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F13a

Prepared October 6, 2014 for October 10, 2013 Hearing

To: Commissioners and Interested Persons

From: Nancy Cave, District Manager
Ethan Lavine, Coastal Planner

Subject: STAFF REPORT ADDENDUM for F13a
CDP Application No. 2-14-1025 (Marin County Environmental Health Services)

The purpose of this addendum is to modify the staff recommendation for the above-referenced item. In the time since the staff report was distributed, staff has received new input and information from the Applicant that suggests certain changes to the staff recommendation are appropriate. These include minor changes in condition language and refinement to findings on Archeological or Paleontological Resources. The Applicant is in agreement with the staff recommendation as modified by this addendum and the matter is being moved to the Consent Calendar. These changes do not modify the basic staff recommendation, which is still approval with conditions.

The addendum makes two primary changes. First, in response to evidence submitted by the Applicant that construction of the proposed project would avoid impacts on the portion of a parcel containing known prehistoric resources (APN 106-050-14), the addendum removes condition language that would require the Applicant to conduct a Phase II study for the entire parcel and modifies the corresponding findings to reflect this change. The condition instead clarifies that development must avoid construction on that portion of the property that is in the area of the identified prehistoric site. Second, conditions containing standards for project work related to drainage culvert crossings and horizontal directional drilling methods are modified to remove a requirement that plans be submitted to the Executive Director for review and approval. Staff no longer believes that Executive Director review and approval is necessary as compliance for these requirements will be verified by Caltrans and the County.

Thus, with these changes, the Applicant and the Staff are in agreement on the staff recommendation, and the Applicant has asked that this item be moved to the Consent Calendar portion of the agenda. Staff is unaware of any opposition to the project or to hearing this item on the Consent Calendar. The staff report is modified as shown below (where applicable, text in underline format indicates text to be added, and text in ~~strikethrough~~ format indicates text to be deleted).

1. **Area of Archaeological Significance**

a. Modify Special Condition 1(a) on staff report page 5 as follows:

~~PRIOR TO COMMENCEMENT OF CONSTRUCTION on Phase 2 property APN 106-050-14, which is in the area of an identified prehistoric site, the Permittee shall complete a Phase II study as prescribed in the East Shore Wastewater Improvement Project Final Environmental Impact Report (FEIR) (March 2007). If the study finds the site meets at least one National Register criteria, a site-specific mitigation Archaeology Plan shall be submitted for the review and approval of the Executive Director, and no construction shall commence on the part of APN 106-050-14 containing such site until an amendment to this permit is approved by the Commission. No changes to the approved archaeological plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.~~ No development shall occur on that portion of Phase 2 property APN 106-050-14 containing the identified prehistoric site CA-MRN-614.

b. Modify text on staff report page 16 as follows:

~~As t~~There is a known prehistoric site in the project area~~, more investigation is required for a portion of the project before commencement of development on that property can occur~~. Therefore, **Special Condition 1** would require the Applicant to ~~complete the Phase II archeological study as prescribed in the FEIR prior to the commencement of~~ avoid construction on that portion of the Phase 2 property (APN 106-050-14) that is in the area of the identified prehistoric site. ~~If the site meets at least one of the National Register criteria, the Applicant is required to submit a site specific archaeology plan for Executive Director review and approval, and to obtain approval of a CDP amendment by the Commission prior to commencing construction.~~

2. **Standards for Project Work**

a. Modify Special Condition 2(i) on staff report page 7 as follows:

Specific Plans for Drainage Culvert Crossings. ~~PRIOR TO COMMENCEMENT OF CONSTRUCTION the Permittee shall submit plans and specifications for each pipeline crossing to the Executive Director for review and approval that demonstrate conformance with the following measures~~ Plans and specifications for each pipeline crossing shall conform with the following measures: (a) locate and survey each drainage crossing for use in preparation of plans and specifications; (b) design installation of the force main underneath rather than over the top of the drainage culvert to the maximum extent feasible; (c) provide a protective sleeve around the sewer force main where the force main crosses over the top of the drainage culvert; (d) provide a minimum vertical separation distance of at least 0.5 feet between the force main and drainage culvert or as otherwise required by Caltrans; (e) provide shut-off valves and access ports on the force main on both sides of the crossing to facilitate emergency response, routine maintenance, and periodic as-needed inspection and testing of

the pipeline; (f) conform with all Caltrans requirements regarding pipeline placement and design in the vicinity of drainage culvert crossings; and (g) ensure the use of horizontal directional drilling methods to the maximum extent feasible.

b. Modify Special Condition 2(j) on staff report page 7 as follows:

Horizontal Directional Drilling Methods. ~~PRIOR TO COMMENCEMENT OF CONSTRUCTION the~~ The Permittee shall ~~submit to the Executive Director for review and approval plans and specifications for the main pressure sewer line and lateral connection lines demonstrating the~~ use ~~of~~ horizontal directional drilling methods to the maximum extent feasible for the main pressure sewer line and lateral connection lines.

F13a

COUNTY OF MARIN

COMMUNITY DEVELOPMENT AGENCY
ENVIRONMENTAL HEALTH SERVICES DIVISION

October 6, 2014

Ethan Lavine
North Central Coastal Division
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Subject: October 10, 2014 Hearing – Item F13a
Marshall Phase 2 Community Wastewater System - CDP Application 2-14-1025

Dear Mr. Lavine,

The County has reviewed the September 19, 2014 staff report and October 6, 2014 addendum. We agree with staff's recommendations and support moving this item to the Consent Calendar for the hearing on October 10, 2014.

If you have any questions, please call me at (415) 473-7146 or email me at lajackson@marincounty.org.

Sincerely,

Lorene Jackson, M.P.H.
Project Manager

c.c. Rebecca Ng, Deputy Director

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F13a

Filed:	9/11/2014
Action Deadline:	3/10/2015
Staff:	E. Lavine - SF
Staff Report:	9/19/2014
Hearing Date:	10/10/2014

STAFF REPORT: REGULAR CALENDAR

Application Number:	2-14-1025
Applicant:	Marin County Environmental Health Services
Project Location:	17 properties adjacent to Highway 1 and within the Highway 1 road right-of-way extending north from Marconi Cove to the Marshall Boat Works, along Tomales Bay in Marshall, Marin County.
Project Description:	Septic system upgrades or replacements for 17 developed lots, installation of a collection pipe for connection from the lots to a community leachfield collection system, and installation of wastewater treatment facilities at the community leachfield.
Staff Recommendation:	Approval with Conditions.

SUMMARY OF STAFF RECOMMENDATION

Marin County Environmental Health Services (the Applicant) proposes to improve the treatment of wastewater produced by 17 developed lots in the community of Marshall along the eastern shore of Tomales Bay. All of the subject properties are adjacent to the bay or on the inland side of Highway 1, and all presently rely on individual septic systems for sanitary waste treatment and disposal.

Faulty individual onsite wastewater systems have been identified by the County as one of the potential sources contributing to the water quality impairment of Tomales Bay. In order to reduce the potential of wastewater reaching Tomales Bay, the Applicant proposes to connect the developed properties to an existing community leachfield that is located farther inland from the bay. The proposed project represents Phase 2 of development of the community wastewater system. In 2007, the Commission approved CDP 2-07-019, which authorized Phase 1 development of the community wastewater system. Phase 1 was completed in 2008 and serves 35 residences and businesses running between the Marshall Boat Works and the Hog Island Oyster Company.

The proposed project would include (1) the repair or replacement of failing septic tanks on 17 developed lots; (2) installation of Septic Tank Effluent Pump (STEP) systems and 1.25-inch-diameter pressure lines to move the effluent from the septic tanks to a common collection line; (3) installation of the common collection line primarily within the Highway 1 right-of-way to the remote community leachfield located about 300 feet inland from the edge of Tomales Bay; and (4) installation of a secondary treatment system to increase the effective capacity of the existing leachfield to accommodate the additional wastewater flow.

The work would take place within the coastal zone, including within the Commission's retained jurisdiction and the certified Local Coastal Program (LCP) jurisdiction of the County of Marin. The County seeks consolidated permit review of this project, pursuant to Coastal Act Section 30601.3.

Although development activities will occur inland on individual properties and along Highway 1, the proposed project construction occurs very close to Tomales Bay and has the potential to result in significant resource impacts. Therefore, Commission staff recommends special conditions associated with the construction and siting of the treatment works to assure that all feasible mitigation measures are incorporated to protect marine resources, public access, archaeological resources, and water quality consistent with the relevant policies of the Coastal Act. Also, staff recommends that the geographic limit of the service area be constrained to serve only the 17 developed lots with existing septic tanks as designated in **Exhibit 3** and that any increase in density or intensity of land use on such lots requires an amendment to this coastal development permit, so as to limit the project's potential for inducing growth in the future through **Special Conditions 3 and 4** consistent with the Coastal Act public works policy.

Staff recommends approval of the coastal development permit (CDP) application as conditioned. The motion is found on page 4 below.

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APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

Staff recommends that the Commission, after public hearing, **approve** a coastal development permit for the proposed development. To implement this recommendation, staff recommends a **YES** vote on the following motion. Passage of this motion will result in approval of the CDP as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Motion: *I move that the Commission approve Coastal Development Permit Number 2-14-1025 pursuant to the staff recommendation, and I recommend a yes vote.*

Resolution to Approve CDP: *The Commission hereby approves Coastal Development Permit Number 2-14-1025 and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with Coastal Act Policies. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.*

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**. The permit is not valid and development shall not commence until a copy of the permit, signed by the Permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration.** If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation.** Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment.** The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land.** These terms and conditions shall be perpetual, and it is the intention of the Commission and the Permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. Area of Archaeological Significance.

(a) PRIOR TO COMMENCEMENT OF CONSTRUCTION on Phase 2 property APN 106-050-14, which is in the area of an identified prehistoric site, the Permittee shall complete a Phase II study as prescribed in the East Shore Wastewater Improvement Project Final Environmental Impact Report (FEIR) (March 2007). If the study finds the site meets at least one National Register criteria, a site-specific mitigation Archaeology Plan shall be submitted for the review and approval of the Executive Director, and no construction shall commence on the part of APN 106-050-14 containing such site until an amendment to this permit is approved by the Commission. No changes to the approved archaeological plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

(b) On any of the properties governed by CDP 2-14-1025 as identified on **Exhibit 3**, if an area of cultural deposits is discovered during the course of the project:

i. All construction shall cease and shall not recommence except as provided in subsection (1)(b)(ii)-(1)(b)(iv) below;

ii. To recommence construction following discovery of cultural deposits, the Permittee shall submit a Supplementary Archaeological Plan for the review and approval of the Executive Director. Any further development may only be undertaken consistent with the provisions of the Supplementary Archaeological Plan;

iii. If the Executive Director approves the Supplementary Archaeological Plan and determines that the Supplementary Archaeological Plan's recommended changes to the proposed development or mitigation measures are de minimis in nature and scope, construction may recommence after the Executive Director receives evidence of recordation of a deed restriction as required in section (c) below; and

iv. If the Executive Director approves the Supplementary Archaeological Plan but determines that the changes therein are not de minimis, construction may not recommence until after an amendment to this permit is approved by the Commission and the Executive Director receives evidence of recordation of a deed restriction as required in section (c) below.

(c) Within 90 days after the date of discovery of any archeological deposits on any of the properties governed by CDP 2-14-1025 as identified on **Exhibit 3**, the Permittee shall submit, in a form and content acceptable to the Executive Director, a proposed deed restriction indicating the subject property contains identified archeological deposits and the subject property is restricted by the terms and conditions attached to CDP 2-14-1025. The Permittee shall execute and record the deed restriction once the Executive Director has approved the proposed form and content. The deed restriction shall include a legal

description of the entire impacted parcel or parcels.

2. Standards for Project Work.

(a) Disposal of Excess Material and Vegetation. All construction debris and cut vegetation shall be removed from the site and disposed of only at an authorized disposal site. Side casting of such material or placement of any such material within Tomales Bay, any other coastal waters, tideland, or wetland areas surrounding the project is prohibited.

(b) No Fill in Coastal Waters. No permanent or temporary fill of coastal waters is allowed by this permit. No activities involving changes to buttresses, supports, walls, or structures in Tomales Bay may be undertaken without a Commission-approved amendment to this permit.

(c) Pre-construction Contractor Training. Prior to the commencement of any development authorized by this permit, the Permittee shall ensure that the contractor understands and agrees to observe the standards for work outlined in these Special Conditions and included as part of the Permittee's coastal development permit application.

(d) Erosion Control. Construction shall not commence until all temporary erosion control devices (e.g., silt fences) are in place. Erosion controls shall also be used to protect and stabilize stockpiles and exposed soils to prevent movement of materials (e.g., silt fences, plastic sheeting held down with rocks or sandbags over stockpiles, etc.). A supply of erosion control materials shall be maintained on site to facilitate a quick response to unanticipated storm events or emergencies. Erosion control devices are considered temporary structures and shall be removed after completion of construction.

(e) Onsite Construction Plans. Construction activities on each individual property shall be consistent with the Sediment and Water Control Drawings contained in the project plans (Figures 10-14) of the Marshall Phase 2 Wastewater Feasibility Study (October 2011) (**Exhibit 4**). These drawings indicate whether or not the septic tank will be replaced in addition to the installation of the STEP, as well as the location of the new tank. If there is any deviation other than de minimis from those drawings, the Permittee must inform the Executive Director and provide the Executive Director with a new construction plan for the particular site showing where and what design changes are being made and an explanation for the need to change the construction plan. Such changes shall not be incorporated into the project until the applicant obtains a Commission-approved amendment to CDP 2-14-1025, unless the Executive Director determines no amendment is legally required.

(f) Other Changes to the Project. Any proposed changes to the approved project shall be reported to the Executive Director. No changes to the approved project shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

(g) Obtain Necessary Permits. PRIOR TO COMMENCEMENT OF CONSTRUCTION, the applicant shall obtain all necessary permits from local, other state, and federal agencies.

(h) Sewer Facilities Access Agreements. Upon completing the upgrades and connections to all of the participating Phase 2 properties, the Permittee shall provide the Executive Director with a copy of all the completed access agreements necessary for the Permittee to construct the approved project.

(i) Specific Plans for Drainage Culvert Crossings. PRIOR TO COMMENCEMENT OF CONSTRUCTION the Permittee shall submit plans and specifications for each pipeline crossing to the Executive Director for review and approval that demonstrate conformance with the following measures: (a) locate and survey each drainage crossing for use in preparation of plans and specifications; (b) design installation of the force main underneath rather than over the top of the drainage culvert to the maximum extent feasible; (c) provide a protective sleeve around the sewer force main where the force main crosses over the top of the drainage culvert; (d) provide a minimum vertical separation distance of at least 0.5 feet between the force main and drainage culvert or as otherwise required by Caltrans; (e) provide shut-off valves and access ports on the force main on both sides of the crossing to facilitate emergency response, routine maintenance, and periodic as-needed inspection and testing of the pipeline; (f) conform with all Caltrans requirements regarding pipeline placement and design in the vicinity of drainage culvert crossings; and (g) ensure the use of horizontal directional drilling methods to the maximum extent feasible.

