 8 percent) of the stream gaging equipment.

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<sup>10</sup> Ibid. Page 7

<sup>11</sup> Ibid, Page 7

<sup>12</sup> Ibid, Page 7

It should be noted that there has been no obvious interaction between the ongoing groundwater pumping at Well No. 1 and pumping at the Well No. 2 site. The 450-foot separation and the transmissive characteristics of the aquifer may maintain an adequate distance between the pumping cones produced by these two wells.

### ***Changes in Lagunitas Creek Gage Height Due to Groundwater Pumping***

**Figure 7** shows the gage height measurements recorded at the Point Reyes gage from September 20 to September 30. The graph shows some minor oscillations through the constant-rate pump test period; however, it is important to note the magnitude of these fluctuations. Throughout the constant-rate pump test, the gage height fluctuations were generally between 0.97 feet and 0.99 feet (0.02 feet) or a difference of about one-quarter of an inch. The lowest gage height reading measured was 0.95 feet recorded September 28 between 22:30 and 22:45 and the highest measurement was 1-foot measured between 07:45 and 09:15 on September 27. The difference between the maximum high and maximum low was 0.05 feet or slightly over one-half of an inch. While subtle, the data also suggests that, during the latter stages of the constant rate pump test (September 27 to September 29), gage height of Lagunitas Creek at the Point Reyes gaging station fluctuated between 0.96 and 0.98, a slight decrease which appears to be attributable to groundwater pumping during the constant rate test. Soon after the pump test ended, the measured gage height indicated recovery ranging between 0.98 and 0.99 feet with a temporary maximum of 1-foot height midday on September 30.

## **Conclusions**

The results of the 7-day constant rate groundwater pumping test conducted at test well NP-5 on the Gallagher well site indicates that the groundwater aquifer is transmissive and, as PES concluded, could sustain a safe well yield estimated to range between 150 and 175 gpm. PES based this estimate on projected pumping rates and associated drawdowns, the sustained pumping rate of 140 gpm during the constant rate pump test, the amount of available draw down at the end of the pump test and the steady state condition achieved and maintained during the pump test.<sup>13</sup> While the water levels in the observation wells and pumping level in NP-5 during the pump test indicated that steady state conditions were achieved, it appears the zone of influence of the pumping cone extended toward the Lagunitas Creek in either a west or southwest direction, leading to a de minimis reduction in measured gage height and calculated discharge, especially during the latter stages of the pump test. The slight increase in measured gage height and calculated discharge that coincided with the cessation of pumping is notable as it provides additional evidence that the groundwater pumping depressed groundwater levels adjacent to the creek to a small degree. Had the pump test been allowed to continue beyond September 29 at 22:00, because the aquifer is transmissive, it is likely that the slight decrease in gage height and the decrease in calculated streamflow of 0.2 – 0.3 cfs would have equilibrated without decreasing further. It is important to note that the constant-rate pump test was conducted during late summer when Lagunitas Creek was under Dry Year conditions and experiencing seasonal low flows, which can be considered a worst-case condition. It is likely that in periods of higher creek flows and more elevated groundwater levels, continued pumping at the site of NP-5 would not even register a response in the creek as the influence of the pumping cone may not extend to the creek under higher flow conditions.

Based on the review of the pumping test data and the output from the USGS Point Reyes gage, it appears that under low streamflow conditions, such as those present during the constant-rate test in September 2020, groundwater pumping from the proposed Well No. 2 location could result in a small but discernable reduction in creek discharge.

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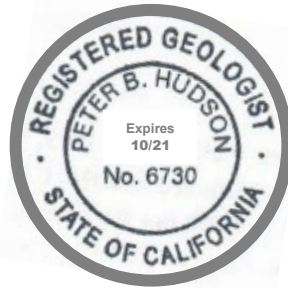
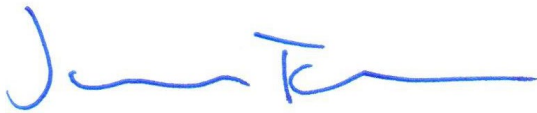
<sup>13</sup> Ibid. Page 8

However, the magnitude of this reduction is such that it could not reliably be measured with the current stream gage equipment because it would not exceed the accuracy (plus or minus 8 percent) of that equipment. In any event, even if it could be reliably measured, the effect would be negligible, for it would not substantially reduce stream flow or lower water surface to a degree that would adversely impact stream habitat. Thus, the location of Well No.2, as proposed under the current project, would not result in new or more severe impacts than those disclosed in the 2009 IS/MND, and Mitigation Measure BR-2, developed as part of the 2009 IS/MND, remains adequate to reduce impacts to streamflow in Lagunitas Creek.

Prepared by:



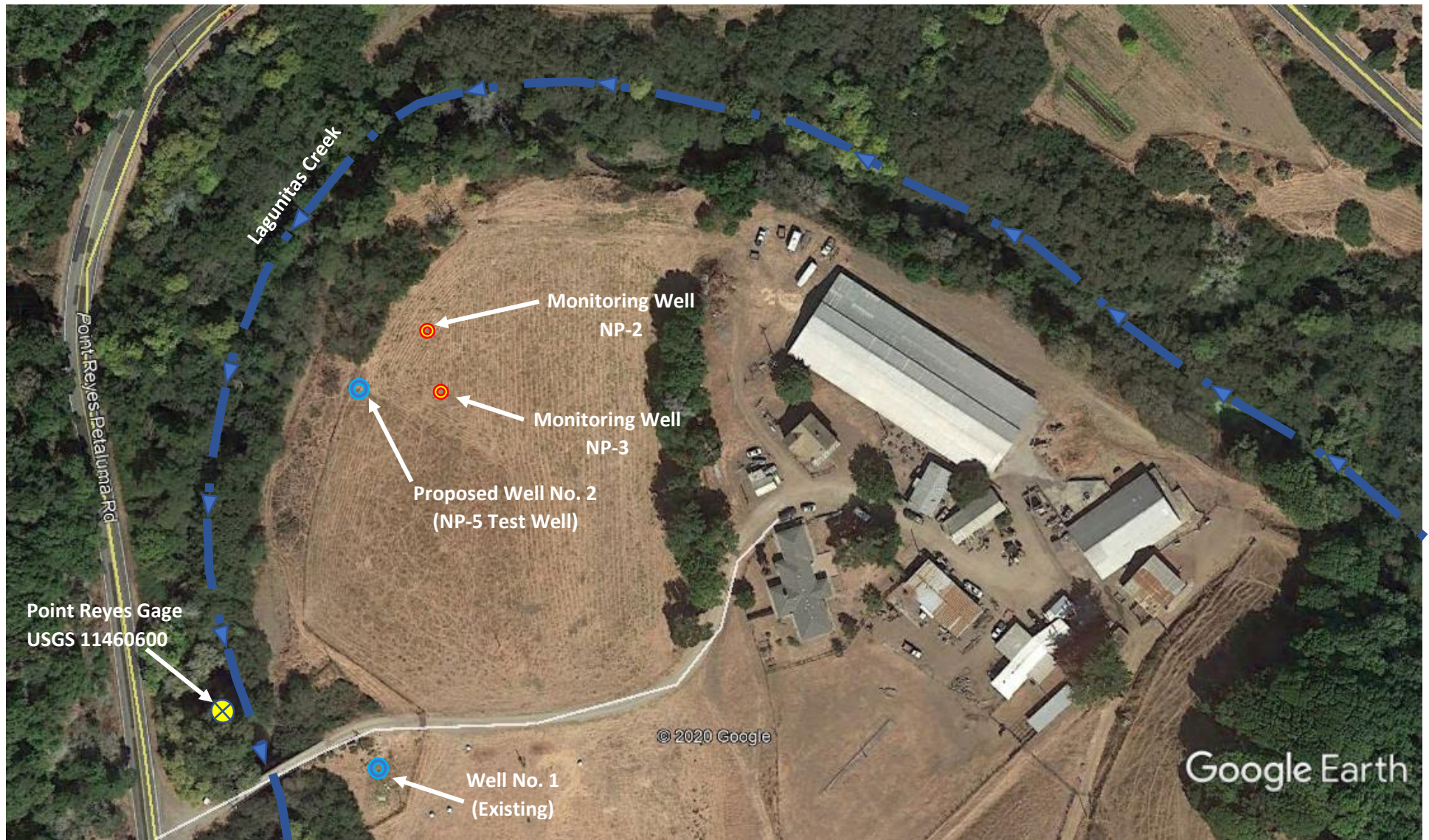
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Senior Geologist, Sutro Science, LLC

Justin Taplin, MS, Senior Hydrologist, Sutro Science, LLC

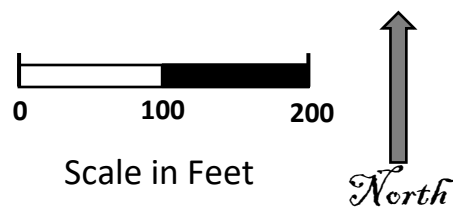


# FIGURES



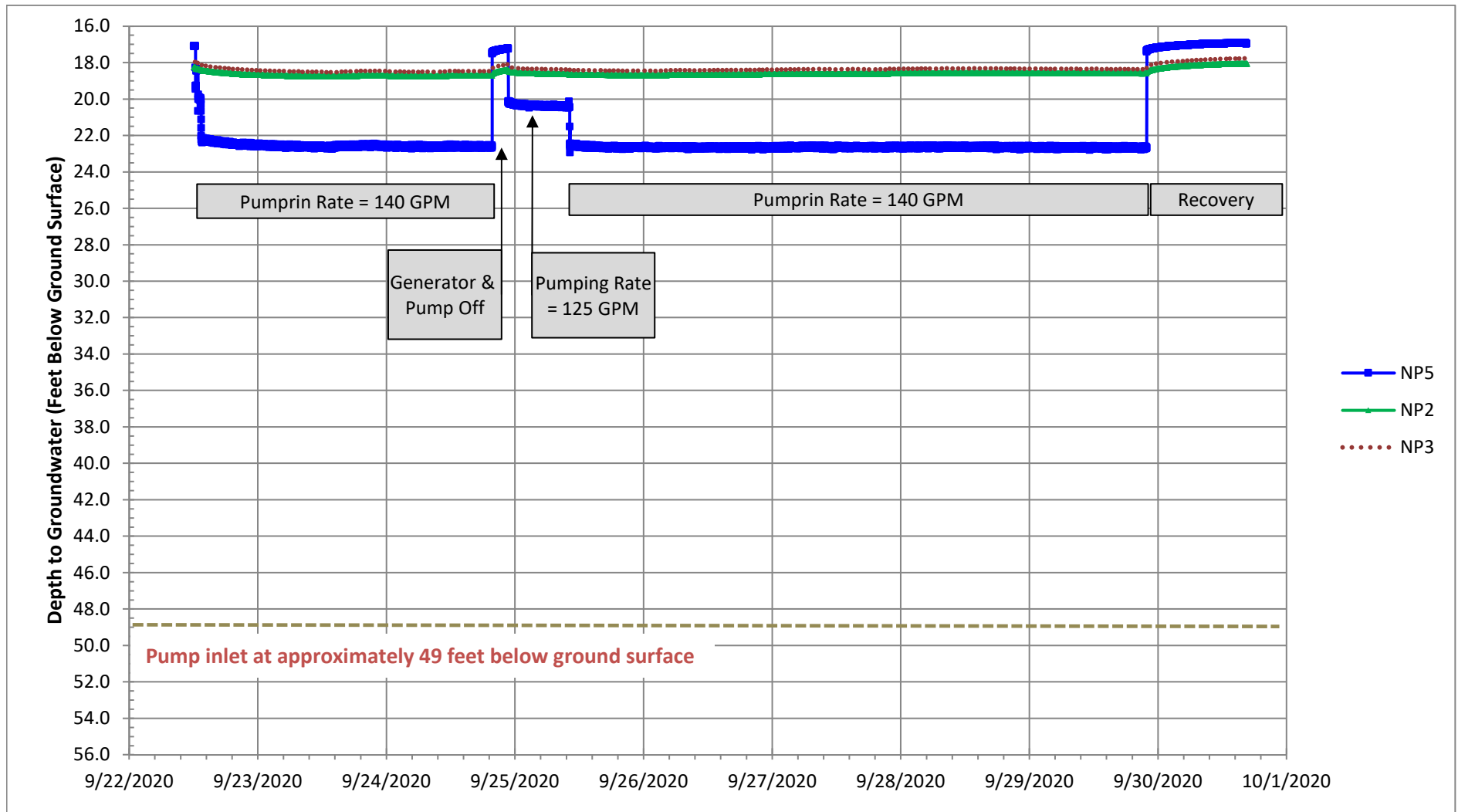
**FIGURE 1**

**North Marin Water District  
Gallagher Ranch  
Well Site**



14500 Point Reyes – Petaluma Road

# Figure 2



**PES Environmental, Inc.**  
Engineering & Environmental Services

**Hydrographs for 7-Day Constant Rate and Recovery Tests**  
Test Well NP-5 and Monitoring Wells NP-2 and NP-3

PLATE

**6**

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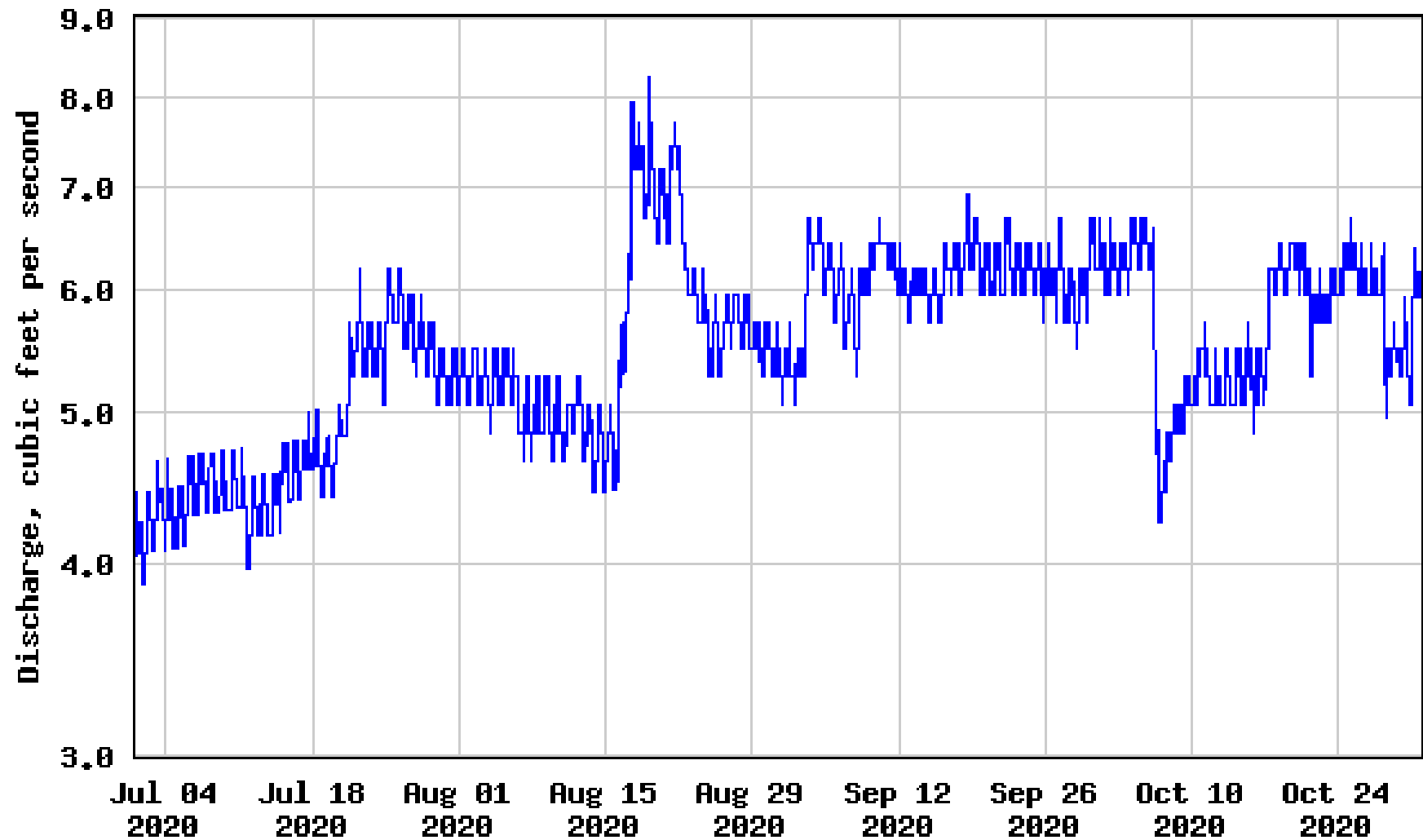
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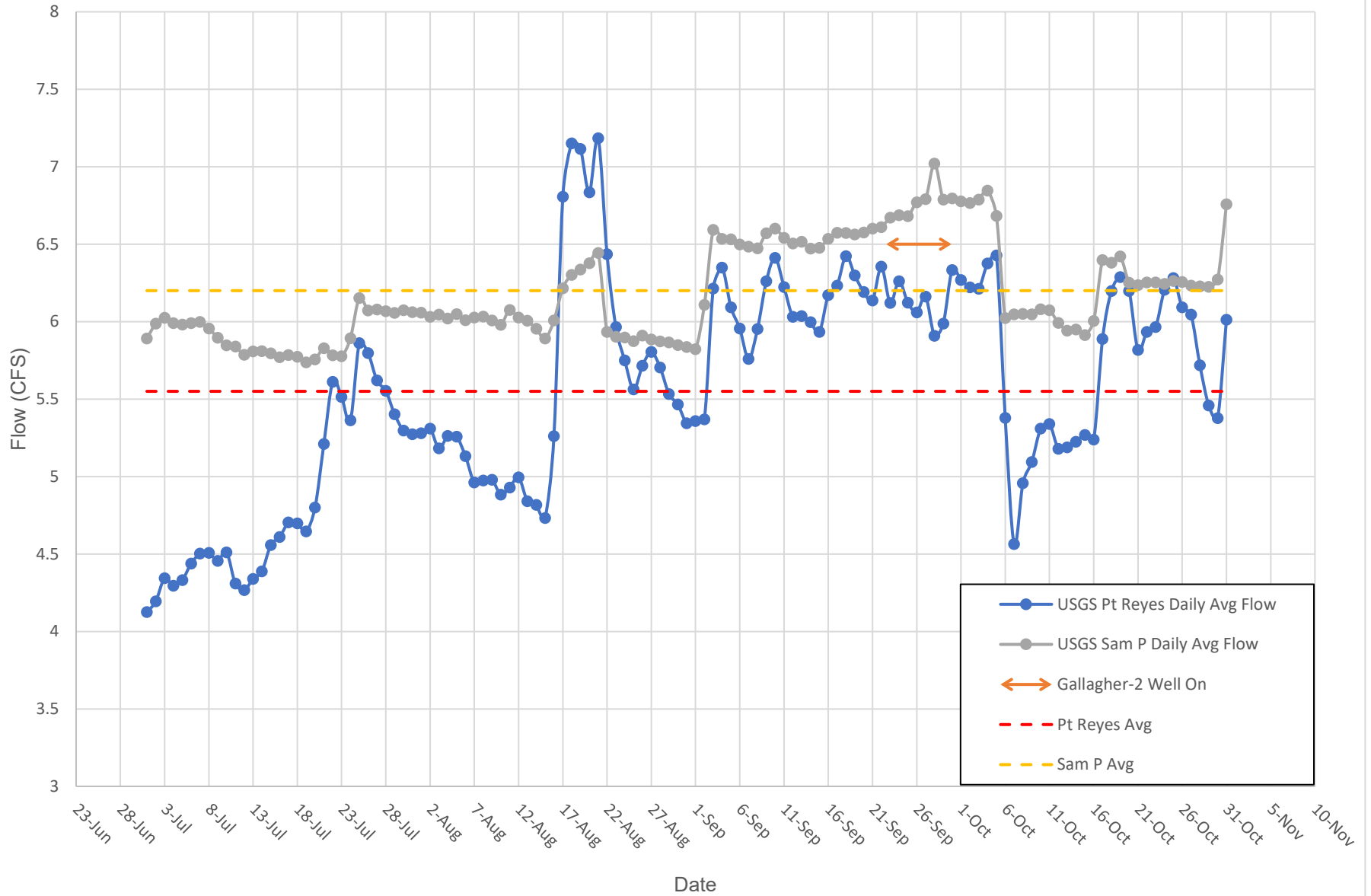
# Figure 3

