Environmental Cap and Drainage System Inspection Report

Former Wasser Winters Log Sort Yard (Ecology Facility ID #1218)

Prepared for:

Port of Tacoma

October 31, 2024
Project No. M0615.23.002

Prepared by:

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Environmental Cap and Drainage System Inspection Report

Former Wasser Winters Log Sort Yard (Ecology Facility ID #1218)

The material and data in this report were prepared under the supervision and direction of the undersigned.

Maul Foster & Alongi, Inc.

Brooke Harmon, PE

Senior Engineer

Julia Fudge

Staff Engineer

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Certification

I hereby certify that I am familiar with the facilities addressed in this report and that the inspection was conducted in accordance with acceptable engineering practices.

10-31-2024

Brooke Harmon, PE
Senior Engineer

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Abbreviations

Calbag	Calbag Metals Company
CD	Consent Decree
Ecology	Washington State Department of Ecology
MFA	Maul Foster & Alongi, Inc.
MOU	Memorandum of understanding
Port	Port of Tacoma
Wasser Winters	former Wasser Winters log sort yard

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1 Introduction

This report summarizes the field activities and results for the environmental cap and stormwater drainage system inspection conducted on behalf of the Port of Tacoma (Port) for the former Wasser Winters log sort yard (Wasser Winters). The facility is owned by the Port and operated by Calbag Metals Company (Calbag) on Port Parcel No. 47. The Wasser Winters Facility is located at 1602 Marine View Drive in Tacoma, Washington, and is assigned Ecology Facility ID #1218 (the Site) (Figure 1-1). The ground surface at the Site is covered by a large building surrounded by an environmental cap and has several stormwater drainage features, further described in this report.

Inspection activities were conducted in accordance with the requirements identified in Consent Decree (CD) No. 93-2-08684-4 issued by the Washington State Department of Ecology (Ecology) to the Port (Washington Superior Court 1993) and the operations and maintenance plan contained in the final engineering and design report (Kennedy/Jenks 1993). A memorandum of understanding (MOU) between Ecology and the Port, updating the cap inspection frequency to every 30 months starting with an inspection in February 2012, was issued on September 12, 2011 (Ecology and Port of Tacoma 2011).

1.1 Purpose and Scope

The purpose of this report is to present the findings of the 2024 environmental cap and stormwater drainage system inspection at the Site. The purpose of the environmental cap is to prevent surface water infiltration, exposure of humans and the environment to underlying materials, and erosion. The stormwater drainage system is used to convey stormwater off the cap surfaces to prevent infiltration and erosion.

Maul Foster & Alongi, Inc. (MFA), performed the inspection on August 20, 2024, which included the following tasks:

- Inspection of the asphalt/concrete pavement for the presence of cracks or other failures in the pavement that allow surface water runoff to infiltrate the bark/slag surficial fill (e.g., cracks greater than 1/8 in. wide, sub-base material exposed, pavement edge deterioration, and general appearance).
- Evaluation of the structural and functional condition of the cap and drainage systems (including catch basins, maintenance holes, pump stations and oil/water separators).
- Evaluation of debris/sediment accumulation in the stormwater structures (if visible).

The inspection observations are presented in this report.

1.2 Site Background

Wasser Winters historically operated the Site as a log yard from 1972 to 1984 (Ecology 2019). To stabilize the Site for heavy loads associated with log yard operations, ASARCO slag was placed on the

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Site in the 1970s and early 1980s. The Site is currently operated by Calbag Metals Company (Calbag), a metals recycling company.

In 1991, Ecology issued an Agreed Order (No. DE 91-S248) for a remedial investigation/feasibility study at the Site that included soil, groundwater, and surface water runoff sampling (Ecology 2019). In 1993, a cleanup action plan was completed for the Site; the plan was included in the Site's consent decree (Ecology 1993). Remedial activities, including the installation of a low-permeability asphalt cap and stormwater drainage system, were conducted in 1993.

Calbag vacated the southern 3.4 acres of the Site in 2016, at which time portions of the pavement previously under scrap metal piles and equipment were exposed. This area was repaired by the Port in October 2017. Additional minor repairs were generally conducted in the central and northern portion of the Site in 2021, and are documented in the 2022 cap inspection report (MFA 2022).

Groundwater quality is monitored on a 30-month schedule (Ecology 2011).Due to an increase in arsenic concentrations at monitoring well CMW-3, Ecology requested an interim groundwater monitoring event in February 2018, and the Port elected to conduct supplemental events annually each February in 2019 through 2022 and in March 2023. The last groundwater monitoring event was conducted in August 2024 (MFA 2024). The results of the recent groundwater monitoring events indicate arsenic concentrations continue to decrease following the 2017 cap repairs.

The Port is required to conduct environmental cap and drainage system inspections (inspections) every 30 months (Ecology 2011). The last inspection was performed in February 2022 (MFA 2022). Surficial gouges across majority of the cap and unsealed cracks in and near the employee parking lot were observed during the 2022 inspection. MFA recommended monitoring the gouges and sealing cracks near the employee parking lot area, repairing pavement in the vicinity of a former madrone tree, and sealing cracks at several locations. After the 2022 inspection, the pavement repair in the vicinity of the former madrone tree was completed and the joints between the existing asphalt and patches were repaired at several locations using asphalt and sealer.

2 Field Observations

MFA performed the cap and stormwater drainage system inspection at the Site on August 20, 2024, making use of the previous inspection results. The inspection was led by a Washington State licensed professional engineer.

2.1 Environmental Cap

The inspector was able to observe a majority of the paved surfaces with the exception of pavement located under metal debris stockpiles located throughout the site and near dumpsters west of the site entrance. Relevant Site features and the Site boundary are shown on Figure 2-1. Photographs depicting cap issues are provided in Table 2-1.

Asphalt across the cap was generally in good condition. Shallow gouges less than one inch deep were observed across a majority the cap. These gouges are believed to be caused by equipment activity on the site and do not appear to be impacting the integrity of the cap at this time. There were

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several areas of surface depressions in the asphalt believed to be caused by activity on the site. Some vegetation growing from the asphalt was observed around the northeast corner of the building (See P23 on Table 2-1).

Pavement repairs observed during the 2024 inspection are presented in Figure 2-2 and described in Table 2-2.

The table below provides a summary of the cap conditions observed during the 2024 inspection; observations, photographs, and recommended actions keyed to specific locations are presented in Table 2-1 following this report.

Environmental Cap Conditions and Recommended Actions

Required Inspection Element	Observed Condition	Recommended Action
Presence of cracks wider than 1/8 inch	Cracks wider than 1/8 inch were observed across the site	Repair pavement as shown in Figure 2-1 and described in Table 2-1
Pavement edge deterioration	Minor pavement edge deterioration observed near the southeastern edge	Continue to monitor and reevaluate during next inspection cycle
Degradation, subsidence, general appearance	Surficial depressions observed in asphalt across site;	Continue to monitor and reevaluate during next inspection cycle

2.2 Stormwater Drainage System

The Site's stormwater drainage system consists of 10 catch basins, five maintenance holes, one pump station, and one oil/water separator (formerly a spill containment vessel). In 2024, each drainage system component was inspected for general appearance, sediment and debris accumulation, and structural and functional condition. Catch basins CB1, CB3, CB4, CB7, CB8, CB9, and CB10, were only partially inspected because they were not accessible due to ponded water from the active rain event or the grate was unable to be removed due to a damaged insert or tight fit of the grate. Catch basin CB2 was not inspected because it has been permanently sealed with a steel plate. Maintenance hole MH1 was unable to be located (consistent with the last several inspections). The stormwater features were observed to be functioning normally. Table 2-3 summarizes the observations made at each drainage structure.

3 Status and Recommendations

3.1 Maintenance and Repair Performed Since Previous Inspection

3.1.1 Environmental Cap

The 2022 inspection recommended the following repairs:

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- Seal cracks at P7, P10, P11, and P19
- Repair pavement in the vicinity of the former madrone tree at P3
- Seal the cracks adjacent to the repaired asphalt at P13, and P20

As described in Section 1.2, Table 2-2, the following items have been repaired:

- Pavement repair completed in the vicinity of former madrone tree
- Several cracks were sealed

3.1.2 Stormwater Drainage System

The 2022 inspection recommended the following stormwater system maintenance:

- Remove floatables and organic sheen from maintenance holes, catch basins, and the oil/water separator
- Consider replacing filter inserts in catch basins CB4, CB8, and CB9
- Remove debris and sediment accumulation from around catch basins CB1, CB8, CB9, and CB10

Some of the above maintenance issues were either not addressed since the last reporting period or are reoccurring. The tenant holds an Industrial Stormwater Permit and performs inspections and maintenance on the stormwater infrastructure as required by the permit. Section 2.2 and Table 2-3 described current repair/maintenance items observed during the 2024 inspection.

3.2 Recommendations

3.2.1 Environmental Cap

The following recommendations are based on this 2024 inspection:

- Seal cracks at P19 and P26
- Remove vegetation at P23
- Monitor asphalt gouges and pavement deteriorations and reevaluate during the next inspection cycle (P5, P6, P8, P9, P12, P13, P14, P15, P16, P18, 921, P24, P25, P27, P28, and P29).

Asphalt across the cap was generally in satisfactory condition, with asphalt gauges and unsealed cracks identified across the Site. Size and frequency of gauges increased in areas of high material handling area or stockpiling. It is recommended that the cracks wider than 1/8 inch across the Site be resealed. The asphalt repairs from 2021 are generally in good condition but show gouges from metal debris and should be monitored. Required and recommended actions are described in further detail in Tables 2-1 and 2-2.

3.2.2 Stormwater Drainage System

The following recommendations are based on this 2024 inspection:

- Remove floatables from maintenance holes and catch basins, as identified in Table 2-3
- Consider replacing filter inserts in catch basins CB3, CB4, CB5, CB6, CB7, and CB8

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- Remove debris and sediment accumulation from around catch basins CB1, CB7, CB8, CB9, and CB10
- Determine status and condition of maintenance hole MH1

Floatables were observed in several catch basin and maintenance hole structures. Structures should be cleaned in accordance with stormwater maintenance requirements. Some catch basin inserts were missing or had sediment and debris accumulation which warrants replacement. Stormwater structures were generally in good condition and recommendations are limited to regular cleaning and maintenance, as required by the tenant's stormwater permit. Required and recommended actions are further described in Table 2-3.

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References

Ecology. 1993. Consent Decree No. 93-2-08684-4, State of Washington Department of Ecology, plaintiff, v. Port of Tacoma, defendant. August 27.

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Kennedy/Jenks. 1993. *Final Engineering and Design Report, Wasser & Winters site log sort yard site (revised)*. Kennedy/Jenks Consultants, Federal Way, WA. October.

MFA. 2022. *Environmental Cap and Drainage System Inspection Report, Former Wasser & Winters Log Sort Yard.* Prepared for Port of Tacoma. Maul Foster & Alongi, Inc.: Seattle, WA. June 17.

MFA. 2024. *Groundwater Monitoring Report, Former Wasser & Winters Log Sort Yard, Consent Decree No. 93-2-08684-4, Facility Site ID: 1218, Monitoring Date: August 14, 2024.* Letter to S. Hooton, Port of Tacoma, from A. Hackett and C. Wise, