GLENN COUNTY
Planning & Community Development Services Agency
Environmental Health Department

225 N Tehama St.
Willows, CA 95988
Tel: 530.934.6102 Fax: 530.934.6103
www.countyofglenn.net

Mardy Thomas, Director

NOTICE AND ORDER

[California Code of Regulations, Title 27, Section 21150, 21145(a)]

July 16, 2025

City of Orland
815 4th St.
Orland, CA 95963

SITE: Orland City Dump -- East side of County Road E, ½ mile North of County Road 8, Orland, CA 95963

SUBJECT: Notice and Order – Violation of State Minimum Standards for Solid Waste (Exposed Burn Waste and Erosion Risk).

APN: 044-140-008

Dear City of Orland:

This letter serves as a Notice and Order pursuant to California Code of Regulations (CCR), Title 14, Section 18304, and the California Public Resources Code (PRC) section 45000 et seq. As the Local Enforcement Agency (LEA) with jurisdiction over solid waste operations in Glenn County, California, we are issuing this order based on our inspection findings and observed violations of State Minimum Standards for solid waste facilities.

BACKGROUND:

On June 25, 2024, December 19, 2024 and June 16, 2025, LEA staff conducted a site inspection of the Orland City Dump located at County Road E about ½ mile North of County Road 8. During the inspection, we observed that old burn waste — historical solid waste deposited prior to current regulatory standards — is being exposed and eroded by an adjacent creek, potentially impacting water quality and public health.

VIOLATION(S) IDENTIFIED:

1. 27 CCR § 21150 – *Drainage and Erosion Control*

> *"The drainage and erosion control system shall be designed and maintained to ensure integrity of postclosure land uses, roads, and structures; to prevent public contact with waste and leachate; to ensure integrity of gas monitoring and control systems; to prevent safety hazards; and to prevent exposure of waste."*

- Observed Violation: Exposed historical burn waste is not properly contained and is at risk of being transported downstream during storm events.

2. 27 CCR § 21145(a) – *Slope Stability*

> *"The operator shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to postclosure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste. Slope stability analyses shall be conducted and reported pursuant to the requirements of Division 2, Subdivision 1, Chapter 4, Subchapter 3, Article 4 Section 21750(f)(5)."*

- Observed Violation: Erosion is visibly transporting solid waste material into the nearby waterway, posing a threat to water quality.

ORDERED CORRECTIVE ACTIONS:

1. Immediately implement temporary erosion controls (e.g., straw wattles, sandbags, or plastic sheeting) to prevent further degradation of the creekbank.
2. Within 60 days of receipt of this notice, submit a Written Corrective Action Plan (CAP) to the LEA that includes:

- A waste characterization report. (if available)
- Remediation strategy based on the enclosed "Conceptual Remediation Alternatives" from Geo-Logic Associates. (e.g., Alternative 1,2,3)
- Timeline for implementation.
- Contact information for responsible parties and consultants. (if used)

3. Ensure full implementation of the corrective actions outlined in the approved plan within a timeframe mutually agreed upon by the Local Enforcement Agency (LEA), CalRecycle, and the property owners, unless an alternative schedule is formally approved in writing by the LEA.

RIGHT TO APPEAL:

You have the right to appeal this Notice and Order within 15 days of receipt, in accordance with PRC section 44310 and 14 CCR § 18304.1. To do so, submit a written appeal to:

Glenn County Environmental Health Department
225 N. Tehama Street
Willows, CA 95988
(530) 934-6102

Failure to comply with this Order may result in further enforcement actions including administrative penalties, petitioning the superior court to enjoin the violations or impose civil penalties, and/or the LEA or CalRecycle contracting for corrective action at the expense of the owner, operator or both pursuant to PRC section 45000.

ADDITIONAL NOTES:

- Photographs and the LEA inspection report documenting the observed conditions are enclosed.

- You are advised to coordinate with the Regional Water Quality Control Board and CalRecycle as appropriate, given the proximity to surface water and potential for environmental harm.

Should you have any questions or require clarification, please contact Andrew Petyo at 530-934-6102 or via email at apetyo@countyofglenn.net.

Sincerely,

Andrew A. Petyo, M.S., REHS
Registered Environmental Health Specialist
Glenn County Environmental Health

Enclosures:

- LEA Inspection Report

- Site Photographs

Closed Disposal Site Inspection Report (188)
Orland City Dump (11-CR-0003)
6/16/2025

Inspection Information

Inspected By: Glenn County
Local Inspection ID:
Inspection Date: 6/16/2025
Time In: 3:30 PM
Inspection Type: Periodic
Time Out: 4:30 PM
Inspector: Andrew A. Petyo, REHS
Inspection Duration: 60 Minutes
Operator: City Of Orland
Received By:
Also Present (Name):

Facility/Activity Information

Enforcement Agency: County of Glenn
SWIS Number: 11-CR-0003

Facility: **Orland City Dump**
E/Side Co Rd E, 1/2 Mi N/O Co Rd 8
Orland, CA 95963

Activity: Solid Waste Disposal Site

Operational Status: Closed
Regulatory Status: Pre-regulations

Land Owners(s):

City Of Orland

The above facility was inspected for compliance with applicable sections of Division 30 of the Public Resources Code (PRC) and Title 14 and Title 27, California Code of Regulations (CCR).

Violations

27 CCR 21150 - Drainage and Erosion Control

VIOLATION

--Due to inclement winter weather and flooding, Stony Creek which runs adjacent to the burn dump has eroded part of the riverbank away where the purported footprint of waste is located. During the inspection it was observed (see photos) that the waste footprint is being eroded by the creek, especially during inclement weather. In the past, inert waste (C&D) was used to shore up that side of the bank to prevent erosion and drainage issues. This system has failed due to increased winter water flows in this area. The owner of this site is directed to the Notice and Order issued in conjunction with this report for corrective actions.

27 CCR 21150 states:

"The drainage and erosion control system shall be designed and maintained to ensure integrity of

postclosure land uses, roads, and structures; to prevent public contact with waste and leachate; to ensure integrity of gas monitoring and control systems; to prevent safety hazards; and to prevent exposure of waste."

27 CCR 21145 - Slope Stability

VIOLATION

--Due to inclement winter weather and flooding, Stony Creek which runs adjacent to the burn dump, has eroded part of the riverbank away where the purported footprint of waste is located. During the inspection it was observed (see photos) that some waste exposure and scavenging can be seen along the riverbank at the east side of the dump. In the past, inert waste (C&D) was used to shore up that side of the bank to prevent erosion and drainage issues. This system has failed due to increased winter water flows in this area. The owner of this site is directed to repair the erosion control system to prevent future waste discharge to the stream and the surrounding environment.