USGS 11460600 LAGUNITAS C NR PT REYES STATION CA



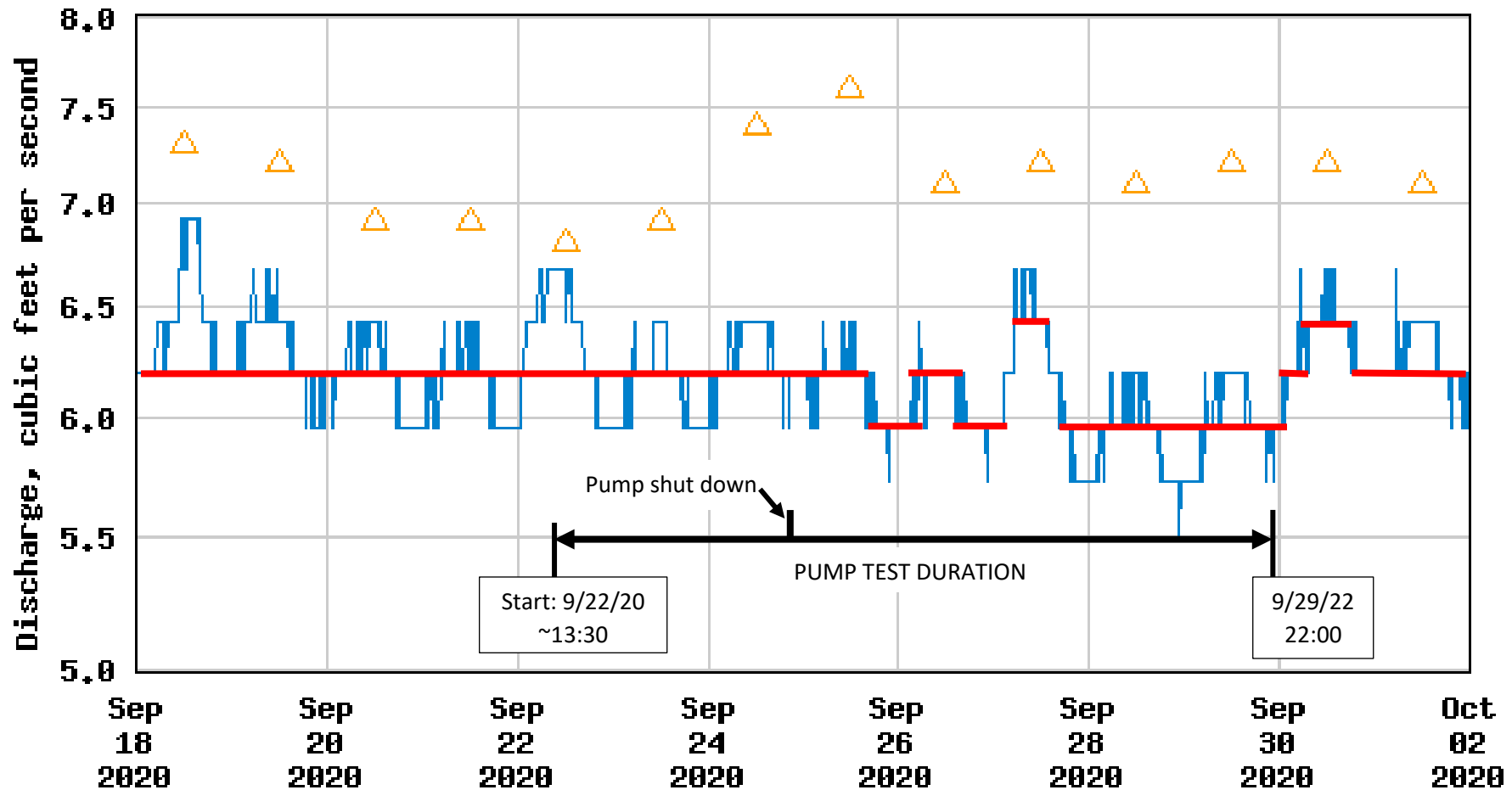
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Figure 4. Lagunitas Creek Daily Mean Flow



