

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION – SACRAMENTO

INITIAL ENVIRONMENTAL STUDY
AND
MITIGATED NEGATIVE DECLARATION
FOR
WASTE DISCHARGE REQUIREMENTS, GENERAL ORDER FOR IN-SITU
GROUNDWATER REMEDIATION AND DISCHARGE OF TREATED
GROUNDWATER TO LAND

October 2014

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1.1 Introduction and Regulatory Guidance

This document is an Initial Study and Mitigated Negative Declaration (IS/MND) prepared pursuant to the California Environmental Quality Act (CEQA) for the proposed Waste Discharge Requirements General Order for In-Situ Groundwater Remediation and Discharge of Treated Groundwater to Land, hereafter referred to as the General WDRs. This MND has been prepared in accordance with the CEQA, Public Resources Code Section 2100 et seq., and the State CEQA Guidelines.

An Initial Study is conducted by the lead agency to determine if a project may have a significant effect on the environment. The Regional Water Quality Control Board, Central Valley Region is the lead agency for CEQA compliance for this project. In accordance with the CEQA Guidelines, Section 15064, and Environmental Impact Report (EIR) must be prepared if the Initial Study indicates that the proposed project under review may have a potentially significant impact on the environment. A negative declaration may be prepared instead if the lead agency prepares a written statement describing the reasons why a proposed project would not have a significant effect on the environment, and, therefore, why it does not require the preparation of an EIR (CEQA Guidelines Section 15371). According to CEQA Guidelines Section 15070, a Negative Declaration shall be prepared for a project subject to CEQA when either:

- (a) *The Initial Study shows there is no substantial evidence, in light of the whole record before the agency, that the proposed project may have significant effect on the environment, or*
- (b) *The Initial Study identified potentially significant effects, but:*
 - (1) *Revisions to the project plans or proposal made by or agreed to by the applicant before the proposed negative declaration is released for public review would avoid the effects or mitigate the effects to a point where clearly no significant impacts would occur, and*
 - (2) *There is no substantial evidence, in light of the whole record before the agency, that the proposed project as revised may have a significant effect on the environment.*

If revisions are adopted into the proposed project in accordance with the CEQA Guidelines Section 15070(b), a Mitigated Negative Declaration is prepared. The document includes such revisions in the form of mitigation measures. Therefore, this document is a Mitigated Negative Declaration and incorporates all of the elements of an Initial Study. Hereafter this document is referred to as an MND.

1.2 Lead Agency

The lead agency is the public agency with primary responsibility over a proposed project. Where two or more public agencies may be involved with a project, the State CEQA Guidelines Section 15051 provides criteria for identifying the lead agency. State CEQA Guidelines 15051(b) states:

- (b) If the project is to be carried out by a nongovernmental person or entity, the lead agency shall be the public agency with the greatest responsibility for supervising or approving the project as a whole.
 - (1) The lead agency will normally be the agency with the general governmental powers, such as a city or county, rather than an agency with a single or limited purpose such as an air pollution control district or a district which will provide public service or public utility to the project.

As the proposed General WDRs are being adopted by the Central Valley Regional Water Quality Control Board (CVRWQCB) for use with in its region, including many cities and counties in approximately 40% of the state, the lead agency for the proposed General WDRs is the CVRWQCB.

1.3 Purpose and Organization of the Document

The purpose of this Mitigated Negative Declaration is to address the general impacts that would be associated with the adoption of general waste discharge requirements to be used to regulate projects that utilize in-situ groundwater remediation techniques to cleanup polluted groundwater under regulatory agency oversight. Individual CEQA documents will be produced for each specific remediation project that will evaluate site-specific issues. As an example, installation of a remediation system at a particular location may potentially impact adjacent wetlands. The individual site-specific CEQA document would evaluate those impacts and provide appropriate mitigation measures.

The document is divided into the following sections:

- **Introduction** – Provides an introduction and describes the purpose and organization of the document.
- **Project Description** – Provides a detailed description of the proposed project.
- **Environmental Setting, Impacts, and Mitigation Measures** – Describes the environmental setting for each of the environmental subject areas (as described in Appendix G of the State CEQA Guidelines), evaluates a range of impacts classified as “no impact,”

less than significant,” or “less than significant with mitigation incorporation” in response to the environmental checklist, and provides mitigation measures, where appropriate, to mitigate potentially significant impacts to a less than significant level.

- **Cumulative Impacts** – Provides a discussion of cumulative impacts of these General WDRs.
- **Determination** – Provides the environmental determination for the project.

2.1 General Description

Volatile organic compounds (VOCs), petroleum hydrocarbons, nitrate, hexavalent chromium, sulfate pesticides and fumigants have impacted groundwater at numerous sites within the Central Valley Region and cause or threaten adverse impacts to existing and potential beneficial uses of groundwater resources. Those sites are being required to clean up the pollution and restore the beneficial uses of the groundwater. This cleanup can take many forms. The two most common methods of cleanup of groundwater pollution are pump and treat, and in-situ remediation. The operation and discharge of a pump and treat system is generally regulated under site-specific or general waste discharge requirements. Prior to the proposed General Order, site-specific waste discharge requirements were issued to regulate in-situ groundwater remediation projects. The process to develop and adopt site-specific waste discharge requirements can be lengthy. Many in-situ treatment processes have common components and issues that can be regulated under general waste discharge requirements. Therefore, the General Order for In-situ Remediation of Groundwater and the Discharge of Treated Groundwater to Ground to help expedite the cleanup process is proposed.

In-situ remediation of groundwater pollution at most sites includes the use and application of biological, chemical, and/or physical treatment processes. These remediation processes include addition of oxygen, chemical oxidation/reduction, and the addition of nutrients, carbon and/or bacteria to enhance biodegradation. The method of delivery can be via injection to soil or groundwater in-situ, or via groundwater recirculation (extraction and treatment with return of treated groundwater to the impacted aquifer zone). In most instances the in-situ remediation processes will create reducing or oxidizing conditions within the aquifer in order to either reduce or oxidize the target pollutant. The remediation processes can result in localized exceedances of water quality objectives that are generally limited in duration and/or in a relatively small portion of the aquifer. These waste discharge requirements allow exceedances of water quality objectives to occur while oxidation/reduction processes are taking place, but only within the treatment zone, and for a limited period of time.

The treatment zone is the area where the oxidation/reduction processes take place and is defined in the WDRs. During oxidation, several changes in water quality parameters can occur. The oxidation process can cause trivalent chromium in formation materials and dissolved in the aquifer to be converted to hexavalent chromium, a much more toxic form of chromium. In addition, chlorides will be liberated if the pollutants being oxidized are chlorinated compounds. Increases in salts can occur if the oxidant being used has a salt component such as sodium or potassium.

2.0 Project Description

Reduction processes have similar concerns with chlorides and salts. Reducing conditions will remove dissolved oxygen from the water, and can liberate excess concentrations of dissolved iron and manganese from formation materials, and generate methane, causing secondary water quality problems.

The proposed WDRs recognize that water quality objectives for some parameters may be exceeded within the treatment zone. However, water quality objectives are not allowed to be exceeded outside of the treatment and transition zones. Monitor wells are established downgradient of the treatment zone for use as compliance wells. The monitor wells are used to measure compliance with water quality objectives and groundwater limitations.

The in-situ treatment system is usually one of three types. One type utilizes a groundwater recirculation consisting of extraction and injection wells and provides control of the injectants and of the extent of the treatment zone. The extracted groundwater is amended aboveground and the amended water is then recharged upgradient of the extraction well. The second type injects the amendments into the groundwater and allows the groundwater to flow through the treatment zone. The third type uses extraction and injection wells to create a barrier with the treatment zone being established within and downgradient of the capture zone of the extraction well(s). In this type of system the injection tends to occur downgradient of the extraction wells. The use of extraction and recharge systems is preferred as it provides greater flexibility and control of the treatment zone, is generally more efficient and can be operated to help restore the treatment zone to pre-project conditions after remediation of the initial pollution has been completed.

This General Order requires that the injectant materials be analyzed to determine the suitability of the materials to be used for in-situ remediation. Past analyses of various amendments, including corn syrup, molasses, HRC™ and edible oils have shown elevated concentrations of sodium, salts, and at times, trace metals. As the groundwater in the Central Valley is in many places adversely impacted by salts, the use of salt-containing amendments is discouraged. A project that proposes using a salt-containing amendment is required to demonstrate that there is no cost-effective, salt-free amendment that can be utilized to achieve adequate remediation of the pollution before allowing the salt-containing amendment to be used. In addition, amendments containing other pollutants such as metals could contribute to exceedances of water quality objectives and/or degradation of the groundwater. In most instances this degradation is short-lived and the groundwater returns to its background conditions in a relatively short distance past the treatment zone.

In order for a project to be covered under the WDRs, the cleanup proponent is required to demonstrate through laboratory-scale tests or field pilot test that the proposed cleanup project will adequately promote remediation of the pollution.

2.0 Project Description

Laboratory-scale tests will also be used to identify potential adverse water quality impacts with the project and help establish monitoring parameters. If there are data from projects sufficiently similar to the proposed project, the proponent can use that information in lieu performing the laboratory-scale testing, as appropriate.

The responsible party proposing in-situ remediation is required to determine background groundwater quality. The background data is used to determine compliance with water quality limitations at the points of compliance downgradient from the treatment zone. As stated above, salts can increase due to the dehalogenation of volatile organics or other pollutants or from salts present in amendments. Metals can be solubilized from aquifer materials by the reduction process, be released from amendments during reactions, or change to more toxic states during the oxidation process. These waste discharge requirements allow a slight increase (up to 20% over background) in metals and salts, as long as water quality objectives are met. Water quality objectives for the anticipated pollutants that are found at these remediation projects are established in the General Order. The water quality limits are established based on the numerical and narrative water quality objectives found in the Basin Plan for the CVRWQCB.

The General Order requires the cleanup proponent to provide a site-specific Contingency Plan for approval by the Executive Officer. The Contingency Plan is designed to address violations of the order resulting from unintended and/or unanticipated effects such as unacceptable concentrations of remediation by-products at groundwater monitor points established as points of compliance. The monitoring of the points of compliance, and other monitoring points, are provided in a project-specific monitoring program developed for each project, and are part of the WDRs. Development and implementation of the Contingency Plan will protect groundwater quality and beneficial uses of the groundwater.

The General Order also covers the treatment and discharge of groundwater to ground – either at or below the ground surface. Effluent limitations for the discharge of the treated groundwater are specified in the General Order and are protective of beneficial uses of the groundwater.

To obtain coverage under the General Order, the party responsible for the cleanup must submit a Notice of Intent (NOI) and supplemental information describing the project. The information requirements are significant as these in-situ cleanups can be complex and require a great deal of knowledge about the cleanup site and remediation processes. Also, as the overall cleanup project may require various types of construction activities, such as construction of wells, the project proponent must have demonstrated project-specific compliance with CEQA prior to coverage under the General Order to be granted.

2.0 Project Description

Once the project is completed, the cleanup proponent will file for termination of coverage under the General Order.

2.2 Project Location

The cleanup projects that will be covered under the General order can be anywhere within the boundaries of the region governed by the CVRWQCB. See Figure 2-1.

3.0 Checklist

3.1 Introduction

This section provides an evaluation of the potential environmental impacts of the proposed project, including the California Environmental Quality Act (CEQA) Mandatory Findings of Significance. There are 16 specific environmental issues evaluated in this chapter. Cumulative impacts to these issues are evaluated in Section 4.0.

3.2 Environmental Initial Study

Project title:	In-Situ Remediation of Groundwater and Discharge of Treated Groundwater to Land
Lead agency name and address:	California Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Drive, Suite 200 Rancho Cordova, California 95670-6114
Contact person and phone number:	Alexander MacDonald (916) 464-4625
Project location:	See Section 2.2
Project sponsor's name and address:	Various
Zoning:	Commercial/Industrial/agricultural
Description of project:	See Section 2.1
Surrounding land uses and setting (briefly describe the project's surroundings):	Various.
Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):	Local permits required by various cities and counties in the Central Valley Region for the installation of groundwater monitor, extraction and recharge wells. Permits may also be required by those same agencies for storage of some amendments that are allowed under the General WDRs.

3.0 Checklist

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

- | | | |
|---|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Hazards & Hazardous Materials Use/Planning | <input checked="" type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land |
| <input type="checkbox"/> Mineral Resources Population/Housing | <input type="checkbox"/> Noise | <input type="checkbox"/> |
| <input type="checkbox"/> Public Services Transportation/Traffic | <input type="checkbox"/> Recreation | <input type="checkbox"/> |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Mandatory Findings of Significance | |

For each issue area, one of four conclusions is made:

- **“Potentially Significant Impact”** is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
- **“Less Than Significant with Mitigation Incorporated”** applies where the incorporation of mitigation measures has reduced an effect from **“Potentially Significant Impact”** to a **“Less Than Significant Impact.”** The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
- **“Less Than Significant Impact”** applies to an effect that would not be significantly adverse.
- **“No Impact”** applies where the effect occurs without impact.