27 CCR 21145 (a) states:

"The operator shall ensure the integrity of final slopes under both static and dynamic conditions to protect public health and safety and prevent damage to postclosure land uses, roads, structures, utilities, gas monitoring and control systems, leachate collection and control systems to prevent public contact with leachate, and prevent exposure of waste. Slope stability analyses shall be conducted and reported pursuant to the requirements of Division 2, Subdivision 1, Chapter 4, Subchapter 3, Article 4 Section 21750(f)(5)"

No Areas of Concern

Inspection Report Comments

VIOLATION(S)

27 CCR 21150 Drainage and Erosion Control

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GENERAL COMMENTS

Weather -- 92F, Sunny, 2 MPH SE wind.

--Site is a former burn dump that closed in 1972.

--No evidence of litter or leachate onsite was observed at the time of inspection. Observed evidence of erosion during this inspection (see photos).

--Vehicular access to the site is restricted by a locked gate at the west end of the site adjacent to County Road E and by a second gate at the far southeast corner of the site.

--Occasional exposed burn waste, glass, inert construction and demolition (C&D) waste, and an abandoned vehicle are observed in various locations throughout the site. These areas have not been addressed as a violation or area of concern because they are small in size, do not pose a risk to the public's health or the environment, and are largely unchanged from previous inspections at the site.

--The former dump site may extend beyond the fenced boundaries. Some inert C&D waste, possible burn mounds, and large pieces of metal are observable on a neighboring property to the south of the fenced boundary at the southeast end of the site.

--4 pages of photographs are attached.

Attachments

Inspection Photos 6/16/25

Looking North at the entrance gate to the Orland City Dump.

The West side of the site boundaries. A old car and an appliance can be seen here.

Looking North near the creek where some C&D has been deposited.

Looking North out at the creek where the stream has cut into the waste area.

Looking West at the area where the creek has eroded the bank where old burn waste was deposited.

A closeup of the area where the creek has eroded the burn waste area.

Looking north down at the eroded portion the burn dump.

Looking East at the portion of the burn dump that is being impacted by stream flow.

Geo-Logic
ASSOCIATES

February 18, 2025
Contract: DRR22017
GLA Project # AU23.1081.00

California Department of Resources Recycling and Recovery
1001 I Street
Sacramento, California 95814

CONCEPTUAL REMEDIATION ALTERNATIVES FOR THE ORLAND CITY DUMP

Geo-Logic Associates (GLA) is pleased to present this summary of conceptual remediation alternatives for the Orland City Dump (Site) issued Solid Waste Information System (SWIS) #11-CR-0003. The Site is located east of the intersection of County Road E and County Road 7, approximately 1.75 miles west of Interstate 5 and 1.5 miles north of Highway 32 in Glenn County (County), see Figure 1. Conceptual remediation alternatives have been developed after performing a site visit on August 30, 2024 that was attended by representatives from GLA, the Department of Resources Recycling and Recovery (CalRecycle), and Glenn County Department of Public Works and Environmental Health. The purpose of this document is to summarize the Site conditions and provide viable remediation alternatives to assist CalRecycle in their efforts to stabilize the existing wastes and reduce human and environmental health risks.

Site Conditions

Existing access to the Site is via a gated gravel road from the bend connecting the east end of County Road 7 and the north end of County Road E. Access to the Site is generally restricted by fencing on the west, south and east sides, however there is at least one opening in the fence visible from County Road E. Stony Creek, a tributary to the Sacramento River, runs along the north side of the Site. The Site is largely grass fields with groups of trees and other shrubs. The creek bed area is largely covered with rounded river rock with stands of riparian vegetation. The Site is generally level at an elevation of approximately 300 feet above mean sea level (msl) and the majority of the Site is situated within the Federal Emergency Management Agency (FEMA) special flood hazard area zone A (Figure 2). The elevation drops approximately by 5 feet to the creek bed at the location where the creek is flowing directly adjacent to the Site. The properties to the north and east of the Site are vacant land and the property to the south and west are occupied with orchards and residential buildings.

The map in Attachment 4 provided by County Environmental Health, the Local Enforcement Agency (LEA), documents the location of known waste. These approximate locations have been reproduced in Figure 4. The main waste mass is believed to be located on the western half of the Site characterized by long curved mounds approximately 600-feet long and 75-feet wide over an approximately 10-acre area. Additional burn waste is located in two other areas, approximately 1-acre each, located centrally in the Site. There are three locations with known inert construction and demolition (C&D) waste; one location on the northwest side, just past the

gated entrance, one location on the southeast corner, and the third location along the creek where it was used as erosion control. When comparing the available aerial imagery which begins in the year 1998, the creek bank has remained relatively consistent with little sign of bank erosion (Figure 3). However, between May 2023 and September 2024, an approximately 130-foot long section of the bank, where C&D waste had been placed, had experienced erosion. The erosion of the bank revealed a lens of waste approximately 1-foot thick on top of creek bed and covered by 1-foot of soil.

During the site visit, 4 samples of soil and waste materials were collected from the waste lens along the eroded creek bank and analyzed to measure the total concentrations of CAM (California Administrative Manual) 17 metals. Total metals results were compared to the respective State of California (non-RCRA) hazardous waste criteria (Total Threshold Limit Concentration or TTLC). None of the samples exceeded the TTLC limit, however all samples exceeded the Soluble Threshold Limit Concentration (STLC) trigger for the Waste Extraction Test (WET). The WET found that three samples exceeded the STLC for lead and are classified as California non-RCRA hazardous waste. Analytical testing results are included in Attachment 3.

Remediation Alternatives

A "no action" alternative is not considered appropriate for the Site due to:

- The susceptibility of the waste in the creek bank to erosion and transportation downstream.
- The majority of the Site existing within the 100-year flood zone and likely further erosion of the waste mass by the creek.
- Potential public health risks due to exposed waste.

To reduce the potential exposure risk, GLA has developed three conceptual-level alternatives for remediating the Site:

- Alternative 1 – Stabilization and Scour Protection
- Alternative 2 – Gabion Retaining Wall Creek Bank Restoration
- Alternative 3 - Clean Closure

These three alternatives are described in more detail below.

Alternative 1 – Stabilization and Scour Protection

This alternative involves cutting back the slope, covering the exposed waste with a minimum two feet of clean soil borrowed from an on-site location, and armouring with rock slope protection (Figures 5 and 7). Additionally, burn waste from the two known locations would be consolidated within the main waste mass area and covered with a minimum of two feet of compacted, clean soil borrowed from the Site. Waste excavation is estimated to be approximately 1,700 cubic yards. The soil borrow volume is estimated to be approximately 1,900 cubic yards. The rock volume required is estimated to be approximately 230 cubic yards. The

waste consolidation and soil borrow areas would be hydroseeded, and stormwater best management practices (BMPs) would be installed.

While this alternative would provide increased creek bank stabilization and scour protection from the present condition, the creek bank will likely see further erosion and thus exposure and distribution of waste and impacted soils.