(j) Horizontal Directional Drilling Methods. PRIOR TO COMMENCEMENT OF CONSTRUCTION the Permittee shall submit to the Executive Director for review and approval plans and specifications for the main pressure sewer line and lateral connection lines demonstrating the use of horizontal directional drilling methods to the maximum extent feasible.

3. **Geographic Limits of Service Area.** This permit only authorizes the following facilities for the 17 developed properties depicted in **Exhibit 3**: (a) upgrading the existing septic systems; (b) installation of the pressurized community collection line; (c) connection of the community collection line to the individual properties; (d) connection of the community collection line to the leachfield; and (e) installation of a secondary treatment system on the existing leachfield.

4. **Future Development Restriction.** This permit is only for the development described in coastal development permit (CDP) No. 2-14-1025. Approval of this permit in no way implies Commission approval of any new or intensified uses within the service area. Except as provided in Public Resources Code section 30610 and applicable regulations, any future development as defined in PRC section 30106, occurring on any of the 17 developed properties identified in **Exhibit 3** including, but not limited to, a change in the density or intensity of use land, shall require an amendment to CDP No. 2-14-1025 from the California Coastal Commission or shall require an additional coastal development permit from the California Coastal Commission or from the applicable certified local government.

5. **Incorporation of Applicant's Mitigation Measures:** The mitigation measures contained in the Final Impact Report for East Shore Wastewater Improvement Project (April 2007) and listed in **Exhibit 7** are incorporated into this permit.

IV. FINDINGS AND DECLARATIONS

A. PROJECT LOCATION

The proposed project is located in the unincorporated community of Marshall, along the eastern shore of Tomales Bay in West Marin County (**Exhibit 1**). The proposed project represents Phase 2 of development of the Marshall Community Wastewater System. In 2007, the Commission approved CDP 2-07-019, which authorized connection of 35 residences and businesses to the system as part of Phase 1. Phase 1 properties were located between the Hog Island Oyster Company, to the north, and the Marshall Boat Works, to the south. If approved, Phase 2 would expand the system permitted in CDP 2-07-019 to include 17 additional developed lots to the south of the Phase 1 area. The developed properties include 14 single-family residences, two properties with multiple residences, and one mixed-use site (Tony's Seafood), which includes three dwellings and a restaurant. The subject properties run between the Marshall Boat Works, to the north, and Marconi Cove, to the south (labeled "Phase 2 Project Area" on **Exhibit 2**). Wastewater from Phase 2 properties would be disposed of at the existing community leachfield, located opposite Highway 1 from the Marshall Boat Works.

Two-thirds of the properties located within the project area are on the bay side of Highway 1, with the rest located along Highway 1 on its inland side. Existing development in the Phase 2 project area is served entirely by individual onsite septic systems. Most of the properties face constraints for onsite sewage disposal. The setback distance between the septic system and the water is generally less than 25 feet for properties located along the bay, and soil conditions allow for limited capacity for absorption and filtration of sewage effluent. Many of the onsite systems are old and do not conform to current standards. Faulty onsite wastewater systems have been identified by the County as one of the potential sources contributing to the water quality impairment of Tomales Bay, which is listed as an impaired water body for pathogen levels (bacteria) in accordance with Section 303(d) of the federal Clean Water Act.

B. PROJECT DESCRIPTION

The purpose of the project is to move the effluent generated by developed residences and businesses abutting Tomales Bay to a community leachfield set farther back from the edge of the bay across Highway 1 in order to prevent the effluent with pathogens from reaching bay waters. The Applicant proposes to construct a central wastewater collection system connecting properties in the Phase 2 service area to the existing Phase 1 community leachfield system at Barinaga Ranch for wastewater disposal. The project would only service properties with existing septic systems. Wastewater collection would consist of a septic tank effluent pump (STEP) system, equivalent to the system installed in the Phase 1 service area. More specifically, the project would consist of:

1) *Replacement and/or upgrade of the existing onsite septic systems as required*. In STEP systems, primary treatment is provided at each connection by a septic tank, and only the settled wastewater is collected and pumped to the community leachfield. In order to work with the STEP system, each tank would be replaced or upgraded to include watertight access risers. The applicant states that improvements being made to the septic tanks are

all on private property that has been extensively modified and does not contain any environmentally sensitive habitat areas (ESHA).

2) *Attaching a STEP unit to each onsite septic tank.* The STEP unit (**Exhibit 6**) is necessary in order to draw off the liquid effluent that currently drains to onsite leachfields and send it to the common collection line. The STEP unit includes a submersible effluent pump along with associated electrical controls and float-activated switches programmed to operate on demand (i.e., in response to flow from the property). The sewage solids are retained in the septic tank and require periodic pump-out and hauling, as is typical for septic tanks. All STEP units would connect to the common connection line via 1.25-inch diameter pressure lines, and would include a redundant check valve and shut-off valve.

3) *Underground placement of the common collection line*. The common connection line would run approximately 5,000 feet from the southernmost property in the project area to the existing community leachfield on the landward side of Highway 1, across from the Marshall Boat Works. The common collection line is a pressurized main, two to three inches in diameter. The pipe would be installed within one of the lanes or within the unvegetated shoulder on the west side of Highway 1 until it reaches the northern end of the Phase 2 service area. At the northern end of the service area, the pipeline would cross to the east side of Highway 1 approximately 1,450 feet south of the treatment system facilities at the community leachfield, and follow a cross-country uphill route to avoid disturbance to known archeological resources along Highway 1. Horizontal directional drilling (HDD) methods would be used as much as possible to install the collection line in order to reduce disturbance of soils and interference at ground level. Analysis prepared for the FEIR evidences that no plants along the edges of the road meet ESHA criteria.

4) *Installation of a secondary treatment system on the site of the existing community leachfield*. The secondary treatment system is necessary to accommodate the additional wasterwater flow from Phase 2 properties. The secondary treatment system would provide a higher level of treatment for flows from Phase 1 and Phase 2 properties, effectively doubling the disposal capacity of the existing leachfield without any physical expansion of the leachfield itself. All construction work associated with the secondary treatment system would be in the area of the existing main lift station and control building, and would not result in excavation or disturbance elsewhere on the leachfield (**Exhibit 5**). The system includes three above-ground Advantex filter pods (8 feet by 16 feet by 2.5 feet deep, see **Exhibit 8**),which would be installed within a relatively flat area that is the remnant road bed of the former County road approximately 60 feet to the south of the existing control building. A barbed-wire fence would be installed to separate the treatment units from grazing animals, matching the exiting farm fence on the property. The treatment pods would be partially screened from the viewpoint of drivers on Highway 1 by a small strand of native coyote brush (*baccharis*), and additional native coyote brush would be planted to fully screen the pods from public view. An additional emergency generator would be added to the community leachfield site on the existing generator pad directly adjacent to the control building, where it would not impact the public view.

A Final Environmental Impact Report (FEIR) was prepared and certified in 2007 to identify and evaluate impacts to Phase 1 and Phase 2 facilities. The mitigation measures contained in the FEIR (**Exhibit 7**) are included as part of the project and address potential negative impacts to public access, water quality, marine resources, and archeological resources further described below through **Special Condition 5.**

C. STANDARD OF REVIEW

The proposed project involves development located both in an area of the Commission's retained coastal development permit (CDP) jurisdiction as well as development in an area of CDP jurisdiction delegated to Marin County by the Commission through certification of the County's Local Coastal Program (LCP). Coastal Act Section 30601.3 authorizes the Commission to process a consolidated CDP application in such cases when the local government, the applicant, and the Executive Director all agree to such consolidation. The standard of review for a consolidated CDP application is the Chapter 3 policies of the Coastal Act. The local government's certified LCP may also be used as non-binding guidance.

The County and the Applicant have requested, and the Commission has agreed, that the Commission review the entire project (including the portion within the County's LCP jurisdiction) together as one combined and consolidated CDP application as allowed in Section 30601.3 of the Coastal Act. Thus, the standard of review for the proposed project is the Chapter 3 policies of the Coastal Act, with the Marin LCP providing guidance.

Because this application involves a treatment works, Section 30412(c) of the Coastal Act places limitations on the Commission's review of the project. Section 30412(c) states, in part:

> *...any permit [the Commission] issues, if any, shall be determinative only with respect to the following aspects of the development: (1) The siting and visual appearance of treatment works within the coastal zone. (2) The geographic limits of service areas within the coastal zone which are to be served by particular treatment works and the timing of the use of capacity of treatment works for those service areas to allow for phasing of development and use of facilities consistent with this division. (3) Development projections which determine the sizing of treatment works for providing service within the coastal zone.*

Thus Section 30412(c) limits the Commission's determinations on a permit application for treatment works to three specified aspects of the development within the coastal zone: (1) siting and visual appearance; (2) geographic limits of service areas and the timing of use of capacity; and (3) development projections which determine the sizing of the treatment work.

The proposed project has been reviewed for its consistency with the Chapter 3 policies of the Coastal Act. All imposed conditions of approval necessary to ensure the approved project's consistency with the Chapter 3 policies of the Coastal Act are also consistent with the limitations of Section 30412(c) because the conditions regulate the treatment work's siting and the geographic limits of its service area.

D. GEOGRAPHIC LIMITS OF SERVICE AREA

Applicable Policies

Section 30254 of the Coastal Act states that:

> *New or expanded public works facilities shall be designed and limited to accommodate needs generated by development or uses permitted consistent with the provisions of this division; provided, however, that it is the intent of the Legislature that State Highway Route 1 in rural areas of the coastal zone remain a scenic two-lane road. Special districts shall not be formed or expanded except where assessment for, and provision of, the service would not induce new development inconsistent with this division. Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.*

Analysis

Coastal Act requirements limit the capacity of public works facilities in order to avoid inducing growth beyond what can be accommodated consistent with the protection of coastal resources. The geographic limits of service areas provide an important tool for carrying out this objective. Another way in which the Coastal Act regulates public works facilities to prevent growth beyond what can be supported by the area's coastal resources is to limit the sizing of treatment works consistent with the provisions of the Coastal Act.

Construction of a wastewater treatment facility to replace existing septic systems is essential to protect health and the environment of Marin County. Providing service to undeveloped lots is not, however, an immediate environmental protection need. Rather, new development facilitated by the provision of wastewater service to undeveloped lots can pose adverse impacts to coastal resources.

The project is proposed to serve only existing developed properties, and specifically prevents new bedroom additions to existing residences that could not otherwise be accommodated within the onsite sewage disposal constraints of the property. Conditions of EPA and State grant funding provided to Marin County require such limitations on service (Questa 2011/21, 28). Further, **Special Condition 3** would constrain the geographic limit of the service area to serve only the 17 developed lots with existing septic tanks as designated in **Exhibit 3** so that any increase in density or intensity of land use on such lots require an amendment to this coastal development permit, limiting the project's potential for inducing growth in the future. **Special Condition 4** would provide clarification to property owners that that Commission approval of the permit to construct the treatment project provides no guarantee regarding allowable future development intensities, which must be determined on a case-by-case basis to meet all applicable standards of the Coastal Act.

Conclusion
As conditioned, the proposed project would avoid inducing growth beyond what can be accommodated consistent with the protection of coastal resources. The proposed project is therefore consistent with Section 30254 of the Coastal Act.

E. PUBLIC ACCESS AND RECREATION

Applicable Policies
Section 30210 of the Coastal Act states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Section 30211 of the Coastal Act states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Section 30214 of the Coastal Act states, in part:

> *(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case…*

Analysis
Highway 1 is a major north-south artery for both local residents and visitors to access many coastal and marine-related activities. It is recognized as a world class scenic travel route. Various components of this project involve work in areas either within the State's right-of-way for Highway 1, which is a winding two-lane road that often has little shoulder, or on properties immediately adjacent to Highway 1. All of the septic tanks, STEPs, and pipes associated with this project and located west of Highway 1 will be placed underground, so there will be no permanent impediment to coastal access or long-term effects on public access to the water or the area's resources.

However, because installation of the common pipeline will be in the Caltrans Highway 1 right-of-way, some disruption of traffic flow is likely to occur as there is little shoulder to the road on the section of Highway 1 within the project area. In some cases, the septic system work will be done in the area of the private property that otherwise would serve as its driveway. Therefore, construction equipment or work has the potential to temporarily slow traffic through the area and inconvenience residents.

The mitigation measures contained in the FEIR require the County to develop and implement a

traffic control plan for construction operations. The traffic control plan must be approved by Caltrans prior to construction in order to obtain approval for an encroachment permit for work within the Highway 1 right-of-way. The traffic control plan will also be provided to the Marin County Office of Emergency Services and the Marin County Fire Department for review and approval. The traffic control plan would ensure that adequate access is provided along Highway 1 during construction operations and would allow for emergency access and execution of evacuation plans.

Conclusion

Therefore, as proposed, the project will not significantly interfere with the public's right of access to the sea, and existing access along the highway will only be limited temporarily during construction in order to assure public safety during installation of the septic systems and collection pipe in a manner consistent with Sections 30210, 30211, and 30214 of the Coastal Act.

F. COASTAL WATERS, WATER QUALITY, AND MARINE RESOURCES

Applicable Policies

Section 30230 of the Coastal Act states:

> *Marine resources shall be maintained, enhanced and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Though the Chapter 3 policies of the Coastal Act are the standard of review, the Marin County LCP provides guidance on the topic of water quality protection:

> *6. Watershed and water quality protection/grading. In order to ensure the long-term preservation of water quality, protection of visual resources, and the prevention of hazards to life and property, the following policies shall apply to all construction and development, including grading and major vegetation removal, which involve the movement of earth in excess of 150 cubic yards.*

> *a. Development shall be designed to fit a site's topography, soils, geology, hydrology, and any other existing conditions and be oriented so that grading, cut and fill operations, and other site preparation are kept to an absolute minimum. Natural features, landforms, and native vegetation shall be preserved to the maximum extent feasible. Areas of a site which are not suited to development because of known soil, flood, erosion or other hazards shall be kept in open space…*

Analysis

Section 30230 and 30231 of the Coastal Act require marine resources, biological productivity, and quality of coastal waters to be maintained, enhanced, and where feasible, restored. Tomales Bay is an impaired water body for pathogen levels (bacteria), nutrients, and sedimentation/siltation. It has been listed as such in accordance with section 303(d) of the federal Clean Water Act. Faulty onsite wastewater systems, especially for properties along the shoreline, have been identified by the County as one of the potential sources contributing to the water quality impairment of the bay. The central purpose for this project is to eliminate the discharge of sewage effluent into Tomales Bay. The replacement of existing, individual septic system leachfields in this area with a community system that moves effluent away from the shore will eliminate a major potential source of contamination to Tomales Bay, and thus, enhance and restore marine resources, biological productivity, and quality of coastal waters.

There are three ways that the reconfiguration of the Phase 2 individual septic systems to a community-based system could potentially affect the health and productivity of coastal waters: (1) runoff or erosion associated with the septic system upgrade/replacements and installation of the STEPs; (2) runoff or erosion from installation of the common pipeline in the roadway; and (3) emergency failure of the community system due to power outages or pipeline breaks.

The mitigation measures included in the FEIR require the Applicant to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) to Caltrans along with the encroachment permit application for any work within the State right-of-way. The mitigation measures further require the Applicant to submit detailed plans, specifications, and estimates for Water Pollution Control and Erosion Control for review and approval by the Caltrans Office of Water Quality. The Applicant proposes the use of horizontal drilling for placing the common collection lines wherever possible instead of open trenching, reducing the risk of further impairing the waters of Tomales Bay. The mitigation plan also includes measures to minimize the potential impacts from power outages or pipeline breaks (see mitigation measure 3.10-C in **Exhibit 7**). **Special Condition 2 (j)** ensures that the horizontal drilling proposed by the Applicant will be implemented to the maximum extent feasible.

The pipeline would cross more than a dozen culverts on the way to the leachfield. The project mitigation requires that the Applicant develop specific plans that avoid and minimize disturbance or impedance to the flow of water for each pipeline crossing. The plans must be submitted to Caltrans for its review and approval. Passing beneath the culverts is the preferred alternative. If the pipe has to pass on top of a culvert — where it is more vulnerable to breakage — a protective sleeve is to be provided. The project mitigations also include putting a shut-off valve on each

side of the culvert in case the pipe is broken. **Special Condition 2 (i)** ensures that the pipelines would cross below culverts to the maximum extent feasible.

Conclusion

The mitigation measures contained in the FEIR and implemented through the SWPPP reduce the risk of affecting the bay's water quality and the project itself will eliminate the discharge of sewage effluent into Tomales Bay. The special conditions of this permit further ensure these mitigation measures will be implemented to the maximum extent feasible. Thus, the proposed project, as conditioned, will protect coastal waters, marine resources, and water quality consistent with the requirements of the Coastal Act and Marin LCP.

G. ARCHAEOLOGICAL OR PALEONTOLOGICAL RESOURCES

Applicable Policies

Section 30244 of the Coastal Act provides:

> *Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.*

Though the Chapter 3 policies of the Coastal Act are the standard of review, the Marin County LCP provides guidance on the topic of archeological resources:

> *b. Prior to the approval of any development proposed within an area of known or suspected archaeological or paleontological significance, a field survey by a qualified professional shall be required at the applicant's expense to determine the extent of archaeological or paleontological resources on the site. Where development would adversely impact identified resources, reasonable mitigation measures shall be required, as recommended in the field survey.*

Analysis

A cultural resources study of the area was conducted (ARS, 2007), and is included as part of the FEIR as Appendix E (FEIR, 2007). The 2007 study determined that midden soils and isolated artifacts could be distributed in many areas in the general vicinity of the project area. The study also determined that one previously recorded prehistoric site that might be affected by project construction lies within the Phase 2 project area. The site also has the potential to meet National Register criteria.

The FEIR requires the following specific measures to mitigate the potential impacts to the prehistoric sites:

> *3.4-A.1 Wherever feasible, the project shall avoid construction within archaeological sites.*
>
> *3.4-A.2 A qualified archaeologist shall prepare a Phase II archaeological investigation,*

which shall include delineating the prehistoric site boundaries, assessing their integrity, and defining the significance of each site. This can be accomplished by conducting a series of auger borings and excavation units at each site. A series of auger borings can be executed to determine the subsurface boundary of a site, while test units (typically a few one and/or two meter square holes) can be excavated to gather data (artifacts, soil characteristics, stratigraphy, etc.) that will help assess integrity, determine significance, and establish if the site(s) has yielded or may be likely to yield information important in prehistory (National Register Criterion D). The results of a Phase II study will determine if each site meets the definition of a historic property, as defined by Section 106 of the NHPA. If a site(s) retains integrity and meets at least one National Register criterion, then the lead agency (Marin County), in consultation with the SHPO, shall make an assessment of adverse effects based on criteria found in Advisory Council on Historic Preservation (ACHP) regulations. If warranted, the archaeologist shall identify a partial site-specific mitigation strategy that shall include data recovery or archaeological monitoring during construction. Even if a site does not meet National Register criteria, archaeological monitoring shall still be conducted during construction within the site boundaries.

3.4-A.3 If any unanticipated artifacts or cultural soil deposits are discovered during grading or underground excavation, all work in the vicinity of the find shall be stopped until the discovery area can be evaluated by an archaeologist. Depending on the extent and cultural composition of the discovered materials, it may be advisable to have subsequent excavation monitored by an archaeologist who should be ready to record, recover, and/or protect significant cultural materials from further damage.

3.4-A.4 Human burials, if encountered, require that work be discontinued in the vicinity of the discovery while the county coroner is contacted. If the skeletal remains are found to be prehistoric, Native American and not modern, then the coroner must call the Native American Heritage Commission in Sacramento, which will designate the "Most Likely Descendant" of the remains. The Most Likely Descendant will be responsible for recommending the disposition and treatment of the remains.

As there is a known prehistoric site in the project area, more investigation is required for a portion of the project before commencement of development on that property can occur. Therefore, **Special Condition 1** would require the Applicant to complete the Phase II archeological study as prescribed in the FEIR prior to the commencement of construction on the Phase 2 property (APN 106-050-14) that is in the area of the identified prehistoric site. If the site meets at least one of the National Register criteria, the Applicant is required to submit a site specific archaeology plan for Executive Director review and approval, and to obtain approval of a CDP amendment by the Commission prior to commencing construction.

Special Condition 1 further requires that if an area of cultural deposits is discovered on *any* of the properties governed by this CDP during the project, all construction shall cease and may only recommence following review and approval by the Executive Director of a supplementary archaeological plan that recommends changes to the proposed development or mitigation measures. The Executive Director may approve changes to the proposed development that are de

minimis in nature. If the changes required by the supplementary archaeological plan are determined to not be de minimis, construction may only recommence after an amendment to this CDP is approved by the Commission and a deed restriction regarding future development is recorded.

Conclusion

With the mitigation measures contained in the FEIR and as conditioned, the proposed development would include reasonable mitigation measures in the event that development would otherwise adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Areas and is consistent with the criteria of Section 30244 of the Coastal Act and the Marin LCP.

H. SCENIC AND VISUAL QUALITIES

Applicable Policies

Section 30251 of the Coastal Act provides:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.*

Though the Chapter 3 policies of the Coastal Act are the standard of review, the Marin County LCP provides guidance on the topic of visual resources:

> *a. The height, scale, and design of new structures shall be compatible with the character of the surrounding natural or built environment. Structures shall be designed to follow the natural contours of the landscape and sited so as not to obstruct significant views as seen from public viewing places.*
>
> *b. Development shall be screened with appropriate landscaping; however such landscaping shall not, when mature, interfere with public views to and along the coast. The use of native plant material is encouraged…*

Analysis

The Tomales Bay area of Marin is known for its scenic beauty. As discussed in the Marin County LCP:

> *Tomales Bay and adjacent lands in the Unit II coastal zone form a scenic panorama of unusual beauty and contrast. The magnificent visual character of Unit II lands is a major attraction to the many tourists who visit the area, as well as to the people who live there. New development in sensitive visual areas, such as along the shoreline of Tomales Bay and*

on the open rolling grasslands east of the Bay, has the potential for significant adverse visual impacts unless very carefully sited and designed.

The septic tanks and the common collection pipe will be entirely underground and so there will be no long-term visual impact from this project. The proposed secondary treatment system on the site of the existing community leachfield would include installation of above-ground elements, including an emergency generator, three Advantex treatment pod units, and barbed-wire fencing. The community leachfield is located on the site of the Barinaga Ranch, and extends into the hillside along the inland side of Highway 1 across from the Marshall Boat Works. All above-ground components of the secondary treatment system would be built within the existing developed area of the leachfield located at the toe of the hill, nearby the existing main lift station and control building and within the flat area that is a remnant of a former County road. A new emergency generator would be built on the existing generator pad directly adjacent to the control building and existing emergency generator. The proposed Advantex treatment pod units would be built 60 feet south of the control building and 20 feet east of the existing property line fence on the remnant roadbed of the former County road. The units are low-profile (2.5 feet high) and grass green in color. They would be surrounded by a barbed-wire fence consisting of t-stakes with 5-stranded barbed wire and 6-inch-diameter corner posts, which match the existing farm fence on the property and are compatible with the character of the surrounding environment. The treatment pod units and fencing would be partially screened from public view from Highway 1 by a strand of native coyote bush, and the Applicant proposes to plant additional native coyote bush to fully screen the pod units from public view.

Conclusion

The proposed project consists primarily of underground development, which will not affect the scenic and visual qualities of coastal areas. The above-ground development proposed has been sited and designed to protect views within a scenic coastal area, to minimize the alteration of natural land forms, and to be visually compatible with the character of surrounding areas, consistent with Section 30251 of the Coastal Act and the Marin LCP.

I. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Section 13096 of the California Code of Regulations requires that a specific finding be made in conjunction with coastal development permit applications showing the application to be consistent with any applicable requirements of CEQA. Section 21080.5(d)(2)(A) of the Public Resources Code prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect that the activity may have on the environment.

The Marin County Environmental Health Services, acting as lead agency, prepared a draft Environmental Impact Report. On December 12, 2006, the Marin County Board of Supervisors conducted a public hearing to receive testimony on the adequacy of the Draft EIR. On March 16, 2007, the final EIR was completed, which contains annotated revisions to the Draft EIR and a written response to all of the oral and written comments received at the hearing on the Draft EIR and prior to the close of the public review period on the Draft EIR. The Marin County Board of Supervisors certified the Final EIR as adequate and complete in compliance with

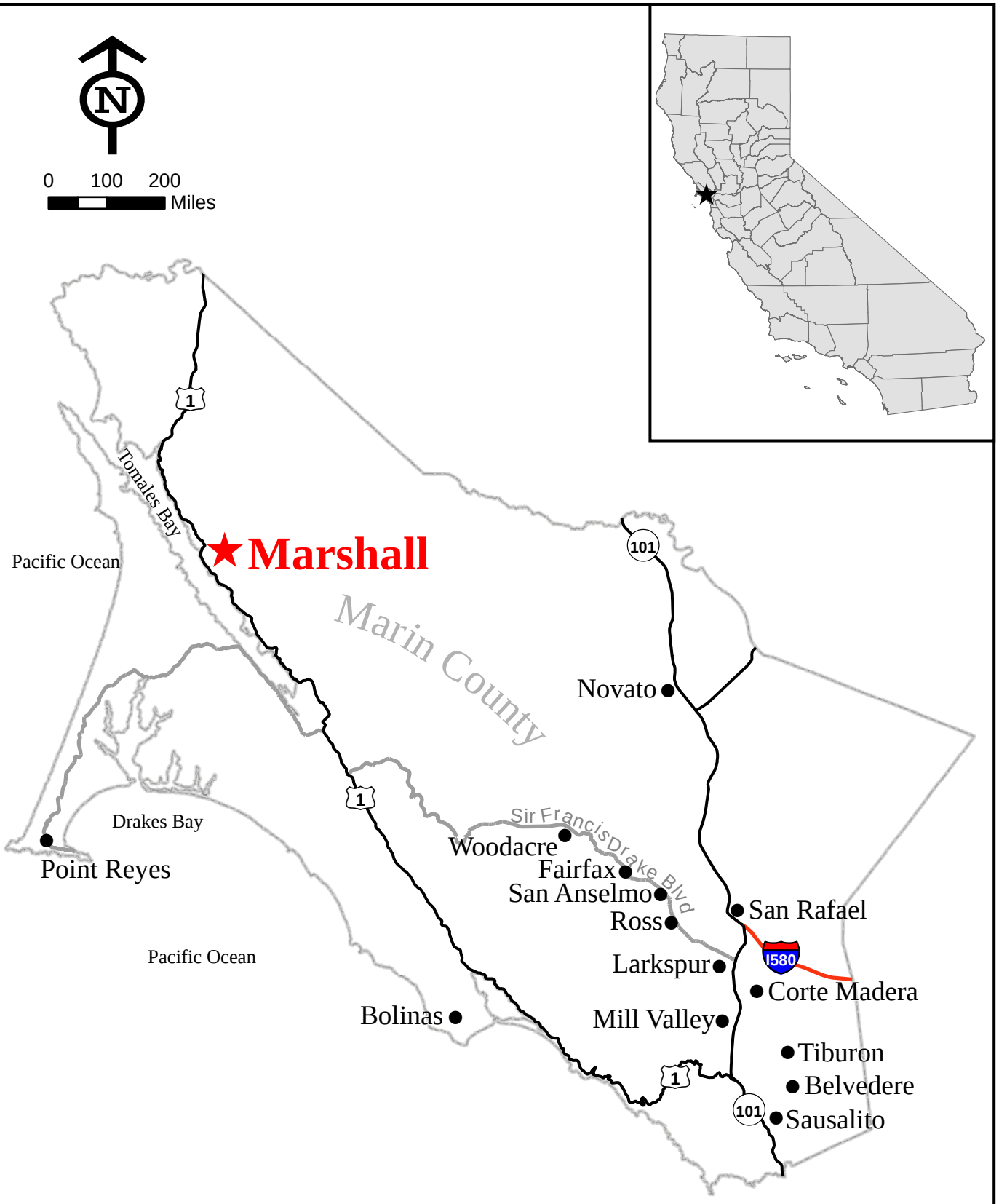
CEQA, the State CEQA Guidelines, and the County Environmental Review Procedures, and as adequate and complete for consideration in making a decision on the merits of the project, on April 17, 2007.

The Coastal Commission's review and analysis of land use proposals has been certified by the Secretary of Resources as being the functional equivalent of environmental review under CEQA. The Commission has reviewed the relevant coastal resource issues associated with the proposed project, and has identified appropriate and necessary modifications to address adverse impacts to such coastal resources. The preceding coastal development permit findings in this staff report have discussed the relevant coastal resource issues with the proposal, and the permit conditions identify appropriate mitigations to avoid and/or lessen any potential for adverse impacts to said resources. The Commission incorporates these findings as if set forth here in full. Further, all public comments received to date have been addressed in the findings, which are incorporated herein in their entirety by reference.

The Commission finds that as modified and conditioned by this permit, there are no additional feasible alternatives or feasible mitigation measures available that would substantially lessen any significant adverse environmental effects, which approval of the proposed project, as modified, would have on the environment.

APPENDIX A – SUBSTANTIVE FILE DOCUMENTS

1. *East Shore Wastewater Improvement Project Final Environmental Impact Report*, Leonard Charles and Associates, April 2007.
2. *Final Report, Marshall Phase 2 Wastewater Feasibility Study*, Questa Engineering Corp., October 17, 2011.
3. *A Cultural Resources Inventory for the East Shore Wastewater Improvement Project, Marshall North to South of Marconi, Marin County, California*, ARS, February 2007.