3.0 Checklist

I. AESTHETICS

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

Mitigation Measures

The proposed project would not result in any impacts to aesthetic resources, therefore no mitigation is required.

II. AGRICULTURAL RESOURCES

<i>In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

3.0 Checklist

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?				X
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The proposed project location is not within existing zoning for agricultural purposes.

Mitigation Measures

The proposed project would not result in any impacts to agricultural resources. Therefore, no mitigation is required.

III. AIR QUALITY

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

The proposed project would not result in any impacts to air quality.

Mitigation Measures

The proposed project would not result in any impacts to air quality, therefore no mitigation is required.

IV. BIOLOGICAL RESOURCES

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

The proposed project would not result in any impact to biological resources.

Mitigation Measures

The proposed project would not result in any impact to biological resources, therefore no mitigation is required.

V. CULTURAL RESOURCES

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

There are no known historic, archaeological, paleontological or unique geologic resources that exist at the proposed site.

Mitigation Measures

The proposed project would not result in any impacts to cultural resources, therefore no mitigation is required.

3.0 Checklist

VI. GEOLOGY AND SOILS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
<p>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <ul style="list-style-type: none"> (i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. (ii) Strong seismic ground shaking? (iii) Seismic-related ground failure, including liquefaction? (iv) Landslides? 				X
<p>b) Result in substantial soil erosion or the loss of topsoil?</p>				X
<p>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?</p>				X
<p>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks of life or property?</p>				X
<p>e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?</p>				X

The proposed project would not result in any geologic or soil impacts.

Mitigation Measures

The proposed project would not result in any geologic or soil impacts, therefore no mitigation is required.

VII. HAZARDS AND HAZARDOUS MATERIALS

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?				X
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

The proposed project would not result in any hazards or hazardous materials impacts associated with the public.

3.0 Checklist

Mitigation Measures

The proposed project would not result in any hazards or hazardous materials impacts associated with the public, therefore no mitigation is required.

VIII. HYDROLOGY AND WATER QUALITY

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?		X		
b) Substantially degrade groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or surface runoff in a manner which would result in flooding on- or offsite?				X
e) Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?				X
g) Place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures				X

3.0 Checklist

which would impede or redirect flood flows?				
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				X
j) Inundation by seiche, tsunami, or mudflow?				X

The in-situ groundwater cleanups that will be governed by the General Order are designed to remediate groundwater polluted by some or all of the following: volatile organic compounds, semi-volatile organic compounds, nitrogen compounds, petroleum hydrocarbons, pesticides, sulfate and hexavalent chromium. In that process amendments are added to the groundwater to stimulate appropriate reducing or oxidizing conditions that promote destruction of the target pollutant. Those amendments may cause concentrations of constituents other than the pollutant(s) targeted by the cleanup to occur above acceptable levels. Under the General Order, the degradation caused by the cleanup project is permitted only in the treatment zone and required to be mitigated before the cleanup project is completed. The net result will be better water quality than what existed prior to the cleanup project.

In the case of creating a reducing environment, the amendments are generally a carbon donor such as an alcohol or sugar, and potentially nutrients such as phosphorus and nitrogen to help promote bacterial growth. Reactions within the aquifer and with the pollutants will decrease the amount of dissolved oxygen, lower the redox potential, alter the pH, increase dissolved concentrations of iron and manganese and increase the concentration of dissolved solids within the treatment zone. In the case of creating an oxidizing environment, the amendment usually consists of an oxidizer such as ozone, peroxide or permanganate. The reactions in the oxidizing case will alter the pH, raise the redox potential, potentially increase the concentration of hexavalent chromium and increase the concentration of dissolved solids and organic carbon. At sites where these processes have already been applied, the conditions created within the treatment zone tend to revert back to ambient after a period of time following cessation of amendment addition. In some instances dissolved iron and manganese, and hexavalent chromium, may be recalcitrant and require measures to reduce their concentrations to acceptable levels. For cleanup featuring reductive dechlorination of chlorinated solvents, intermediate volatile byproducts (such as vinyl chloride and cis-1,2-dichloroethylene) can be formed and exist within the treatment zone above acceptable concentrations. However, proper design of the cleanup system, along with the implementation of additional cleanup measures will keep the concentrations of these volatile constituents to below acceptable levels at the points of compliance.