Table 1: Advantages and Disadvantages of Alternative 1

Advantages	Disadvantages
• Reduces immediate exposure potential • Reduces surface water erosion and river scour potential • Relatively simple construction • No offsite transport and disposal of waste	• Temporary solution, no long-term stabilization of creek bank • Will require long term maintenance • Waste remains in flood plain • Inhalation hazard during construction • Requires direct handling of waste • Will likely require significant permitting effort and applicable documents (CEQA[1], NEPA[2], USACE[3], CDFW[4], RWQCB[5], SWPPP[6])

Alternative 2 – Gabion Retaining Wall Creek Bank Restoration

This alternative involves the construction of a gabion cube retaining wall along the creek bank with minimal existing waste disturbance (Figures 6 and 8). The gabion cube wall would be constructed with imported rock. Similar to Alternative 1, burn waste from the two known locations would be consolidated within the main waste mass area and covered with a minimum of two feet of compacted, clean soil borrowed from an on-site location. Waste excavation is estimated to be approximately 1,700 cubic yards. The soil borrow volume is estimated to be approximately 1900 cubic yards. The rock volume required is estimated to be approximately 200 cubic yards. The soil borrow areas would be hydroseeded and stormwater best management practices (BMPs) would be installed.

While this alternative would provide increased creek bank stabilization and erosion control from the present condition and from alternative 1, the creek bank will likely see further erosion and thus exposure and distribution of waste and impacted soil.

[1]California Environmental Quality Act
[2]National Environmental Policy Act
[3]United States Army Corp of Engineers
[4]California Department of Fish and Wildlife
[5]Regional Water Quality Control Board
[6]Stormwater Pollution Prevention Plan

Table 2: Advantages and Disadvantages of Alternative 2

Advantages	Disadvantages
• Reduces immediate exposure potential • Reduces surface water erosion and river scour potential • Minimal handling of waste • No offsite transport and disposal of hazardous waste	• Temporary solution, no long-term stabilization of creek bank • Will require long term maintenance • Waste remains in flood plain • Inhalation hazard during construction • Will likely require significant permitting effort and applicable documents (CEQA, NEPA, USACE, CDFW, RWQCB, SWPPP)

Alternative 3 - Clean Closure

This alternative is the complete removal, recycling, and disposal of all wastes from the Site. Assuming the average waste thickness is 4-feet over the waste disposal area, and the waste disposal area is approximately 10-acres, results in a waste volume of approximately 65,000 cubic yards. All waste, soil intermixed with waste, and impacted soils would be considered hazardous and transported to Kettleman Hills Hazardous Waste Facility for disposal. After wastes are removed, confirmation samples would be collected and compared to a defined project clean-up standard. Once clean-up objectives are met, the site would be graded to promote positive drainage, hydroseeded, and stormwater BMPs would be installed.

Table 3: Advantages and Disadvantages of Alternative 3

Advantages	Disadvantages
• Eliminates potential exposure risk after construction is completed • Maximizes options for future Site development • No maintenance of disposal area cover • No soil borrow excavation	• Approximately twelve times as expensive as Alternative 1 • Requires handling of large quantities of waste • Potential to track/transport waste off-site • Inhalation risk during construction • May require Streambed Alteration Agreement or other significant CEQA/NEPA and permitting effort • Costs could be much higher if waste limits and thicknesses differ from estimations

Permitting

As discussed earlier, the creek flows through the Site and eventually into the Sacramento River. The creek is considered to be both federal waters of the United States which is regulated by the United States Army Corps of Engineers (USACE), and waters of the state of California which is regulated by the California Regional Water Quality Control Board (Water Board). The project will involve the removal of trash/debris/ash from and adjacent to the creek and

reconstruction/regrading of a portion of the creek bank. Due to this activity, and the jurisdictional status of the creek, permits would need to be secured from the USACE, CA Water Board, and CA Department of Fish and Wildlife (CDFW) prior to any construction.

In order to secure USACE, Water Board, and CDFW clearance, the list of technical studies/reports and permits that will likely be needed prior to the onset of construction activities are listed below. In addition, permit management will be required for the duration of construction.

- USACE Aquatic Resources Delineation Field Work and Report
- Special Status Species Field Work and Report
- Cultural Resources Field Work and Report

The above three reports are requirements for inclusion into the USACE, Water Board, and CDFW permit applications below.

- USACE Section 404 Nationwide Permit 19 Minor Dredging (Or Nationwide Permit 41 Reshaping Existing Drainage and Irrigation Ditches) Application
- Water Board, Section 401 Water Quality Certification Request
- CDFW, 1600 Streambed Alteration Agreement Request
- Water Board, Construction General Permit (with a SWPPP)

Cost Estimate

GLA has prepared preliminary estimates of costs for each alternative based on professional service rates, previous work with Nichols Consulting Engineers (NCE) for permitting costs, and Caltrans Cost database for construction costs, using the following assumptions:

- The total waste volume is approximately 65,000 cubic yards.
- All waste is considered hazardous.
- Round-trip travel time between the Site and the Kettleman Hills Hazardous Waste Facility, including dumping time, is approximately 7 hours.
- Soil for cover is available at the Site. No import of soil is required.
- River rock is not available for construction. Import of rock is required.
- NEPA/CEQA studies and preparing environmental documents needed to gain project approval as listed in the permitting section of this letter.
- Alternative 1 construction would take 4 weeks, Alternative 2 construction would take 6 weeks, and Alternative 3 would take 26 weeks.

Based on these assumptions and our understanding of site conditions, GLA estimates costs for the proposed alternatives as follows:

Alternative 1 – Stabilization and Scour Protection	$522,900
Alternative 2 – Gabion Retaining Wall Creek Bank Restoration	$787,800
Alternative 3 – Clean Closure	$12,372,440

Detail cost estimates are included in Attachment 2.

GLA appreciates the opportunity to provide our services to the CalRecycle. If there are questions regarding the informaiton included hearin, please do not hesitate to contact us at jrussell@geo-logic.com or Ryan Day at rday@geo-logic.com.

Geo-Logic Associates, Inc.