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DRN BY: WS/DI APP BY: NH

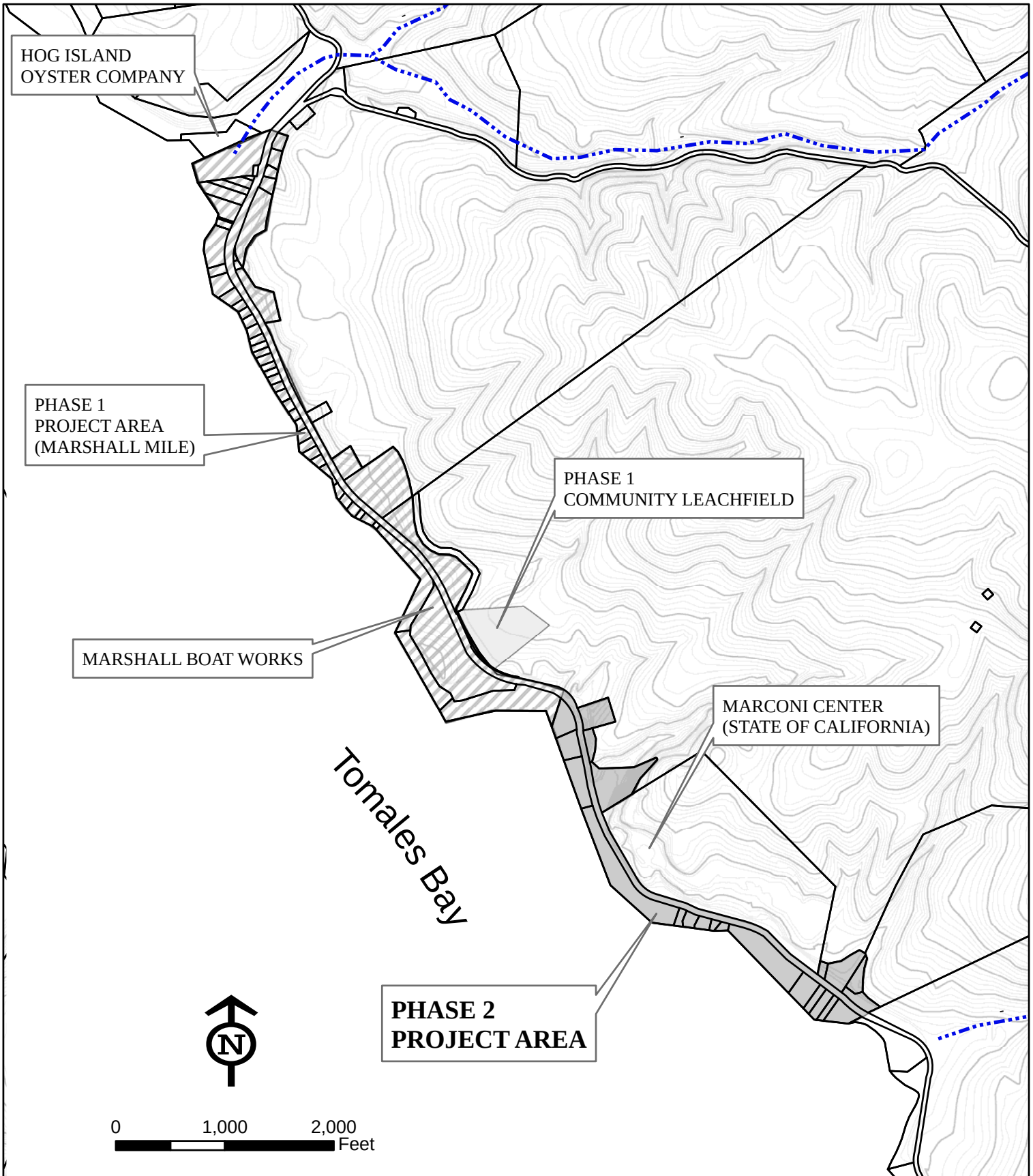
PROJ #: 280088 DATE: 01/31/2011

LOCATION MAP

MARSHALL PHASE 2 WASTEWATER FEASIBILITY STUDY

FIGURE 1

2-14-1025
Exhibit 1
Page 1 of 1



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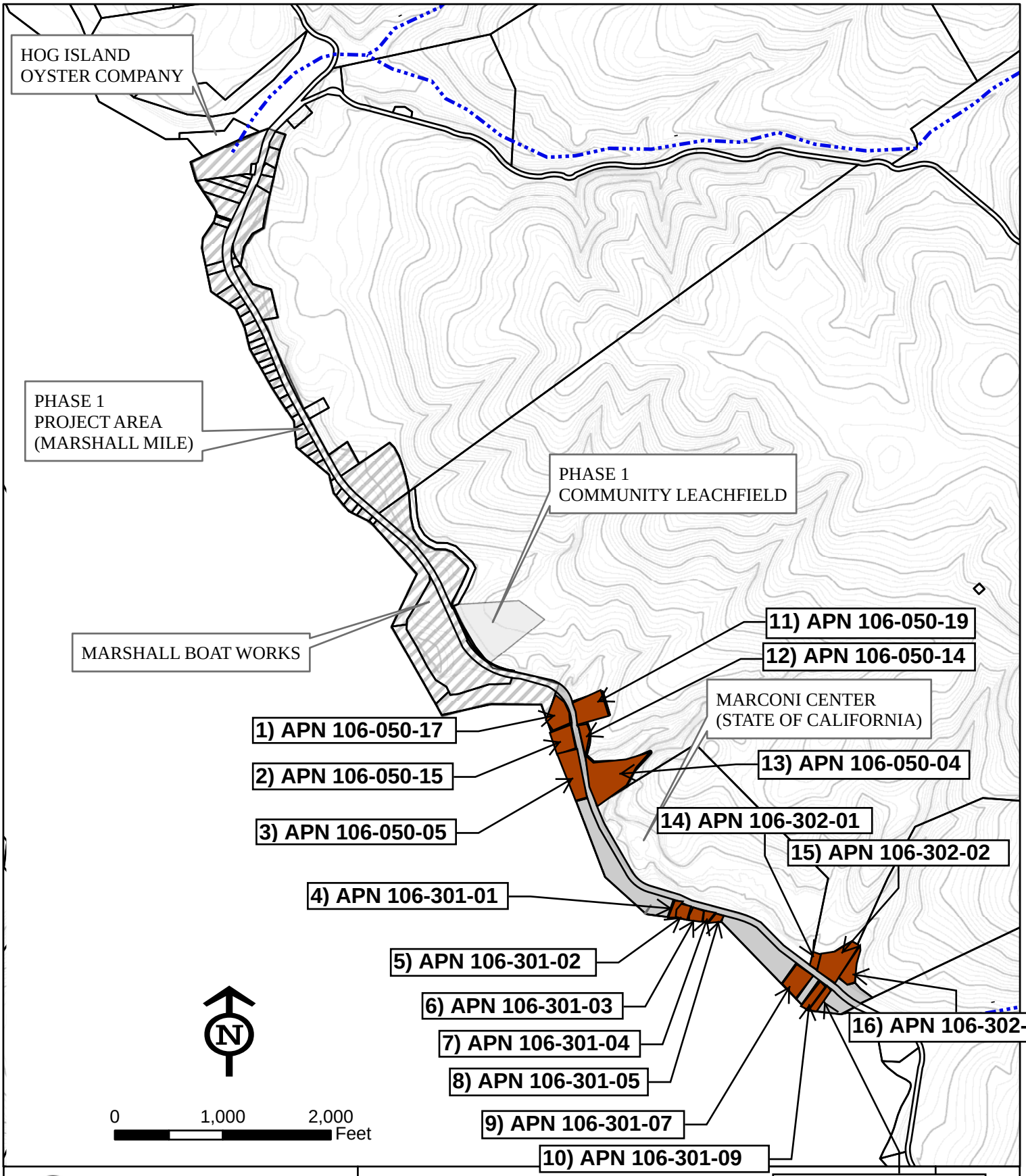
PROJECT AREA

MARSHALL PHASE 2 WASTEWATER FEASIBILITY STUDY

FIGURE

2



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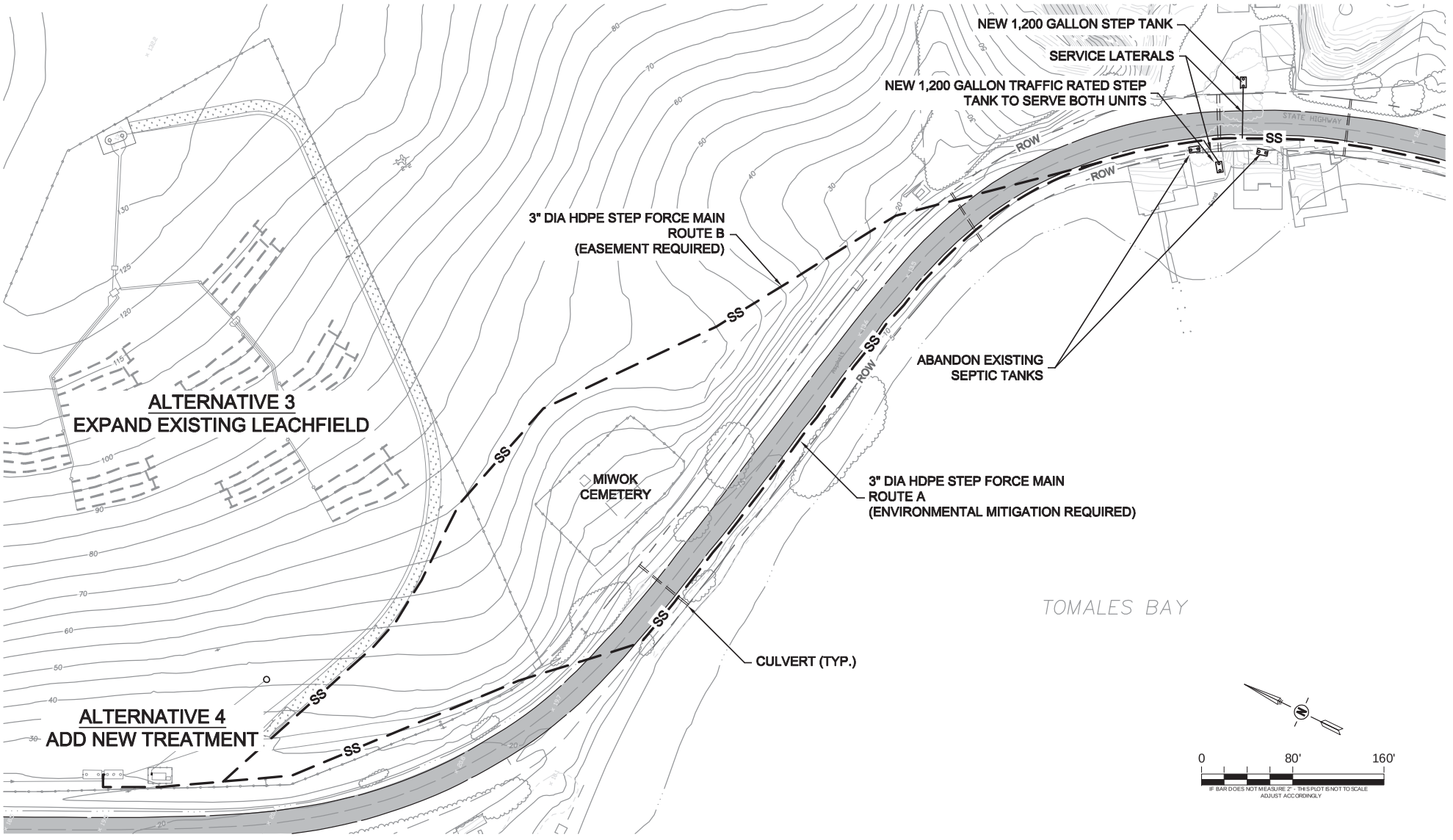
PROJECT AREA

MARSHALL PHASE 2 WASTEWATER FEASIBILITY STUDY

FIGURE 2

2-14-1025
Exhibit 3
Page 1 of 1



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WASTEWATER FEASIBILITY STUDY

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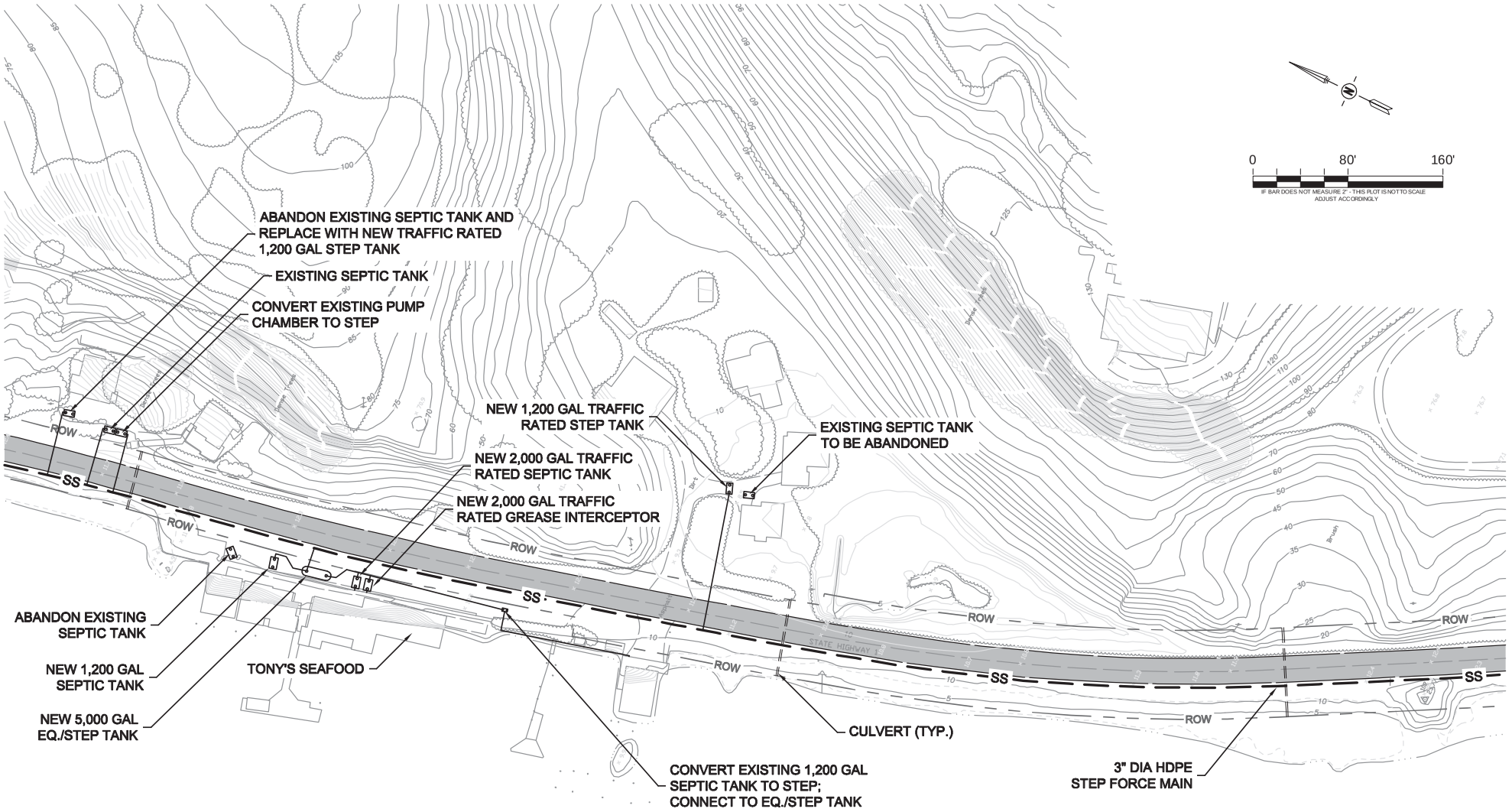
Appr'd:	NH