The General Order also covers discharge of treated groundwater to ground, either at or below the ground surface. Effluent limitations from the treatment plant are set at water quality objectives that are protective of beneficial use of the groundwater. Background concentrations of metals and salts are also determined. Those concentrations are used, along with the water quality objectives, as effluent limitations for the discharge. As an example, if the water quality objective for TDS is already exceeded in background

3.0 Checklist

groundwater, then the discharge from the treatment system is not allowed to discharge water with TDS greater than the background concentration.

Mitigation Measures

The cleanup projects conducted under the proposed General Order will be subjected to all of the requirements and limitations of the General Order. The cleanup projects themselves are usually being conducted in response to an enforcement order issued by the Regional Board or other regulatory agency. The cleanup is being conducted to effect a betterment in water quality. Prior to issuing the Notice of Applicability for coverage under the General Order, the CVRWQCB will need to have received and approved a work plan to conduct the cleanup, received information regarding bench-scale or pilot-scale testing of the proposed cleanup action, received analysis of the chemical makeup of the proposed amendments, and received a Contingency Plan that will be implemented in case there are violations of the General Order by the responsible party. The General Order establishes compliance points downgradient from the treatment zone where impacts associated with the cleanup action cannot cause exceedances of water quality objectives established in the General Order. Allowable concentrations for the target pollutants are established in the Cleanup Order or Remedial Action Plan issued to the responsible party. If unacceptable concentrations of pollutants are found at the points of compliance, the Contingency Plan will be implemented to reduce the concentrations to acceptable levels.

The General Order includes a monitoring program developed on site-specific basis and designed to provide information regarding the success of the cleanup project, while also ascertaining compliance with the limitations established in the General Order. Monitoring is required for various constituents, depending on the type of cleanup undertaken, and can include dissolved oxygen, iron, manganese, target pollutants, potential breakdown products, amendment materials, chemical oxygen, redox potential, pH, electrical conductivity, hexavalent chromium and other analyses, as needed.

IX. LAND USE AND PLANNING

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

3.0 Checklist

The proposed project would not result in any impacts to land use and planning.

Mitigation Measures

The proposed project would not result in any impacts to land use and planning, therefore no mitigation is required.

X. MINERAL RESOURCES

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

The project site has no known mineral resources.

Mitigation Measures

The proposed project would not result in any impacts to mineral resources, therefore no mitigation is required.

3.0 Checklist

XI. NOISE

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

Noise levels will be similar to those of the existing operation. This project is not located in an area that has noise levels in excess of standards from air operations.

Mitigation Measures

The proposed project would not result in any significant noise impacts, therefore no mitigation is required.

3.0 Checklist

XII. POPULATION AND HOUSING

<i>Would the project:</i>	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Population growth will not be affected and displacement of housing or people will not occur.

Mitigation Measures

The proposed project would not result in any impacts to population or housing, therefore no mitigation is required.

3.0 Checklist

XIII. PUBLIC SERVICES

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

The proposed project would not result in any impacts to public services.

Mitigation Measures

The proposed project would not result in any impacts to public services, therefore no mitigation is required.

3.0 Checklist

XIV. RECREATION

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

The proposed project will not result in any recreation impacts.

Mitigation Measures

The proposed project will not result in any recreation impacts, therefore no mitigation is required.

XV. TRANSPORTATION AND TRAFFIC

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

The proposed facility is not expected to create a significant load to the existing surface street.

Mitigation Measures

The proposed project would not result in any significant transportation or traffic impacts, therefore no mitigation is required.

3.0 Checklist

XVI. UTILITIES AND SERVICE SYSTEMS

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

The proposed project would not result in any impacts related to utilities or service systems.

Mitigation Measures

The proposed project would not result in any impacts related to utilities or service systems, therefore no mitigation is required.

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

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

As discussed throughout this document and with the implementation of CVRWQCB-approved remediation plans and associated addenda, and General Waste Discharge Requirements, the proposed project would not result in any significant impacts to the quality of the environment, nor would it substantially affect biological resources and associated habitats or eliminate important examples of California history or prehistory.

The proposed project would not result in significant cumulative impacts.

As indicated in this document, the proposed project is expected to result in positive benefits of improving groundwater quality.