# Figure 5

USGS 11460600 LAGUNITAS C NR PT REYES STATION CA

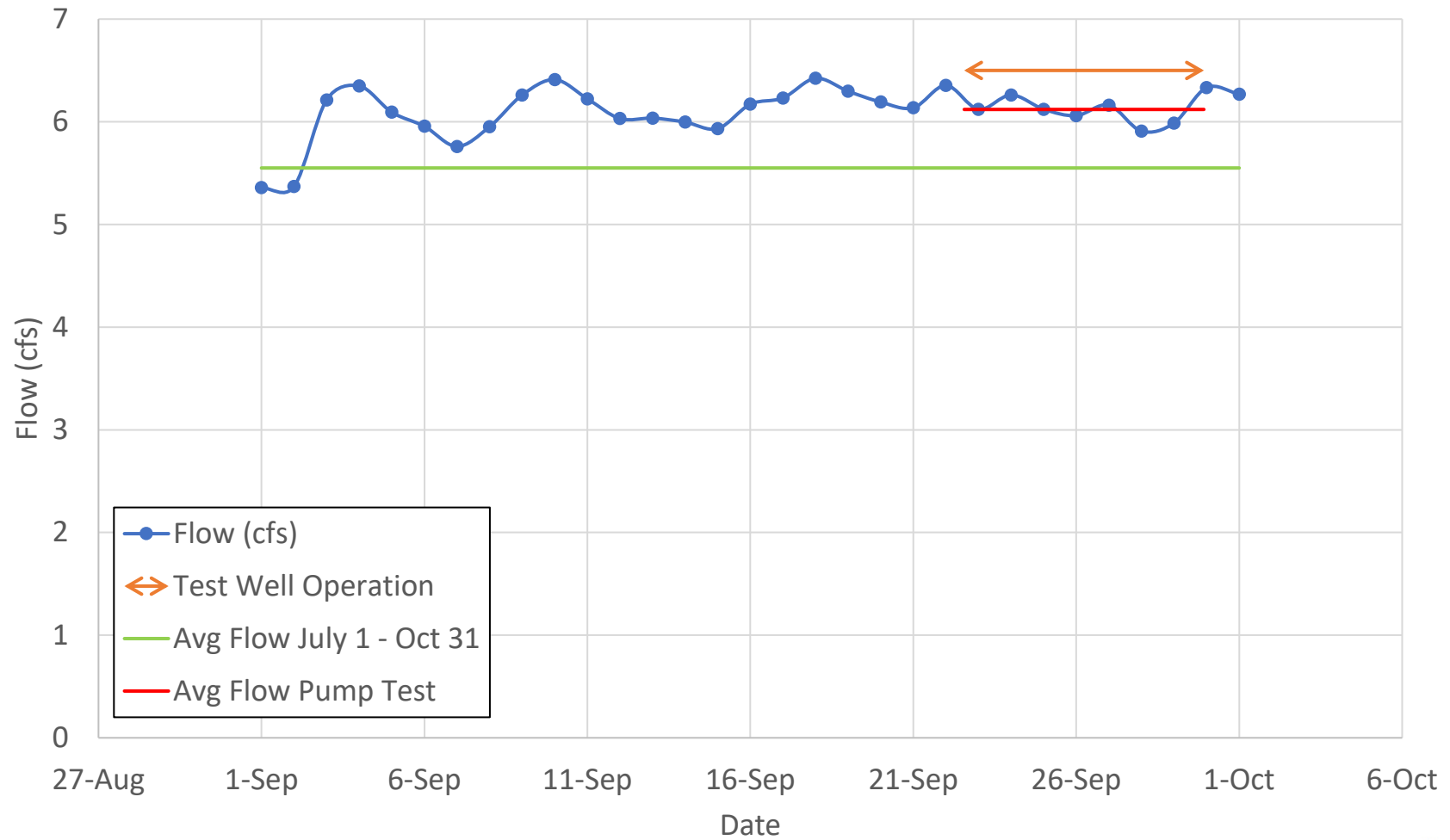


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△ Median daily statistic (45 years) — Discharge

Source: [https://waterdata.usgs.gov/nwis/uv?cb\\_00060=on&cb\\_00065=on&format=gif\\_stats&site\\_no=11460600](https://waterdata.usgs.gov/nwis/uv?cb_00060=on&cb_00065=on&format=gif_stats&site_no=11460600)

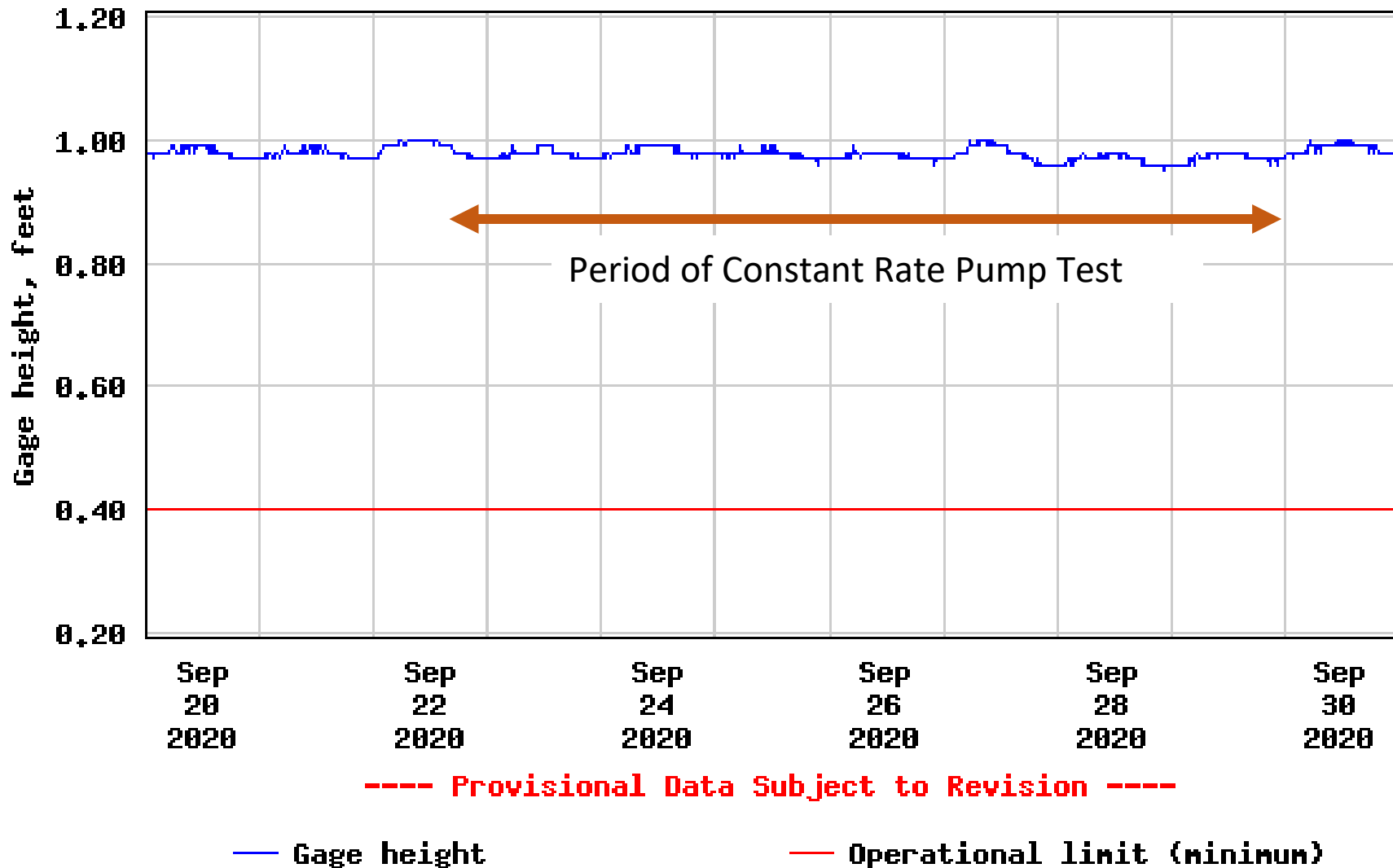
**Figure 6**  
Lagunitas Creek Discharge at Pt. Reyes USGS Gage





# Figure 7 – Gage Height

USGS 11460600 LAGUNITAS C NR PT REYES STATION CA



Source:

[https://waterdata.usgs.gov/nwis/uv?cb\\_00060=on&cb\\_00065=on&format=gif\\_stats&site\\_no=11460600](https://waterdata.usgs.gov/nwis/uv?cb_00060=on&cb_00065=on&format=gif_stats&site_no=11460600)