ALTERNATIVE 3 AND 4
STEP WASTEWATER COLLECTION
SHEET 1

FIGURE
10

2-14-1025
Exhibit 4
Page 1of 5



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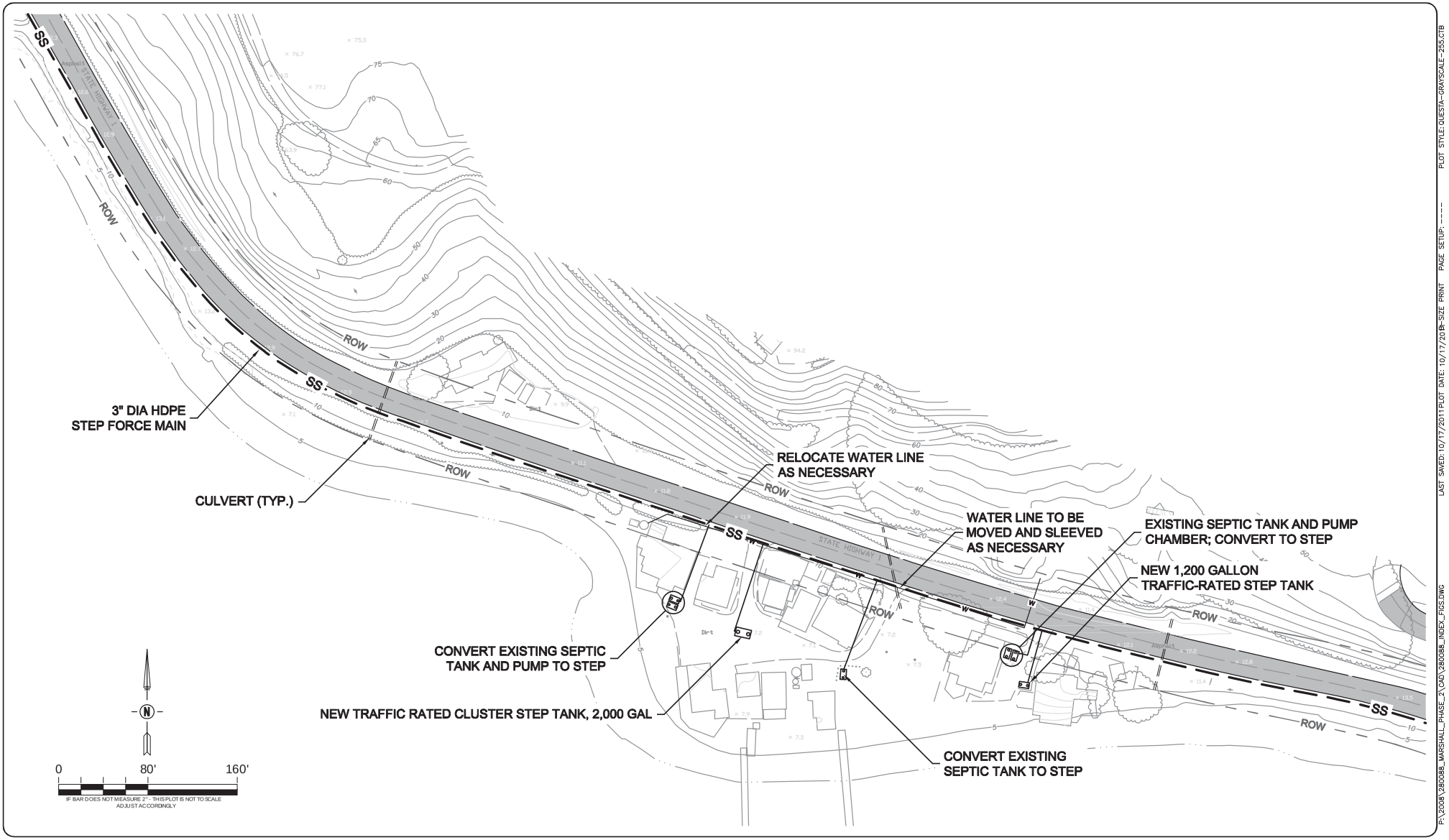
ALTERNATIVE 3 AND 4
STEP WASTEWATER COLLECTION
SHEET 2

FIGURE
11



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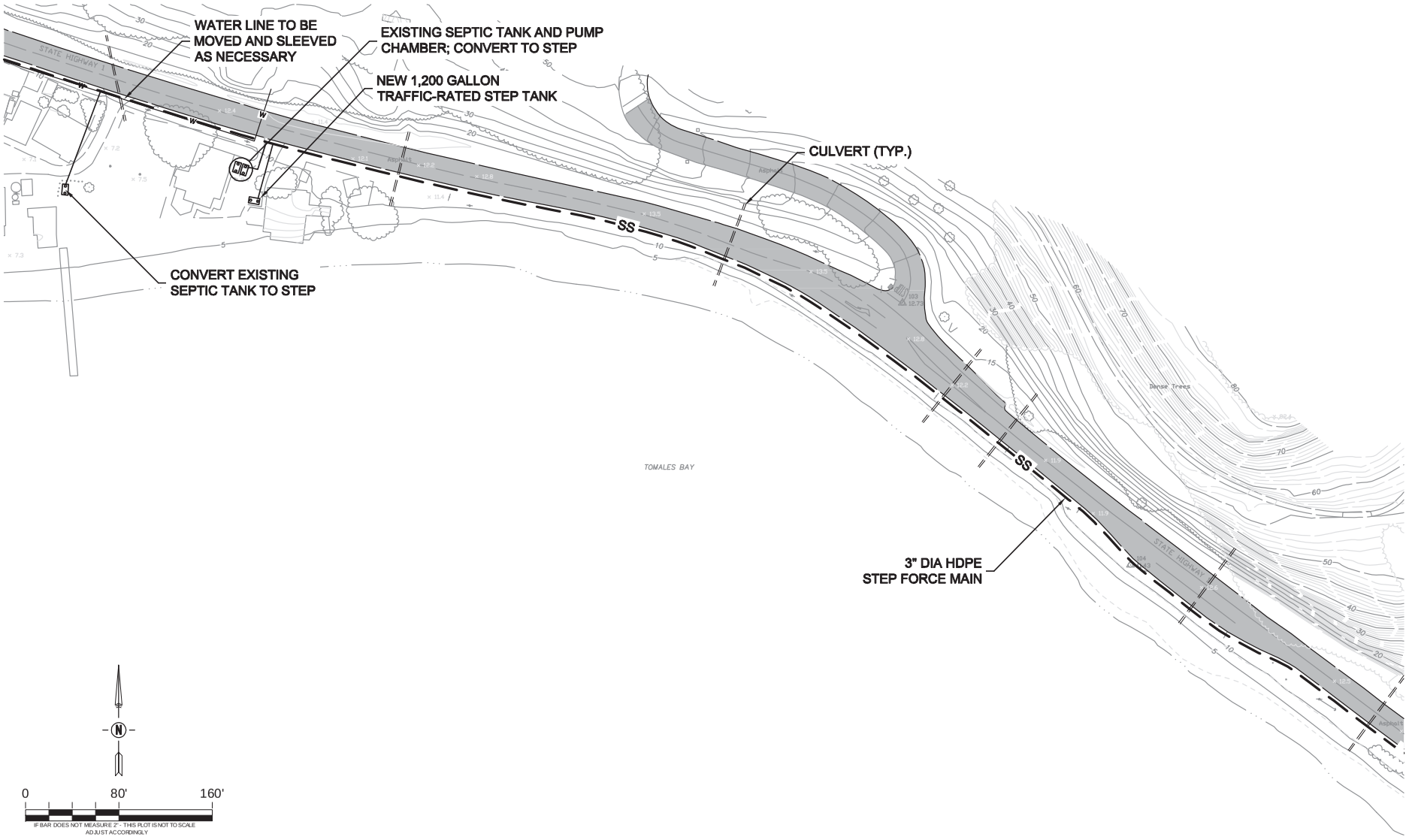
ALTERNATIVE 3 AND 4
STEP WASTEWATER COLLECTION
SHEET 3

FIGURE
12



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ALTERNATIVE 3 AND 4
STEP WASTEWATER COLLECTION
SHEET 4

FIGURE
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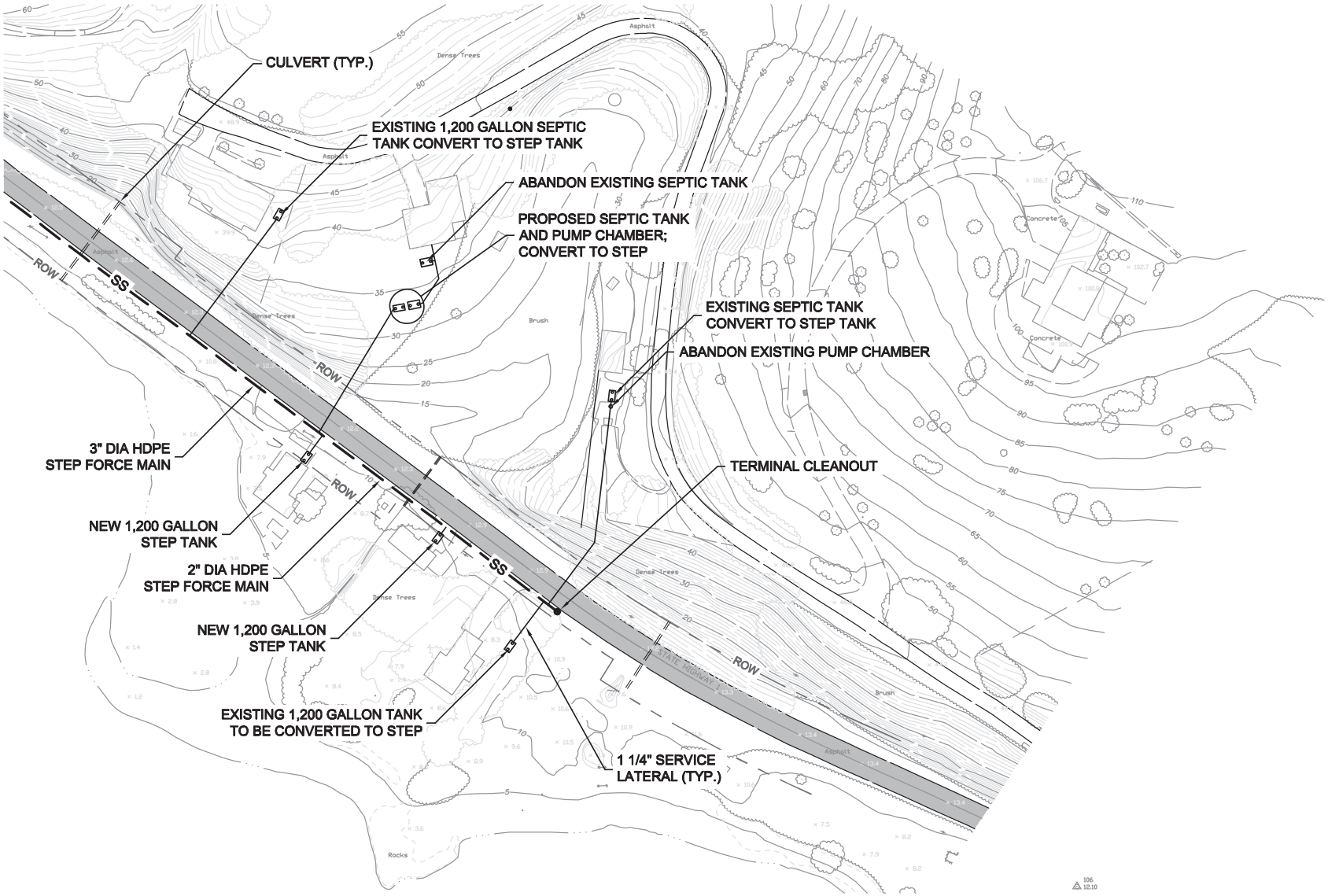

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MARSHALL PHASE 2

WASTEWATER FEASIBILITY STUDY

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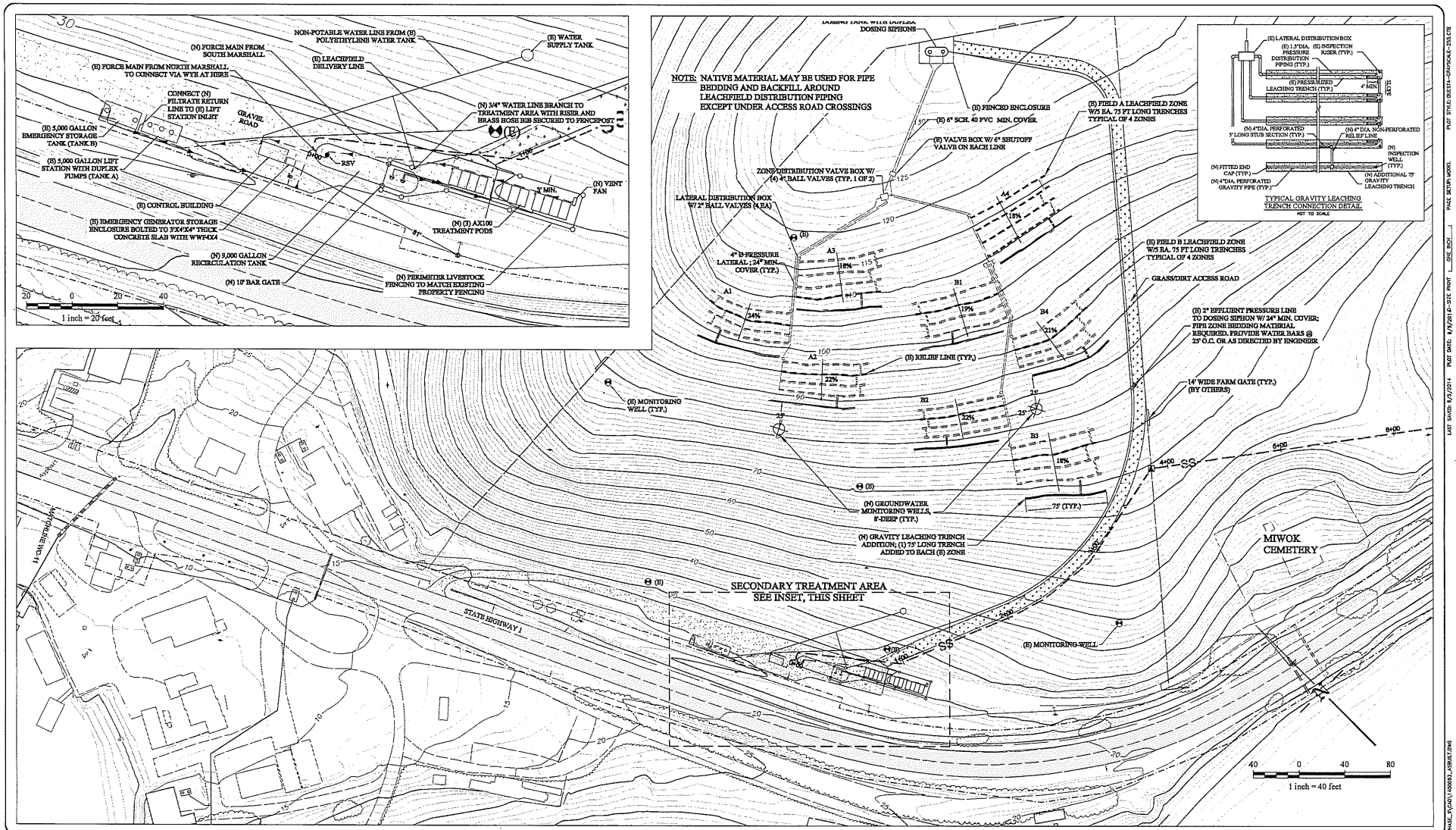
ALTERNATIVE 3 AND 4
STEP WASTEWATER COLLECTION
SHEET 5