Jacob Russell, PE
Program Manager

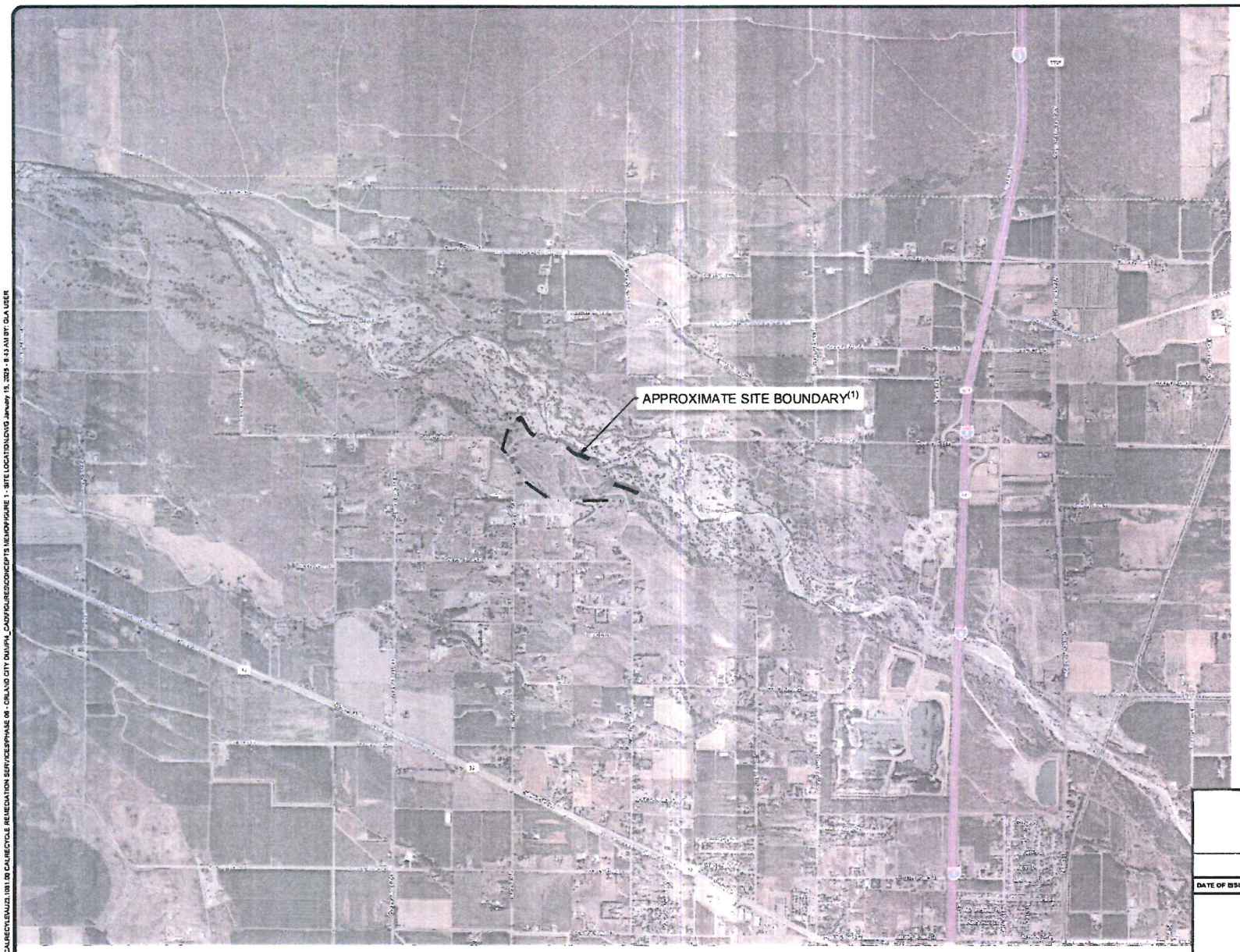
Ryan Day, PE
Project Engineer

Attachment 1 – Figures
Attachment 2 – Cost Estimates
Attachment 3 – Soil Analytical Testing Results
Attachment 4 – Reference Map

Attachment 1

Figures

Geo-Logic
ASSOCIATES



1000' 0' 500' 1000' 2000'

LEGEND

APPROXIMATE SITE BOUNDARY(1)

NOTES

1. APPROXIMATE BOUNDARIES OF FORMER DUMP SITE OBTAINED FROM GLENN COUNTY LEA DOCUMENT PROVIDED TO CALRECYCLE (SEE ATTACHMENT 4).

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

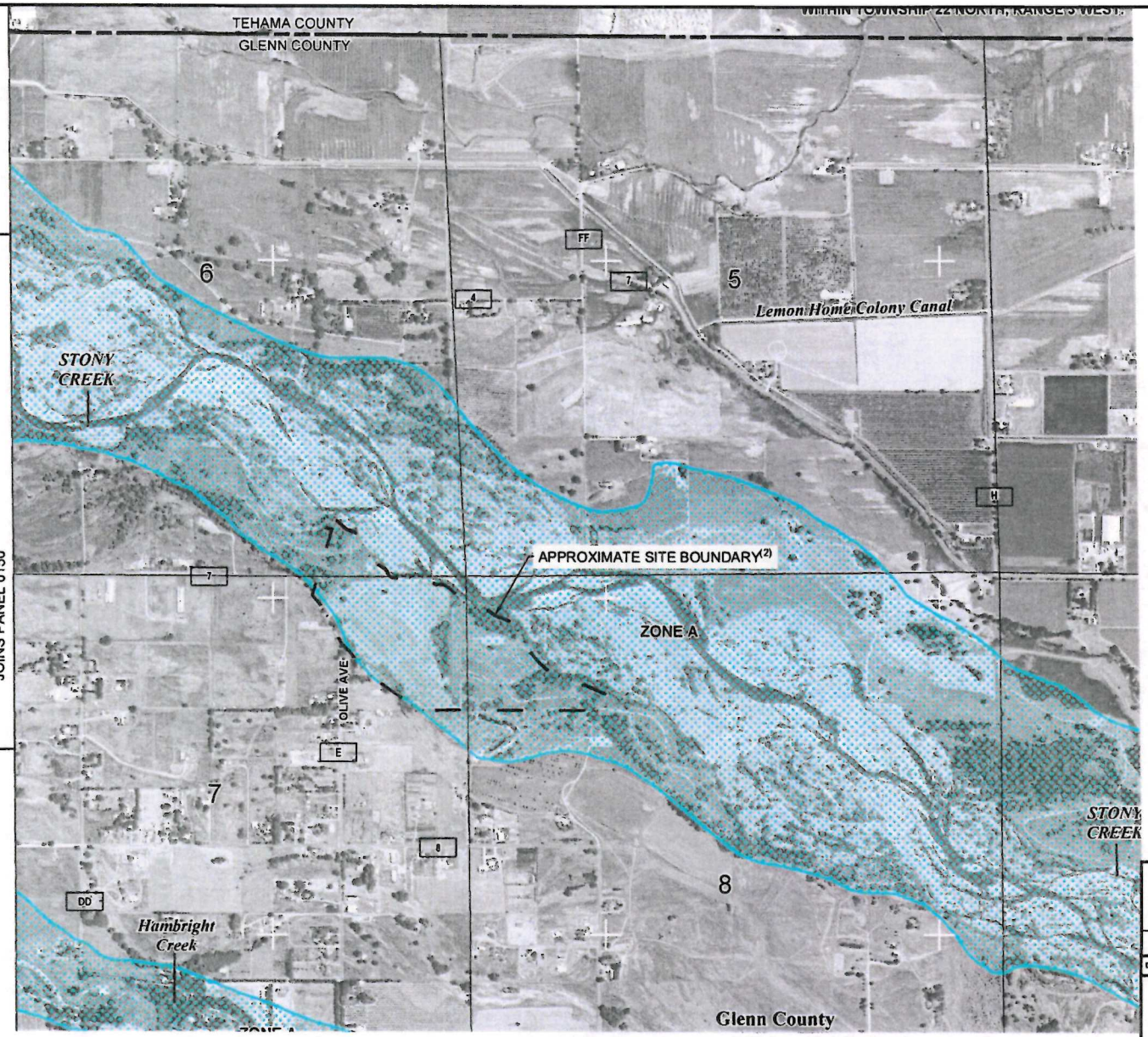
SITE LOCATION

FIGURE NO. 1

PROJECT NO. AU23.1081

DATE OF ISSUE:	01/31/2025	DRAWN BY:	PLA	APPROVED BY:	JVR

Geo-Logic Associates
143E Spring Hill Drive, Grass Valley, CA 95945
geo-logic.com | 530.272.2448



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation at the 1% annual chance flood.