4.0 Cumulative Impacts

4.1 Introduction

This section address the proposed General Order's potential to contribute to cumulative impacts in the region. California Environmental Quality Act (CEQA) Guidelines Section 15355 defines cumulative impacts as "two or more individual effects that, when considered together, are considerable or which compound or increase other environmental impacts." A project's incremental effects are considered significant if they are "cumulatively considerable" (CEQA Guidelines Sections 15065[a][3] and 15130[a]). "Cumulatively considerable" means the incremental effects of the project are considerable when viewed in conjunction with the effects of past, current, and future projects (see also CEQA Guidelines Appendix G, Section XVII).

4.2 Cumulative Setting

The cumulative setting establishes the area of effect in which the cumulative impact has been identified an inside which it will occur. Different cumulative settings can be established for each individual impact or impact area (checklist area). The proposed General Order can be applied to cleanup sites within the Central Valley Region. See Figure 2-1.

4.3 Cumulative Impacts Analysis

The General Order is being used to regulate groundwater cleanup projects that will provide a net benefit to groundwater quality. Each individual project could create a small increase in salts in the groundwater; however, the increase is relegated to an increase of no more than 20% above background, and not result in not greater than 500 mg/L in the aquifer at the project location. As the groundwater will be restored to beneficial uses by the cleanup process at each of the sites, the net effect will be a greater volume of groundwater being available for beneficial use. Extracted groundwater will be discharged back to the groundwater so there should be minimal loss of water. Depending on site conditions, utilizing in-situ cleanup techniques can help restore groundwater quality faster with the expenditure of fewer resources.

5.0 Determination

On the basis of this initial evaluation:

- I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because of requirements within the General Order. A MITIGATED NEGATIVE DECLARATION will be prepared.
- I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all the potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature

Alexander MacDonald, Senior Engineer
Printed Name

Date

Central Valley Regional Water Quality
Control Board

Project Title

WASTE DISCHARGE REQUIREMENTS, GENERAL ORDER FOR IN-SITU GROUNDWATER REMEDIATION AND DISCHARGE OF TREATED GROUNDWATER TO LAND

Project Description

The California Regional Water Quality Control Board, Central Valley Region (Board) proposes to adopt a General Order specifying waste discharge requirements for the in-situ cleanup of pollutants and discharge of treated groundwater at sites within the Central Valley Region.

Volatile organic compounds (VOCs), petroleum hydrocarbons, nitrate, hexavalent chromium, sulfate and fumigants have impacted groundwater at numerous sites within the Central Valley Region and cause or threaten adverse impacts to existing and potential beneficial uses of groundwater resources. Those sites are being required to clean up the pollution and restore the beneficial uses of the groundwater. This cleanup can take many forms. The two most common methods of cleanup of groundwater pollution are pump and treat, and in-situ remediation. The operation and discharge of a pump and treat system is generally regulated under site-specific or general waste discharge requirements. Prior to the proposed General Order, site-specific waste discharge requirements were issued to regulate in-situ groundwater remediation projects. The process to develop and adopt site-specific waste discharge requirements can be lengthy. Many in-situ treatment processes have common components and issues that can be regulated under general waste discharge requirements. Therefore, the proposed General Order for In-situ Remediation of Groundwater and Discharge of Treated Groundwater to Land will help expedite the cleanup process.

To obtain coverage under the General Order, the party responsible for the cleanup must submit a Notice of Intent (NOI) and supplemental information describing the project. The information requirements are significant as these in-situ cleanups can be complex and require a great deal of knowledge about the cleanup site and remediation processes. Also, as the overall cleanup project may require various types of construction activities, such as construction of wells, the project proponent must have demonstrated project-specific compliance with CEQA prior to coverage under the General Order to be granted.

Findings

Regional Board staff have evaluated the potential impacts, their significance and need for any mitigation. The conclusion is that the project will not have a significant adverse impact, either individually or collectively, on the surrounding

6.0 Negative Declaration

public. Potential adverse impacts are mitigated by the measures required in the General Order.

Copies of the Mitigated Negative Declaration can be obtained by request to the Regional Water Quality Control Board, which is the lead agency. Requests should be addressed to:

Central Valley Regional Water Quality Control Board
Central Valley Region
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114
Attention: Alexander MacDonald

Mr. MacDonald can also be reached by phone at (916) 464-4625 or by e-mail at amacdonald@waterboards.ca.gov.