FIGURE
14

2-14-1025
Exhibit 4
Page 5of 5



MARSHALL PHASE 2
COMMUNITY WASTEWATER SYSTEM
EAST SHORE WASTEWATER IMPROVEMENT PROJECT

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Approved: NNH

WASTEWATER TREATMENT AND DISPOSAL

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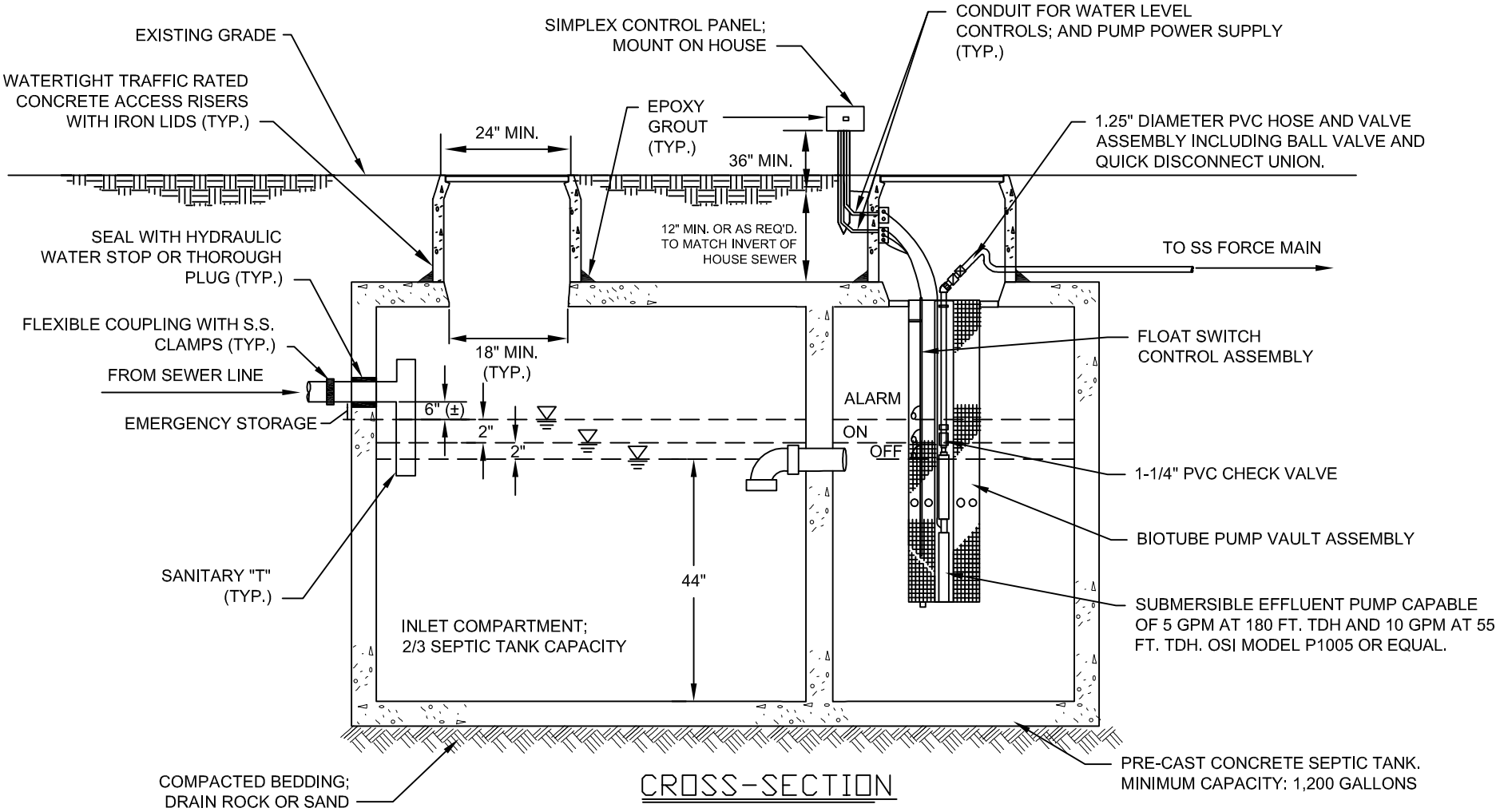
Page 1 of 1



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TYPICAL SEPTIC TANK EFFLUENT PUMP (STEP) TRAFFIC RATED UNIT

MARSHALL PHASE 2 WASTEWATER FEASIBILITY STUDY

FIGURE 15

Exhibit 6
Page 1 of 1
2-24-1025

TABLE 2 - IMPACT AND MITIGATION SUMMARY

IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
3.1 Geology and Soils			
3.1-A The installation of new on-lot septic tanks and appurtenances could destabilize existing retaining walls, foundations, or soil fill areas.	PS	3.1-A.1 Wherever feasible, priority shall be given to rehabilitation and upgrade of existing tanks to avoid or minimize the amount of required excavation work on individual properties. Where septic tank replacement is required, the tank shall be sited to provide the greatest practical setback from existing retaining walls, and excavation work shall be carried out with minimum disturbance or damage to structures and fill areas. 3.1-A.2 Project implementation shall include contingency provisions to rebuild or reinforce any retaining structures or fill areas damaged by the installation of on-lot facilities.	LTS
3.1-B Portions of the wastewater collection/transmission lines would be located in areas of existing or potential minor slope instabilities that could be de-stabilized by construction activities or result in future damage to the pipeline with consequent interruption of service or release of wastewater pollutants.	PS	3.1-B.1 Prior to final design, a design-level geotechnical investigation and report shall be prepared by a qualified geotechnical consultant to determine the extent of slope instabilities within the collection system area, along the main pipeline route, and in the area that includes the wastewater holding tank and pipeline distribution system. The geotechnical investigation shall include 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 address 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 collection and transmission lines to avoid unstable areas, wherever practical; • 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;	LTS

Note: B = Beneficial Impact LTS = Less Than Significant Impact
PS = Potentially Significant Impact S = Significant Unavoidable Adverse Impact

TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION		MITIGATION	SIGNIFICANCE AFTER MITIGATION
				• 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; • Installation of pressure sensors (with remote monitoring) on the force main in the vicinity of problem areas to recognize immediately when problems occur and to facilitate rapid response and repair; • Installation of flexible piping/couplings in areas of known instabilities, if practical; • Installation of creep meters in areas of known instability to monitor ground movement; and • Construction of pump stations using reinforced concrete, wherever practical. The project shall be constructed consistent with the design recommendations set forth in the geotechnical report. Investigations along the Highway 1 right of-way shall be coordinated with Caltrans. Location and design of the pipeline and encroachment within the Caltrans right-of-way shall also be coordinated with Caltrans personnel.	
3.1-C	Wastewater treatment and disposal facilities would involve the construction of pipelines, pumping and wastewater containment structures that would be subject to potential damage or failure due to slope instabilities and/or that may increase the potential for slope instability as a result of wastewater disposal operations.	PS	3.1-C.1	The design-level geotechnical investigation and report shall include subsurface excavation and drilling in the proposed tank locations and pipeline distribution area. Soil testing shall include physical properties of the soils, and design recommendations shall be developed for site preparation and grading, retaining wall design parameters and foundations, tank foundations, and site drainage measures, utility trench shoring and backfilling, and other measures as identified in the investigation.	LTS
3.1-D	Tanks, pipelines, and roads constructed as required for	PS	3.1-D.1	The design-level geotechnical investigation and report shall	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION		MITIGATION	SIGNIFICANCE AFTER MITIGATION
	project facilities may be subject to damage or failure as a result of expansive soil conditions.			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 in concrete tank and foundation areas 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.	
3.1-E	Soil erosion may occur as a result of construction of project facilities, resulting in increased discharge of sediment to Tomales Bay or its tributaries.	PS	3.1-E.1	~~The applicant shall obtain a Grading Permit from the County of Marin. Prior to issuance of a County Grading Permit, the applicant~~ The project shall avoid causing soil erosion. As a condition of County approval of the Use Permit the project sponsor 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 all elements of the project. ~~This plan shall conform to all standards adopted by Marin County and Caltrans~~. This will require that the project sponsor prepare and submit a Stormwater Pollution Prevention Plan as part of the encroachment permit application for any proposed work within the State ROW (see further discussion under Mitigation Measure 3.2-A.1). Also, the project sponsor shall submit detailed plans, specifications and estimates for Water Pollution Control and Erosion Control for review and approval by the Caltrans Office of Water Quality. ~~This plan~~ The Erosion	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			and Sediment Control Plan shall include application of erosion control measures including, but not limited to, the following: • Require site construction practices, including restricting grading to the dry season, winterization, traffic control, and dust control; • Use soil stabilization techniques to protect all finished graded slopes from erosion, such as straw mulching, hillslope benching, erosion control matting, hydro-seeding, re-vegetation, and preservation of existing vegetation; • Cover soil stockpiles and excavations with impermeable materials during periods of inclement weather to control movement of sediment; and • Protect Tomales Bay and downstream receiving drainage channels and storm drains from sedimentation and retaining sediment in the project area by using silt fencing, fiber roll sediment barriers, diversion dikes and swales, sediment basins, and sediment traps. 3.1-E.2 ~~Prior to issuance of a County Grading Permit~~As a condition of County approval of the Use Permit, the project sponsor shall file the appropriate application and obtain from the State Water Resources Control Board a general construction activity stormwater permit under the National Pollutant Discharge Elimination System (NPDES) regulations and comply with the requirements of the permit to minimize pollution of stormwater discharge during construction activities. This shall include preparation of a Stormwater Pollution Prevention Plan (SWPPP). 3.1-E.3 After each phase of construction is completed, all drainage culverts and the downstream receiving channels shall be inspected for and cleared of accumulated sediment and debris.	
3.1-F	Insignificant damage to project facilities resulting from on-site	LTS	No mitigation is required.	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
	fault rupture is expected.			
3.1-G	Damage to project facilities, with consequent interruption of service and, possibly, uncontrolled release of wastewater pollutants, may occur as a result of ground shaking associated with a large magnitude earthquake in the region.	PS	3.1-G.1 Pipeline strength shall be increased in areas of differing ground shaking response to remove the potential for cracking/breaking. Isolation valves shall also be incorporated in key areas to allow shutoff of lines in the event of ground shaking induced line failure. The collection/transmission line can also be constructed with flexible lines and couplings, where practical. 3.1-G.2 A seismic response plan shall be developed in conjunction with design of the system and implemented at the time of construction. The plan shall include the following elements: (a) plans and details of the collection, transmission and treatment system, including valves, monitoring devices, pump stations, and holding tanks, etc.; (b) a review of known geologic hazards that could be activated by seismic activity with locations of these features relative to the system and critical points of impact; and (c) an emergency response plan of action, including types of corrective action to be taken. The plan shall include information on necessary training, notification procedures, and required equipment. The seismic response plan shall be provided to all wastewater operations personnel and incorporated into the operation and maintenance manual for the system.	LTS
3.1-H	Damage to project facilities with consequent interruption of service and, possibly, releases of wastewater pollutants, may occur as a result of seismically induced landsliding along pipeline routes or at treatment and disposal sites.	PS	Mitigation Measure~~s~~ 3.1-B.1 ~~and 3.1-B.2~~ applies~~y~~ to this impact.	LTS
3.1-I	The collection/transmission line could be damaged with consequent interruption of service and, possibly, release of wastewater pollutants as a result of liquefaction and/or dynamic densification during a strong earthquake.	PS	3.1-I.1 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. At a minimum, measures shall include the use of isolation valves, monitoring devices, and	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			flexible construction materials.	
3.1-J	Future project facilities to serve the two neighborhoods south of the Phase 1 Service Area would be exposed to slope instabilities, expansive soils, and seismic hazards and would cause soil erosion.	PS	All mitigation measures recommended for Impacts 3.1-A to 3.1-I are required for this cumulative impact.	LTS
3.2	**Hydrology and Water Quality**			
3.2-A	Excavation, grading and related construction activities could expose soils to the erosional forces of runoff and could also release other pollutants to the environment that may eventually be carried into Tomales Bay or tributary streams.	PS	3.2-A.1 ~~Prior to the issuance of a grading permit, the applicant~~ As a condition of County approval of the Use Permit, the project sponsor shall file with the SWRCB Division of Water Quality a Notice of Intent to comply with the General Permit for Storm Water Discharges Associated with Construction Activities (General Permit) under the NPDES regulations, and comply with the requirements of the permit to minimize pollution from stormwater discharge during construction activities. The General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). Caltrans requires that a SWPPP be prepared and submitted along with the encroachment permit application for any work within the State right-of-way. Additionally, Caltrans requires that detailed plans, specifications and estimates for water pollution control and erosion control be submitted for review and approval by the Caltrans Office of Water Quality. The SWPPP and the project plans and specifications for water pollution control and erosion control shall meet the following objectives related to construction activities: • All pollutant sources, including sources of sediment that may affect stormwater quality associated with construction activity shall be identified; • Non-stormwater discharges related to construction activity shall be identified; • Best Management Practices (BMPs) shall be identified, constructed, implemented, and maintained in accordance with a time schedule. The	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION

			maintenance schedule shall also provide for maintenance of post-construction BMPs.
			
			• The BMPs shall include a variety of "housekeeping" measures to prevent pollution from building materials, chemicals and maintenance during construction of project facilities. Examples of typical "housekeeping" measures to be included in the SWPPP include the following:
			
			  • Performing major vehicle maintenance, repair jobs, and equipment washing at appropriate off-site locations;
			
			  • Maintaining all vehicles and heavy equipment and frequently inspecting for leaks;
			
			  • Designating one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking and routine vehicle and equipment maintenance;
			
			  • Cleaning up spilled dry materials immediately (i.e., not allowing spills to be "washed away" with water or buried);
			
			  • Using the minimum amount of water necessary for dust control;
			
			  • Cleaning up liquid spills on paved or impermeable surfaces using "dry" clean-up methods (e.g., absorbent materials such as cat litter and/or rags);
			
			  • Cleaning up spills on dirt areas by removing and properly disposing of the contaminated soil;	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			• Reporting significant spills to the appropriate spill response agencies; • Storing stockpiled materials, wastes, containers, and dumpsters under a temporary roof or secured plastic sheeting; • Properly storing containers of paints, chemicals, solvents, and other hazardous materials in garages or sheds with double containment during rainy periods; • Placing trash receptacles under roofs or covering them with plastic sheeting at the end of each workday and during rainy weather; • Washing out concrete mixers only in designated on-site wash-out areas where the water will flow into settling ponds or onto stockpiles of aggregate or sand. Whenever possible, the wash-out will be recycled by pumping back into mixers for reuse. The wash-out is not to be disposed of into the street, storm drains, drainage ditches, or streams; • Applying concrete, asphalt, and seal coat during dry weather. Keeping contaminants from fresh concrete and asphalt out of the storm drains and creeks by scheduling paving jobs during periods of dry weather and allowing new pavement to cure before storm water flows across it; • Covering catch basins and manholes when applying seal coat, slurry seal and fog seal; and	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			• Parking construction equipment over drip pans or absorbent materials, to capture dripping oil and/or other possible pollutants. Also required under the General Permit is the development and implementation of a monitoring program. The monitoring program shall include inspections of the construction site prior to anticipated storm events and after actual storm events. During storm events of extended duration, inspections shall be made during each 24-hour period. The inspections are used to identify areas contributing to storm water discharge, to evaluate the effectiveness of BMPs, and to determine whether additional BMPs or corrective maintenance are needed. All corrective maintenance and BMPs shall be made as soon as possible (provided working conditions are safe), and all necessary equipment, materials, and workers shall be available for rapid response. The SWPPP shall also include post-construction stormwater management practices.	
3.2-B	Wastewater collection and transmission facilities for the project would be located along the edge of Tomales Bay, near areas subject to tidal inundation and flooding; however, none of the project facilities or buildings served by the project are planned to be located in areas within the 100-year flood zone.	LTS	No mitigation is required.	LTS
3.2-C	The pressure sewer line (force main) for the project would cross several drainage culverts and, as a consequence, could result in disturbance to or impede the flow of water in the affected drainages. -	PS	3.2-C.1 Potential impacts on the flow conditions in existing highway drainage culverts from the construction of the proposed sewer force main along Highway 1 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; • Design for installation of the force main underneath rather than over the top of the drainage culvert wherever	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION		MITIGATION	SIGNIFICANCE AFTER MITIGATION
				feasible; • Provide a protective sleeve around the sewer force main where the force main crosses over the top of the drainage culvert; • Provide a minimum vertical separation distance of at least 0.5 feet between the force main and drainage culvert or as otherwise required by Caltrans; • Provide shut-off valves and access ports on the force main on both sides of the crossing to facilitate emergency response, routine maintenance and periodic as needed inspection and testing of the pipeline; • Consult with Caltrans and develop plans that conform with all Caltrans 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 • Allow for or specify the use of horizontal directional drilling methods wherever practicable. The plans and specifications shall be submitted for review and approval by Caltrans.	
3.2-D	Development of the community wastewater disposal facilities and associated access roads at the Goodman-Barinaga Ranch site would create impervious and low-permeability surfaces that could alter rainfall infiltration rates and increase the volume and rate of runoff at the site, potentially causing downstream drainage overflows or soil erosion.	PS	3.2-D.1	Plans and specifications for leachfield construction shall specify measures to limit the amount of soil compaction caused by system installation including, but not limited to: • Use of crawler-type tractor equipment; • Limitations on areas of equipment operation; and • Seeding, soil stabilization, and other site restoration measures at the completion of construction.	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			The plans and specifications shall be reviewed for compliance with this mitigation measure by the Marin County Environmental Health Services ~~and the Department of Public Works~~. 3.2-D.~~,~~2 A Drainage Plan shall be prepared for the community wastewater site that includes appropriate measures to collect, convey, and safely discharge the site runoff to the Highway 1 drainage system. The Drainage Plan shall also incorporate suitable energy dissipation measures at the outfall point(s) and measures to minimize increases in the rate or concentration of site runoff from roads, parking, and other imperious or low-permeability surfaces created by project construction. The Drainage Plan shall include design drawings and supporting calculations for the capacity of the proposed drainage measures. Wherever feasible, the plan shall incorporate MCSTOPPP- and BASMAA-recommended BMPs for drainage control. The plan shall be subject to review and approval by the Marin County ~~Department of Public Works~~Environmental Health Services and Caltrans.	
3.2-E	The project would contribute to an improvement in the water quality of Tomales Bay and tributary drainages through the removal of many existing septic system discharges from locations near the shoreline, along with the implementation of a wastewater management program for repair, upgrade, and long-term operational oversight of all septic systems in the project area.	B	No mitigation is required.	B
3.2-F	Wastewater disposal at Goodman-Barinaga Ranch property would increase the loading of nitrate and other wastewater constituents to the soil and local groundwater, potentially affecting the water quality of nearby wells, drainages and Tomales Bay.	PS	3.2-F.1 The potential nitrate and TDS impacts on domestic water supplies on the westerly Vilicich property can be mitigated by one or more of the following: o Abandon and destroy the existing domestic water supply wells on the westerly Vilicich parcel and provide an alternate source of domestic water supply to the two residences served by these wells. An acceptable alternate source of water can be obtained by connection to the Marshall Boat Works community water system,	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			which is an approved and permitted water system for all other domestic uses on the Lands of Vilicich, and has sufficient capacity to serve the two residences on the westerly Vilicich parcel. From a public health perspective, this is the recommended course of action to mitigate the potential groundwater nitrate and TDS impacts of the community wastewater system, while also correcting an existing domestic water supply that is vulnerable to other contamination hazards. o Design the layout of the community leachfield to assure that the subsurface drainage flow will be predominantly (approximately 90 percent) toward the south, and no more than approximately 10 percent of the flow will migrate in a northerly direction toward the westerly Vilicich wells. o Incorporate a supplemental treatment system as part of the wastewater facilities to provide reduction of nitrogen levels in the treated water prior to discharge to the community leachfield. The selection of the treatment process and the amount of nitrogen removal required shall be based on a nitrate loading analysis completed in accordance with guidelines and criteria contained in Section 800 of Marin County onsite sewage disposal regulations, and shall be subject to review and approval by the Marin County Environmental Health Services and the Regional Water Quality Control Board. 3.2-F.2~~1~~ The community leachfield system shall be designed and operated to provide adequate wastewater treatment and prevent effluent from surfacing. The design and operation shall include: • The community leachfield system shall be designed to conform to standard County and RWQCB requirements, including soil depth, percolation, and groundwater separation criteria. • The project shall provide for ongoing operation, maintenance, and monitoring of the wastewater system	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			by a certified wastewater treatment operator. • The Zone shall install appropriate monitoring wells down-gradient of the leachfield system and institute a regular program of water quality sampling to detect potential impacts of the wastewater system on groundwater. • The Zone shall develop and adopt an operation and maintenance manual for the wastewater system, including a description of contingency measures to address potential operational problems with the wastewater facilities. • The Zone shall apply for, obtain, and comply with Waste Discharge Requirements from the RWQCB, along with associated monitoring and reporting provision.	
3.2-G	Wastewater disposal at the Goodman-Barinaga Ranch property would contribute to a rise in the groundwater table beneath the community leachfield system that may interfere with provision of adequate effluent treatment in the soil.	PS	There are ~~three~~ four options for mitigating this impact: 3.2-G.1 Design the leaching trenches to be no greater than 3 feet deep; this will assure a minimum groundwater separation of 4 feet for Phase 1, and 3 feet for future expansion of system capacity; OR 3.2-G.2 Design the leaching trenches to be no greater than 4 feet deep and incorporate advanced (supplemental) treatment in the future if the system is expanded to serve the areas to the south of Phase 1; with advanced treatment, the standard permissible depth to groundwater under Marin County regulations would be reduced from 3 feet to 2 feet, due to decreased reliance on the soil environment for wastewater treatment; OR 3.2-G.3 Design the leaching trenches for Phase 1 to provide a minimum predicted groundwater separation of 3 feet, monitor the actual groundwater mounding effects during operation of Phase 1, and determine the need for incorporating advanced treatment for future expansion based on the actual system operational monitoring results and the scope of expansion.	LTS

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IMPACTS		SIGNIFICANCE BEFORE MITIGATION	MITIGATION		SIGNIFICANCE AFTER MITIGATION
			3.2-G.4	Design the leaching trenches for Phase 1 to provide a minimum predicted groundwater separation of 4 feet, monitor the actual groundwater mounding effects during operation of Phase 1, and determine the need for incorporating advanced treatment for future expansion based on the actual system operational monitoring results and the scope of expansion.	
3.2-H	Regular inspection and maintenance cleaning of septic tanks in the project area may increase the volume of septage removed from septic tanks, potentially increasing the loading at septage receiving facilities in Marin County.	PS	3.2-H.1	The routine septic tank pump-out activities in the project area shall be conducted during the dry season rather than during the wet weather season.	LTS
3.2-I	The main pressure sewer line (force main) and laterals for the project would cross or parallel numerous private water lines in the service area and, as a consequence, could result in damage to the lines, interruption of water service, or long-term threats of cross-contamination.	PS	3.2-I.1	Design and construct the project to eliminate contamination of water lines. This shall include: • A utility location survey shall be conducted as part of the project design to identify as many existing water line locations as possible. The survey shall include research of all available sources of information, including County records, Caltrans maps, and property owner records and interviews. • The pipeline installations shall be designed to provide maximum separation distances between sewer lines and water lines. • The project shall comply with the State of California "Guidance Criteria for the Separation of Water Mains and Notable Pipelines" (April 14, 2003) for sanitary sewer-water lines separation, including appropriate vertical and horizontal separation distances, use of special pipe where needed, and possible relocation of sections of water lines, if necessary. • The County shall provide appropriate project specifications directing that the contractor be responsible for prompt replacement, repair, and reestablishment of water service in the event that damage occurs during construction.	LTS

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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			• The project shall allow for or specify the use of horizontal directional drilling methods wherever practicable to minimize the risk of encountering and possibly damaging water lines. • The County shall consult with and follow recommendations from the State Department of Health Services and Marin County Environmental Health Services regarding the plans and specifications for water-sewer line separation measures. The plans and specifications for the collection systems shall be submitted for review and approval by Caltrans.	
3.2-J	Construction and operation of future project facilities to serve the two neighborhoods south of the Phase 1 Service Area would have the same potential impacts described under project-specific impacts listed above.	PS	The mitigation measures listed for Impacts 3.2-A through 3.2-I are required for this cumulative impact. In addition: 3.2-J.1 Facilities serving up to 20 properties to the south of the Phase 1 Service Area shall be designed and constructed to eliminate inflow and excessive infiltration. The design and construction shall include: • Conduct detailed elevation surveys to verify the specific areas where proposed project facilities, or buildings serviced, lie below the 100-year flood level of Tomales Bay. Available information indicates that the only locations subject to flooding are in the area south of the Phase 1 Service Area. • Avoid placement of on-lot septic tanks and collection piping in areas subject to inundation to the maximum extent practicable. • Design and construct all septic tanks and pumping units to be watertight and protected with secure bolt-down lids to protect the units against entry of floodwater in the event of inundation. Conduct testing to verify water-tightness at the time of construction. • Design and construct the wastewater collection main as a	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			watertight system, with no open manholes. • Design and construct the wastewater collection main to avoid placement of cleanouts and valves in areas subject to inundation to the maximum extent practicable. • Provide an automatic pump shut-off float switch to inactivate any on-lot pumping unit where the building being served is determined to be subject to flooding of inside plumbing facilities under 100-year flood conditions. This will assure that Bay waters are not inadvertently pumped into the wastewater collection system.	
3.3	**Biological Resources**			
3.3-A	Project construction would not remove or affect special status species.	LTS	No mitigation is required.	LTS
3.3-B	The proposed project would not affect wetlands.	LTS	No mitigation is required.	LTS
3.3-C	Project construction could temporarily affect on-site habitat but would not result in loss of significant native grassland, brush, or woodland. Project construction could cause erosion and sedimentation in Tomales Bay. While not expected, pipeline construction could extend into areas supporting native vegetation along Highway 1.	PS	Mitigations 3.1-E.1 through 3.1-E.3 are already required to reduce soil erosion and potential sedimentation. In addition, the following mitigation measure is recommended. 3.3-C.1 To the maximum degree feasible, pipeline construction shall take place within the existing road zone (pavement plus immediate embankments and cuts) and in such a manner so as to preclude any encroachment into adjacent vegetated ground, and/or to prevent any work materials (including soil, gravel, etc.) from moving out into adjacent vegetated areas. If vegetated areas must be disturbed, they shall be revegetated with a native grass/forb mix approved by the County prior to the next wet season.	LTS
3.3-D	Construction of other development projects in the Tomales Bay area could cause cumulative erosion and sedimentation in Tomales Bay and affect native vegetation.	PS	Mitigations 3.1-E.1 through 3.1-E.3 are already required to reduce the project's soil erosion and potential sedimentation impacts. Mitigation 3.3-C.1 also applies to this impact. These mitigation measures would reduce the project's contribution to the cumulative impact.	LTS

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3.4	**Cultural Resources**				
3.4-A	Cultural resources could be damaged or destroyed by project construction.	PS	3.4-A.1	Wherever feasible, the project shall avoid construction within archaeological sites.	LTS
			3.4-A.2	A qualified archaeologist shall prepare a Phase II archaeological investigation, which shall include delineating the prehistoric site boundaries, assessing their integrity, and defining the significance of each site. This can be accomplished by conducting a series of auger borings and excavation units at each site. A series of auger borings can be executed to determine the subsurface boundary of a site, while test units (typically a few one and/or two meter square holes) can be excavated to gather data (artifacts, soil characteristics, stratigraphy, etc.) that will help assess integrity, determine significance, and establish if the site(s) has yielded or may be likely to yield information important in prehistory (National Register Criterion D). The results of a Phase II study will determine if each site meets the definition of a historic property, as defined by Section 106 of the NHPA. If a site(s) retains integrity and meets at least one National Register criterion, then the lead agency (Marin County), in consultation with the SHPO, shall make an assessment of adverse effects based on criteria found in Advisory Council on Historic Preservation (ACHP) regulations. If warranted, the archaeologist shall identify a site-specific mitigation strategy that may include data recovery and/or archaeological monitoring during construction. Even if a site does not meet National Register criteria, archaeological monitoring shall still be conducted during construction within the site boundaries.	
			3.4-A.3	If any unanticipated artifacts or cultural soil deposits are discovered during grading or underground excavation, all work in the vicinity of the find shall be stopped until the discovery area can be evaluated by an archaeologist. Depending on the extent and cultural composition of the	