- ZONE A — No Base Flood Elevations determined.
- ZONE AE — Base Flood Elevations determined.
- ZONE AH — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR — Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.
- ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D Boundary
- CBRS and OPA Boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- Culvert, Flume, Penstock or Aqueduct
- Road or Railroad Bridge
- Footbridge
- 97° 07' 30", 32° 22' 30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
- 3276000 mE — 1000-meter Universal Transverse Mercator grid values, Zone 10
- 650000 FT — 5000-foot grid ticks: California State Plane coordinate system, Zone II (FIPSZONE 0402), Lambert Conformal Conic Projection
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL
AUGUST 5, 2013

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

NOTES

1. FEMA MAP NUMBER 06021C0165D.
2. APPROXIMATE BOUNDARIES OF FORMER DUMP SITE OBTAINED FROM GLENN COUNTY LEA DOCUMENT PROVIDED TO CALRECYCLE (SEE ATTACHMENT 4).

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

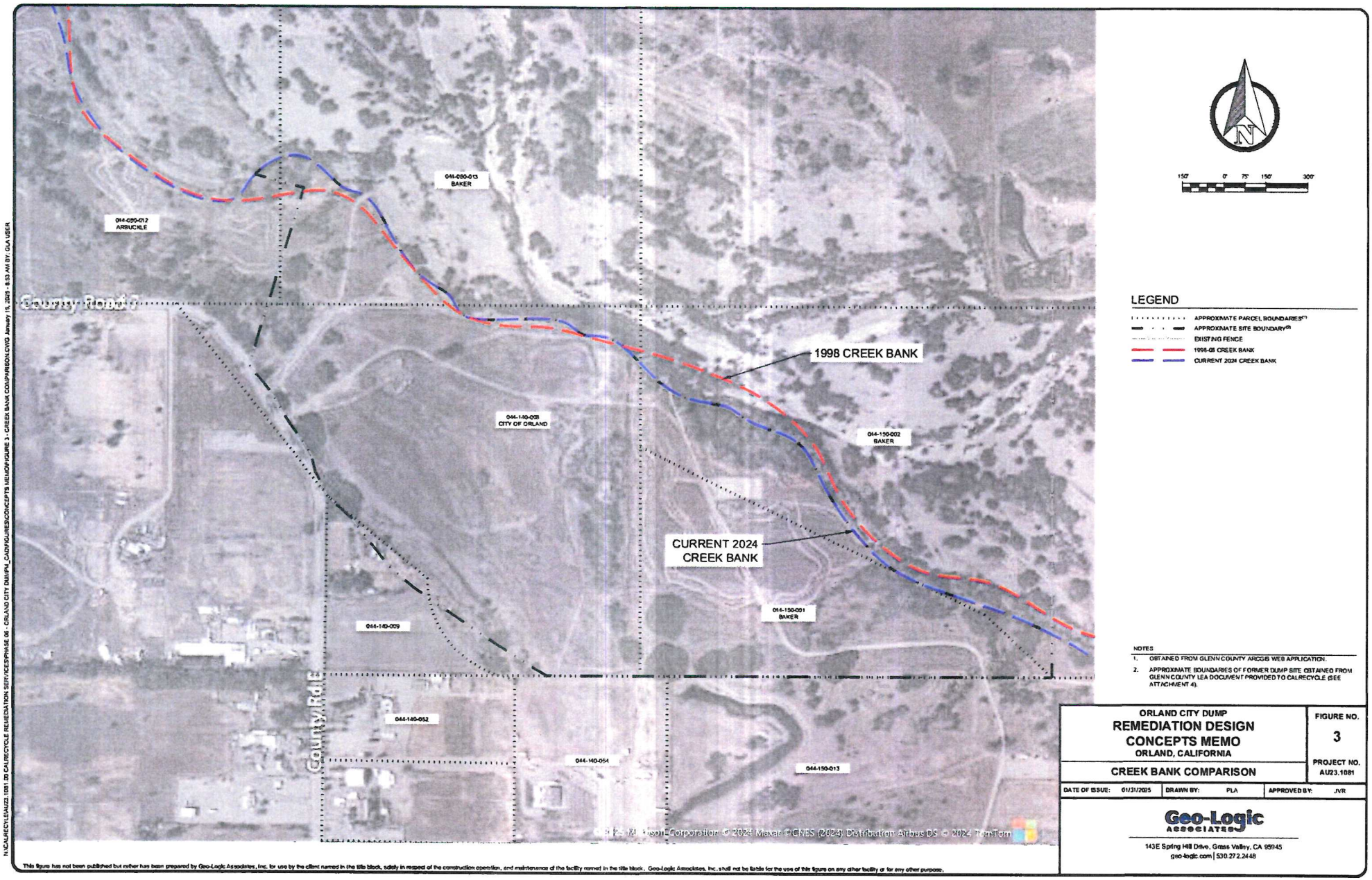
FLOOD ZONE MAP

FIGURE NO. 2

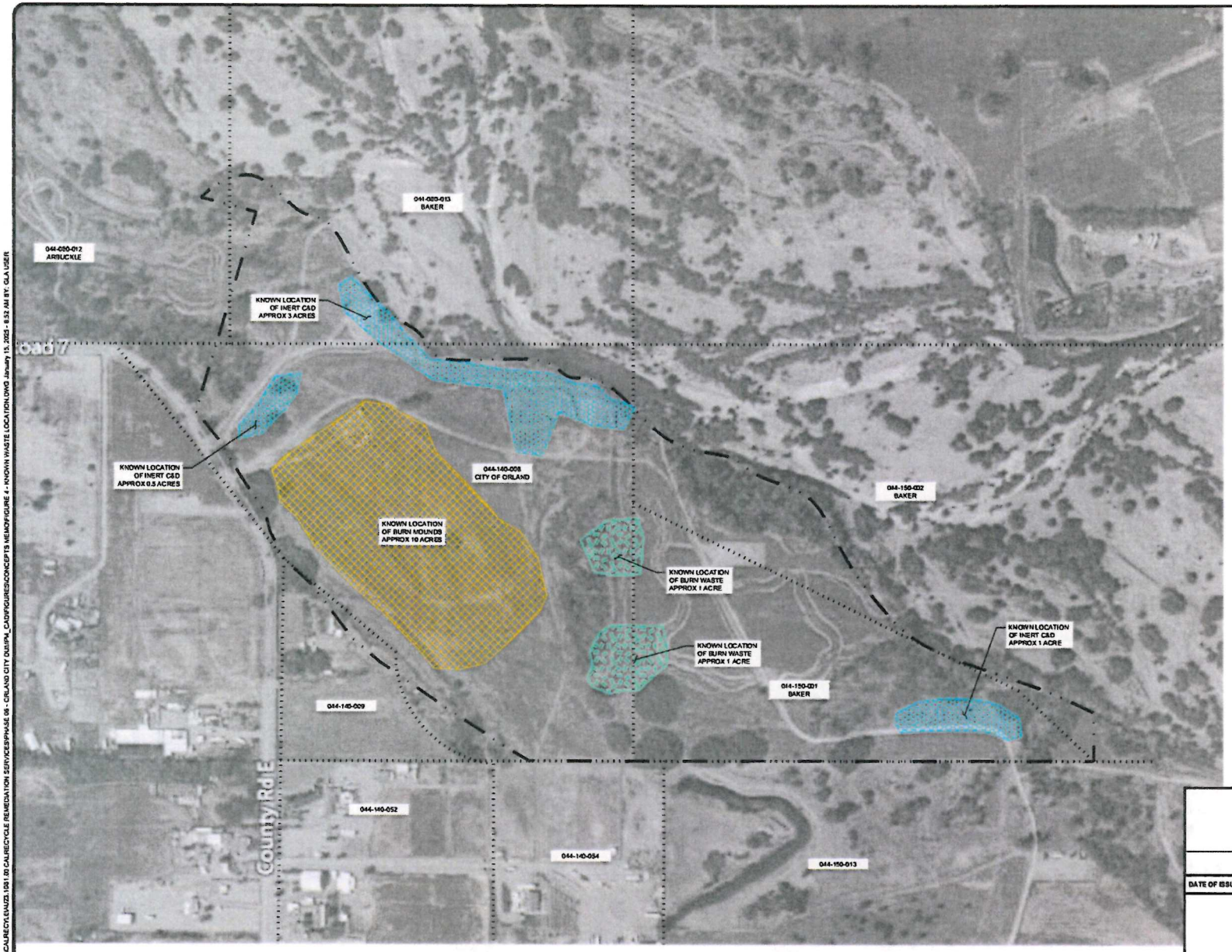
PROJECT NO. AU23.1081

DATE OF ISSUE:	01/31/2025	DRAWN BY:	PLA	APPROVED BY:	JVR

Geo-Logic Associates
143E Spring Hill Drive, Grass Valley, CA 95945
geo-logic.com | 530.272.2448



N:\CALRECYCLE\AU23.1081.00 CALRECYCLE REMEDIATION SERVICES\PHASE 06 - ORLAND CITY DUMP\N_CAD\FIGURES\CONCEPTS MEMO\FIGURE 3 - CREEK BANK COMPARISON.DWG January 15, 2025 - 8:53 AM BY: OLA USER



150' 0' 75' 150' 300'

LEGEND

- APPROXIMATE PARCEL BOUNDARIES[1]
- APPROXIMATE SITE BOUNDARY[2]
- KNOWN LOCATION OF BURN MOUNDS[2]
- KNOWN LOCATION OF BURN WASTE[2]
- KNOWN LOCATION OF INERT C&D[2]

NOTES

1. OBTAINED FROM GLENN COUNTY ARCGIS WEB APPLICATION.
2. APPROXIMATE LOCATION OF FORMER DUMP SITE AND KNOWN WASTE LOCATIONS OBTAINED FROM GLENN COUNTY LEA DOCUMENT PROVIDED TO CALRECYCLE (SEE ATTACHMENT 4).

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

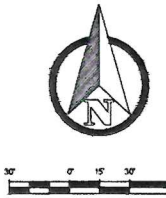
KNOWN WASTE LOCATIONS

FIGURE NO. 4

PROJECT NO. AU23.1001

DATE OF ISSUE:	01/31/2025	DRAWN BY:	PLA	APPROVED BY:	JVR

Geo-Logic Associates
143E Spring Hill Drive, Grass Valley, CA 95945
geo-logic.com | 530.272.2448



LEGEND

- APPROXIMATE PARCEL BOUNDARIES[2]
- 2024 CREEK BANK PRE-EROSION
- AREA ERODED IN 2024

NOTES

1. IMAGE OBTAINED FROM GOOGLE EARTH DATED SEPTEMBER 2024.

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

FIGURE NO. 5

PROJECT NO. AU23.1081

ALTERNATIVE 1 - STABILIZATION AND SCOUR PROTECTION

DATE OF ISSUE:	01/31/2025	DRAWN BY:	PLA	APPROVED BY:	JVR

Geo-Logic Associates
143E Spring Hill Drive, Grass Valley, CA 95945
geo-logic.com | 530.272.2448

30' 0' 15' 30' 60'

LEGEND

- APPROXIMATE PARCEL BOUNDARIES[2]
- 2024 CREEK BANK PRE-EROSION
- AREA ERODED IN 2024
- GABION CUBE RETAINING WALL
- CLEAN SOIL BACKFILL

NOTES

1. IMAGE OBTAINED FROM GOOGLE EARTH DATED SEPTEMBER 2024.

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

FIGURE NO. 6

ALTERNATIVE 2 - GABION RETAINING WALL CREEK BANK RESTORATION

PROJECT NO. AU23.1081

DATE OF ISSUE:	01/31/2025	DRAWN BY:	PLA	APPROVED BY:	JVR

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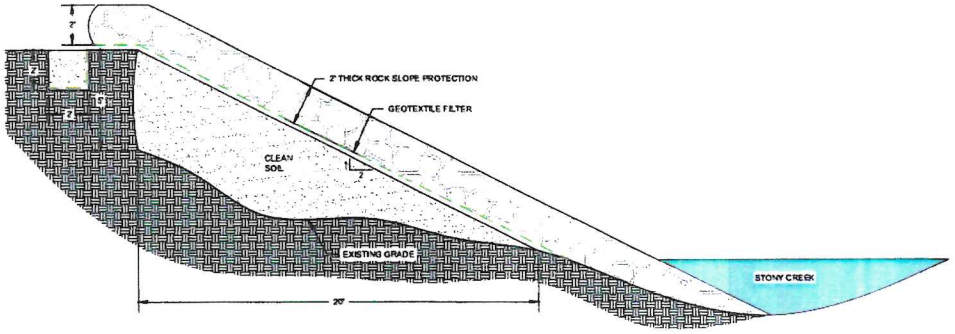
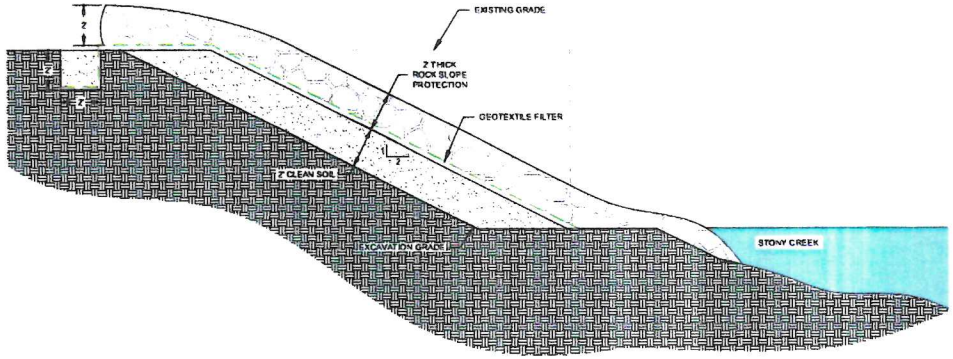