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			discovered materials, it may be advisable to have subsequent excavation monitored by an archaeologist who should be ready to record, recover, and/or protect significant cultural materials from further damage. 3.4-A.4 Human burials, if encountered, require that work be discontinued in the vicinity of the discovery while the county coroner is contacted. If the skeletal remains are found to be prehistoric, Native American and not modern, then the coroner must call the Native American Heritage Commission in Sacramento, which will designate the "Most Likely Descendant" of the remains. The Most Likely Descendant will be responsible for recommending the disposition and treatment of the remains. 3.4-A.5 The California Department of Transportation will be included as a signatory to any Memorandum of Agreement regarding the mitigation of impacts to archaeological sites.	
3.4-B	Construction of collection and disposal systems serving the 20 developed lots south of the Phase 1 Service Area could damage cultural resources.	PS	Mitigation Measures 3.4-A.1 through 3.4-A.4 are required for this cumulative impact.	LTS
3.5	**Traffic and Circulation**			
3.5-A	Project construction would add traffic to Highway 1, the Marshall-Petaluma Road, and other roads that could cause congestion, periodic traffic delays, and pavement damage.	PS	3.5-A.1 The County shall develop and implement a traffic control plan for construction operations. A traffic control plan will be required by Caltrans prior to construction in order to obtain approval for an encroachment permit for work within the Highway 1 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; • Detour routes and temporary alternative emergency routes for the duration of construction; and	LTS

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			• Inventory and procedures for placing steel plates over trenches to allow the temporary safe passage of traffic. 3.5-A.2 Final development plans for the proposed community wastewater site shall be reviewed by Caltrans, the Marin County Office of Emergency Services, and the Marin County Fire Department with respect to provision of adequate ingress and egress at Highway 1 and possible interference with emergency or evacuation plans.	
3.5-B	Project construction along with construction of other projects would add traffic to Highway 1, the Marshall-Petaluma Road, and other roads that could cause congestion, periodic traffic delays, and pavement damage.	LTS	No mitigation is required.	LTS
3.5-C	Construction of collection and disposal systems serving the 20 developed lots south of the Phase 1 Service Area would add traffic to Highway 1, the Marshall-Petaluma Road, and other roads that could cause congestion, periodic traffic delays, and pavement damage.	PS	The potential future pipeline construction would be subject to the same mitigations required for the project under Impact 3.5-A.	LTS
3.6	**Air Quality**			
3.6-A	Project construction would emit dust and other pollutants into the air.	PS	3.6-A.1 In accordance with the BAAQMD CEQA Guidelines (BAAQMD, 1999), the project shall implement the following actions 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 daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites; • Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets;	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			• 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; • Install sandbags or other erosion control measures to prevent silt runoff to public roadways; • Replant vegetation in disturbed areas as quickly as possible; • Install wheel washers for all exiting trucks, or wash off the tire or tracks of all trucks and equipment before leaving the site; • Install wind breaks, or plant trees/vegetative wind breaks at windward side(s) of construction areas; • Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph; • Limit the area subject to excavation, grading, and other construction activity at any one time; • Minimize idling time; • Maintain properly tuned equipment; and • Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use. 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.	
3.6-B	Construction of the project plus other projects in the area would cumulatively emit dust and other pollutants into the air.	LTS	No mitigation is required.	LTS
3.6-C	Construction of collection and disposal systems serving the 20 developed lots south of the Phase 1 Service Area would emit dust and other pollutants into the air.	LTS	No mitigation is required.	LTS
3.7	**Noise**			
3.7-A	Project construction would generate noise that would affect residents and businesses near the construction area.	PS	3.7-A.1 The County shall implement the following actions to reduce noise during project construction:	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			• Construction activities shall adhere to Marin County requirements with respect to hours of operation: noise-generating construction activities shall be limited to between the hours of 7:00 a.m. and 5:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. and 4:00 p.m. on Saturday. Construction activities shall be prohibited on Sundays and holidays. • Equipment engine doors on motorized equipment shall be closed during equipment operation. • All construction equipment shall be equipped with mufflers. • When not in use, motorized construction equipment shall not be left idling. • Stationary noise-generating construction equipment (e.g., generators and compressors) shall be located the greatest distance possible from nearby noise-sensitive land uses.	
3.7-B	The project would not expose residents of the service area to excessive noise.	LTS	No mitigation is required.	LTS
3.7-C	Construction of collection and disposal systems serving the 20 developed lots south of the Phase 1 Service Area would generate noise.	PS	Mitigation Measure 3.7-A.1 would apply to this future construction.	LTS
3.7-D	Pumps in the remainder of the On-Site Wastewater Disposal Zone would not expose residents of the service area to excessive noise.	LTS	No mitigation is required.	LTS
3.8	**Aesthetics**			
3.8-A	Project construction would alter views along Highway 1.	PS	3.8-A.1 The building proposed by the project shall be designed to be as small as possible and constructed of natural wood that shall be left a natural wood color or painted to blend with the adjacent hillside. It shall be designed to match the prevalent architectural style of adjacent buildings. The building pad outside the building shall be replanted with a native grass/forb mix that shall be monitored and replanted as needed to establish a groundcover around the building (except where	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			access is needed at the entrance). Native shrubs shall be planted along the building side facing Highway 1.	
3.8-B	Construction of wastewater improvements for the 20 developed lots south of the Phase 1 Service Area would alter views along Highway 1.	LTS	No mitigation is required.	LTS
3.9	**Public Services and Infrastructure**			
3.9-A	Project construction would produce solid waste.	LTS	No mitigation is required.	LTS
3.9-B	The project would require energy to construct and operate.	LTS	No mitigation is required.	LTS
3.9-C	The project plus other proposed projects would produce solid waste that would be disposed of at the Redwood Landfill.	LTS	No mitigation is required.	LTS
3.9-D	The project plus other proposed projects would require energy to construct and operate.	LTS	No mitigation is required.	LTS
3.10	**Public Health and Hazards**			
3.10-A	Transportation, use, and disposal of hazardous materials during the construction period could result in the release of hazardous materials to the environment.	PS	See mitigation measures (Storm Water Pollution Prevention Plan) for Impact 3.2-A.	LTS
3.10-B	Use of hazardous materials for the operation and maintenance of project facilities could result in the release of hazardous materials to the environment.	PS	The operators of the project wastewater facilities would be required by State law to prepare and file a Hazardous Materials Response Plan with the Marin County Office of Emergency Services and to implement the adopted plan.	LTS
3.10-C	Failure of pipelines or pumps could result in the discharge of partially treated sewage to the environment.	PS	The potential impacts resulting from pipeline break or damage can be mitigated by the measures previously listed under Impact 3.1-G in Section 3.1, Geology and Soils, of this EIR. The potential for interruption of sewer service, plumbing back-ups, or surface discharge of sewage resulting from power outages or pump failures within the collection system and at the community wastewater site would be minimized by the following:	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION		SIGNIFICANCE AFTER MITIGATION
			3.10-C.1	The project shall provide reserve emergency storage capacity equal to approximately one day of normal sewage flow for individual residential pump units.	
			3.10-C.2	The project shall provide means for operation of pump units using a portable emergency generator.	
			3.10-C.3	The County shall institute a regular program of inspection and maintenance for all pump systems by qualified maintenance personnel.	
			3.10-C.4	The County shall maintain a supply of replacement pumps and other critical components to facilitate quick restoration of service in the event of pump failure.	
			3.10-C.5	The County shall provide educational information to all property owners regarding the operation and limitations of pump units and the recommended practices during pump and power outage situations.	
			3.10-C.6	The project shall include the following features in the design of the main pumping system(s) at the community wastewater site: (a) duplex pump units, (b) maximum practicable reserve storage capacity, (c) remote monitoring/alarm capability, and (d) electrical design that allows for operation with a portable or standby generator.	
			3.10-C.7	Operation and maintenance procedures for the project facilities shall include the development and implementation of a sewage spill contingency plan. The plan shall include, but not be limited to the following: • Manual shutoff procedures; • Equipment and material inventory and procedures to absorb or contain a spill; • Emergency repair options; and • Contact information for licensed septage haulers and qualified septic system contractors.	
			3.10-C.8	For any spill exceeding 1,000 gallons, the minimum reportable	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			quantity, the equipment, transportation, or plant operator shall notify the California Office of Emergency Services (OES). State law requires that an unauthorized discharge of sewage under Title 23 of the California Code of Regulations (CCR), Section 2250(b), into or onto state waters must be reported to the OES. Upon such notification, OES is required to notify the appropriate RWQCB, the local public health department, or the local office of environmental health. The potential impacts to the domestic water wells on the westerly Vilicich parcel due to a sewage spill at the community wastewater site or from the wastewater collection pipeline in this area can be mitigated by implementation of the measures listed above and by the following: 3.10-C.9 Design and install the wastewater collection pipeline to maintain a separation distance of at least 100 feet from the domestic water supply wells on the westerly Vilicich parcel. This separation distance is equal to twice the minimum separation distance of 50 feet cited in the California Water Well Standards. The increased separation distance of 100 feet is recommended due to the fact that the domestic wells in question are very old and likely do not have annular seals of sufficient depth to protect against contamination from pollutants that may collect on the ground surface or in shallow groundwater zones near the wells. 3,10-C.10 Abandon and destroy the existing domestic water supply wells on the westerly Vilicich parcel, and provide the necessary facilities to connect the residences to the Marshall Boat Works community water system per the recommended course of action under Mitigation Measure 3.2-F.1.	
3.10-D	The project pipeline would regularly transport hazardous materials.	LTS	No mitigation is required.	LTS
~~3.1-E~~	~~Regular inspection and maintenance cleaning of septic tanks in the project area may increase the volume of septage removed from septic tanks and transported on public roads. More frequent pump-out activities and pumper truck~~	~~PS~~	~~3.10-E.1 All septage hauling shall be performed by properly licensed contractors and in compliance with established liquid waste hauling requirements and applicable County Department of Public Works regulations and State of California and Marin~~	~~LTS~~

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
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	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
	~~operation would increase the risk of accidental release of sewage into the environment.~~ This impact discussion was deleted in the DEIR due to its speculative nature. It was inadvertently not deleted from the Summary Table.		~~County laws, ordinances, and procedures for transportation of any hazardous materials, hazardous wastes, and septic waste.~~ ~~3.10-E.2 All septic tank pump-outs shall be reported to the wastewater management district, as well as to Marin County Environmental Health Services. The wastewater management district shall maintain and periodically review septage hauling records.~~ ~~3.10-E.3 The wastewater management district shall develop informational material for property owners and septage haulers regarding proper practices, accidental spill prevention, and any other special concerns regarding septic tank pump-outs and septage hauling in the project area.~~ ~~3.10-E.4 The wastewater management district shall conduct occasional spot checks of septic tank pump-outs conducted within the project area.~~	
3.10-~~E~~F	Excavation during project construction may encounter and expose buried hazardous materials that could pose a threat to human health or water quality.	PS	3.10-~~F~~E.1 Any plans for excavation or disturbance on the Vilicich-Marshall Boat Works property (Assessor's Parcel Numbers 106-050-01, 10, 11, and 12) shall require review and approval by the RWQCB and the DTSC. 3.10-~~F~~E.2 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. 3.10-~~F~~E.3 The project construction documents shall specify that, if soil contamination is encountered during construction, a soil and groundwater management and contingency plan shall be implemented. The plan shall include the following: • A site specific Health and Safety Plan (HASP) prepared and approved in accordance with applicable requirements	LTS

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			of OSHA, the RWQCB, the DTSC, and the County of Marin, as applicable. Requirements of the HASP include appropriate training, any required personal protective equipment, and monitoring of contaminants to determine exposure. The HASP shall be reviewed and approved by a Certified Industrial Hygienist. The plan shall also designate provisions to limit worker entry and exposure and shall show locations and type of protective fencing to prevent public exposure to any hazards during construction. • Description of protocols for the investigation and evaluation of previously unidentified hazardous materials that could be encountered during project development, including engineering controls that may be required to reduce exposure risks. Screening shall delineate the vertical and horizontal extent of any contamination within the footprint of foundation or utility work. Excavated materials shall then be segregated and stockpiled accordingly on plastic tarps to prevent the further spread of any contamination. If testing reveals hazardous waste or special waste levels of contaminants, then the excavated soil or groundwater shall be shipped under manifest by a licensed hazardous material hauler to an approved disposal site. A report shall document the volume, concentration and nature of contaminants in the off-hauled material. • Requirements for site-specific construction techniques that would minimize exposure to any subsurface contamination. This shall include treatment and disposal measures for any contaminated groundwater removed from excavations, trenches, and dewatering systems in accordance with County and RWQCB guidelines. Groundwater encountered in trenches and other excavations shall be pumped or drained into a closed containment facility and tested for appropriate disposal according to applicable guidelines and regulation. A sampling and testing plan for excavated soils to determine	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION		MITIGATION	SIGNIFICANCE AFTER MITIGATION
				suitability for reuse or acceptability for disposal at a state licensed landfill facility. Testing results shall be compared to the RWQCB Environmental Screening Levels to determine suitability to remain on-site as engineered fill. Any soils determined to exceed the ESLs shall be deemed as unsuitable for use as engineered fill. Exceptions may be made for metals such as arsenic, chromium, and others that fall within the normal background range of metals in soils of the Tomales Bay watershed area.	
3.10-~~F~~G	Construction and operation of the collection system to serve the 20 lots south of the Phase 1 Service Area would have the same potential impacts identified in Impacts 3.10-A through 3.10-F.	PS	3.10-~~G~~F.1	All mitigation measures required for Impacts 3.10-C, 3.1-E, and 3.10-F are required for this impact.	LTS
3.10-~~G~~H	Inadequate funding of the CSA and/or the On-Site Wastewater Disposal Zone could result in future spills and leaks of wastewater.	LTS	No mitigation is required.		LTS
3.11	**Land Use**				
3.11-A	The project has the potential to disrupt existing livestock grazing on the leachfield site.	PS	3.11-A.1	The County shall grant a grazing easement in perpetuity on the disposal site to the existing property owner. The easement can exclude grazing during the critical rainy season. The easement shall grant the property owner access to the gate at the northwest corner of the site. The County shall construct and maintain the fence around the leachfield, and the fence shall include 1 or 2 cattle gates at locations to be determined by the property owner. The County shall improve and maintain the access through the existing northwest gate to the leachfield site.	LTS
			3.11-A.2	The County shall proceed with friendly condemnation proceedings to obtain the leachfield site. The County shall reimburse MALT and the property owner for the loss of the leachfield site.	
			3.11-A.3	The County shall make the appropriate findings to allow	

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TABLE 2 - IMPACT AND MITIGATION SUMMARY
(Continued)

	IMPACTS	SIGNIFICANCE BEFORE MITIGATION	MITIGATION	SIGNIFICANCE AFTER MITIGATION
			development of the leachfield on a property under a Williamson Act contract.	
3.11-B	The project would improve water quality in Tomales Bay, thereby benefiting mariculture in the bay.	B	No mitigation is required.	B

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