PROPOSED
MIDDLE-SECTION REPAIR

DETAIL 1 (3 | 7)

1" = 3'



PROPOSED
OUTER-SECTION REPAIR

DETAIL 2 (3 | 7)

1" = 3'

ORLAND CITY DUMP **REMEDIATION DESIGN CONCEPTS MEMO** ORLAND, CALIFORNIA			FIGURE NO. 7
REMEDIATION ALTERNATIVE 1 DETAILS			PROJECT NO. AU23.1081
DATE OF ISSUE: 01/31/2025	DRAWN BY: PLA	APPROVED BY: JVR	

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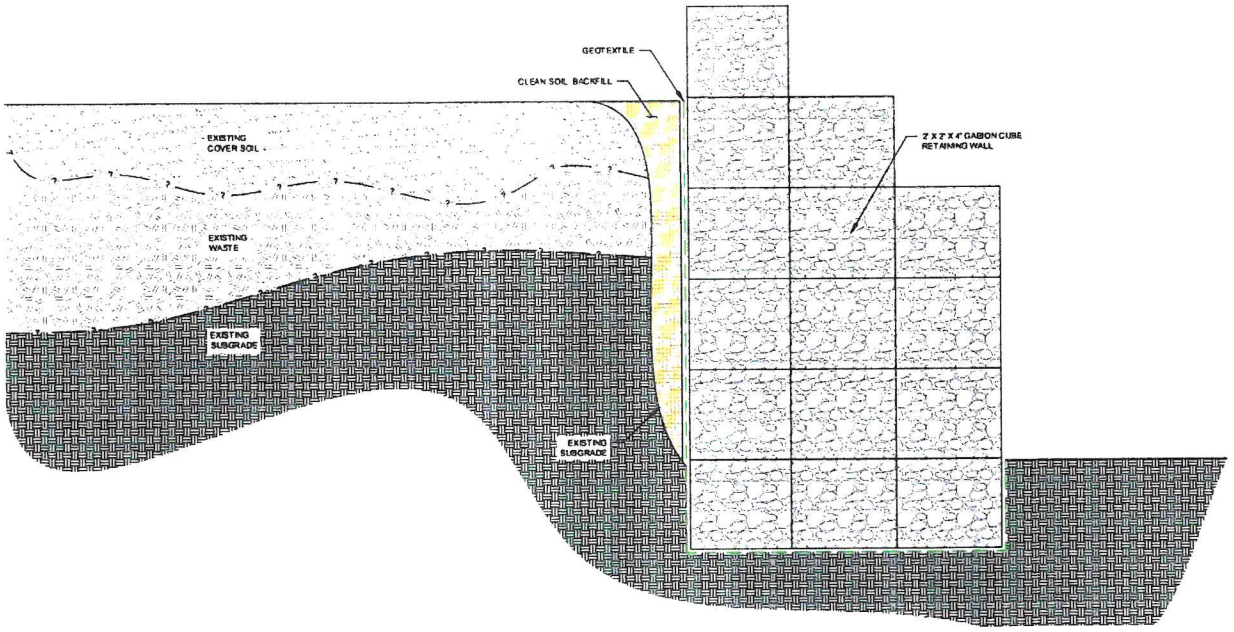
Attachment 2

Detailed Cost Estimates

Geo-Logic
ASSOCIATES



ALTERNATIVE 2 GABION RETAINING WALL CREEK BANK RESTORATION

DETAIL 3

1" = 4'

ORLAND CITY DUMP
REMEDIATION DESIGN CONCEPTS MEMO
ORLAND, CALIFORNIA

REMEDIATION ALTERNATIVE 2 DETAILS

FIGURE NO. 8

PROJECT NO. AU23.1081

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Preliminary Cost Estimate for Conceptual Remediation Alternatives
Orland City Dump, Glenn County, California

Alternative 1: Stabilization and Scour Protection				
Task 1: Engineering & Design				
Borrow Soil Investigation		Lump Sum		$20,000.00
Construction Design, Plans, Specifications		Lump Sum		$40,000.00
CQA and Confirmation Sampling Plan		Lump Sum		$10,000.00
Preliminary Cost Estimate for Task 1:				$70,000
Task 2: Permitting				
CEQA/NEPA Support Services				
Assume that Calrecycle would Contract a Consultant				$60,000
USACE Aquatic Resources Delineation Field Work and Report				$15,000
Cultural Resources Field and Report				$15,000
USACE Section 404 Nationwide Permit 19 Minor Dredging (Or Nationwide Permit 41 Reshaping Existing Drainage and Irrigation Ditches) Application				$15,000
Water Board, Section 401 Water Quality Certification Request				$15,000
CDFW, 1600 Streambed Alteration Agreement Request				$15,000
Construction General SWPPP				$15,000
Permit Management				$20,000
Preliminary Cost Estimate for Task 2:				$170,000
Task 3: Construction				
Mobilization/Demobilization	$ 20,000.00	Lump Sum		$20,000.00
Clearing and Grubbing	$ 4,000.00	per acre	1	$4,000
Waste Removal & Consolidation	$20.00	CY	1700	$34,000
Borrow Soil Excavation	$15.00	CY	1900	$28,500
Cover Soil Placement and Compaction	$0.20	SF	24000	$4,800
Rock Slope Protection	$30.00	SF	3000	$90,000
Geotextile Filter	$0.50	SF	3000	$1,500
Stormwater BMPs	$6.00	LF	2000	$12,000
Hydroseed	$6,500.00	acre	1	$6,500
CM/CQA/Sampling	$150.00	hour	240	$36,000
Laboratory Testing (Geotechnical)	$1,000.00	each	1	$1,000
Laboratory Testing (Environmental)	$2,000.00	each	1	$2,000
H&S/Air Monitoring	$740.00	Day	40	$29,600
Final Report		Lump Sum		$18,000
Preliminary Cost Estimate for Task 3:				$287,900.00
Task 4: Project Management				
Meetings, Coordination, Project Management		5% of Costs		
Preliminary Cost Estimate for Task 4:				$27,000
Preliminary Cost Estimate for Option 1:				**$554,900**

Preliminary Cost Estimate for Conceptual Remediation Alternatives
Orland City Dump, Glenn County, California

Alternative 2: Gabion Retaining Wall Creek Bank Restoration				
Task 1: Engineering & Design				
Geotechnical Investigation		Lump Sum		$60,000.00
Construction Design, Plans, Specifications		Lump Sum		$70,000.00
CQA and Confirmation Sampling Plan		Lump Sum		$10,000.00
Preliminary Cost Estimate for Task 1:				$140,000
Task 2: Permitting				
CEQA/NEPA Support Services				
Assume that Calrecycle would Contract a Consultant				$60,000
USACE Aquatic Resources Delineation Field Work and Report				$15,000
Cultural Resources Field and Report				$15,000
USACE Section 404 Nationwide Permit 19 Minor Dredging (Or Nationwide Permit 41 Reshaping Existing Drainage and Irrigation Ditches) Application				$15,000
Water Board, Section 401 Water Quality Certification Request				$15,000
CDFW, 1600 Streambed Alteration Agreement Request				$15,000
Construction General SWPPP				$15,000
Permit Management				$20,000
Preliminary Cost Estimate for Task 2:				$170,000
Task 3: Construction				
Mobilization/Demobilization	$ 40,000.00	Lump Sum		$40,000.00
Clearing and Grubbing	$ 4,000.00	per acre	1	$4,000
Waste Removal & Consolidation	$20.00	CY	1700	$34,000
Borrow Soil Excavation	$15.00	CY	1900	$28,500
Cover Soil Placement and Compaction	$0.20	SF	24000	$4,800
Gabion Cube Wall	$1,000.00	CY	200	$200,000
Geotextile Filter	$0.50	SF	1000	$500
Soil Back Fill	$30.00	CY	150	$4,500
Stormwater BMPs	$6.00	LF	1000	$6,000
Hydroseed	$6,500.00	acre	1	$6,500
CM/CQA/Sampling	$150.00	hour	600	$90,000
Laboratory Testing (Environmental)	$2,000.00	each	1	$2,000
Laboratory Testing (Geotechnical)	$1,000.00	each	1	$1,000
Final Report		Lump Sum		$18,000
Preliminary Cost Estimate for Task 3:				$439,800.00
Task 4: Project Management				
Meetings, Coordination, Project Management		5% of Costs		
Preliminary Cost Estimate for Task 4:				$38,000
Preliminary Cost Estimate for Option 2:				**$787,800**

Attachment 3

Soil Analytical Testing Results

Geo-Logic ASSOCIATES

Preliminary Cost Estimate for Conceptual Remediation Alternatives
Orland City Dump, Glenn County, California

Alternative 3: Clean Closure				
Task 1: Engineering & Design				
Waste Delineation and Quantification		Lump Sum		$35,000.00
Construction Design, Plans, Specifications		Lump Sum		$50,000.00
CQA and Confirmation Sampling Plan		Lump Sum		$12,000.00
Preliminary Cost Estimate for Task 1:				$97,000
Task 2: Permitting				
CEQA/NEPA Support Services				
Assume that Calrecycle would Contract a Consultant				$60,000
USACE Aquatic Resources Delineation Field Work and Report				$15,000
Cultural Resources Field and Report				$15,000
USACE Section 404 Nationwide Permit 19 Minor Dredging (Or Nationwide Permit 41 Reshaping				$15,000
Water Board, Section 401 Water Quality Certification Request				$15,000
CDFW, 1600 Streambed Alteration Agreement Request				$15,000
Construction General SWPPP				$15,000
Permit Management				$20,000
Preliminary Cost Estimate for Task 2:				$170,000
Task 3: Construction				
Mobilization/Demobilization	$ 150,000.00	Lump Sum		$150,000.00
Waste Excavation	$10.00	CY	65000	$650,000
Transportation for Disposal (Kettleman Hills Landfill)	$165.00	hour	27400	$4,521,000
Waste Disposal Cost	$63.00	ton	91000	$5,733,000
Stormwater BMPs	$6.00	LF	5000	$30,000
Hydroseed	$5,000.00	acre	10	$50,000
CM/CQA/Sampling	$150.00	hour	1560	$234,000
Laboratory Testing (Geotechnical)	$2,000.00	each	1	$2,000
Laboratory Testing (Environmental)	$12,000.00	each	1	$12,000
H&S/Air Monitoring	$740.00	Day	156	$115,440
Final Report		Lump Sum		$18,000
Preliminary Cost Estimate for Task 3:				$11,515,440.00
Task 4: Project Management				
Meetings, Coordination, Project Management		5% of Costs		
Preliminary Cost Estimate for Task 4:				$590,000.00
Preliminary Cost Estimate for Option 3:				**$12,372,440.00**

Attachment 4

Reference Map

Geo-Logic
ASSOCIATES

Summary of Orland and Orland-Hamilton City Dump Sample Testing Results from Pace Analytical Services LLC

				Sample ID 2414388-, Sample Name 24H1047-										
Sample	STLC Trigger	TCLP Trigger	TTLC Limit	1*	2*	3*	4*	5	6	7	8	9	10	11
Total Concentrations (TTLC) (mg/kg)														
Antimony	150		500	3.0	0.34			1.4	0.42	2.0	1.5		5.9	
Arsenic	50	100	500	12.0	11.0	5.3	7.7	30	8.7	26	13	8.3	8.7	9.0
Barium	1000	2000	10000	140	300	140	140	490	290	2700	410	1400	1500	340
Beryllium	7.5		75	0.5	0.26	0.2	0.25	0.21	0.14	0.21	0.24	0.23	0.19	0.24
Cadmium	10	20	100	13.0	2.1	0.59	0.74	8.8	3.0	7.8	9.4	3.2	3.8	3.90
Chromium	50	100	2500	190	99	110	100	100	94	99	140	94	120	82
Cobalt	800		8000	12	18	14	18	25	13	21	23	19	15	20
Copper	250		2500	430	110	38	48	270	76	700	430	180	160	230
Lead	50	100	1000	90	340	79	150	520	240	920	900	210	410	300
Mercury	2	4	20	0.27	0.13	0.027	0.016	0.35	0.10	0.20	0.19	0.095	0.40	0.52
Molybdenum	3500		3500	3.1	0.87	0.3	0.89	4.2	1.60	4.70	4.1	2.1	2.4	2.2
Nickel	200		2000	98	130	120	140	120	90	120	120	110	97	120
Selenium	10	20	100											
Silver	50	100	500	0.34	0.84	0.082	0.097	1.2	0.33	3.6	1.1	2.0	1.7	0.32
Thallium	70		700											
Vanadium	240		2400	240	76	49	58	51	40	47	52	49	49	51
Zinc	2500		5000	580	570	190	130	2200	770	2500	2300	630	1100	1100
WET Test (STLC) (mg/L)														
Barium			100							21		18	7	
Cadmium			1	0.95										
Chromium			5	3	0.33	0.23	0.21	0.86	0.38	0.63	0.51	0.41	1.2	0.63
Copper			25	16				13		17	15			
Lead			5	0.77	42	8.9	5.9	22	16	29		11	17	17
Vanadium			24	3.1										
Zinc			250							150				

Legend

STLC Testing Required

TCLP Required

California non-RCRA Hazardous Waste

*Samples from Orland City Dump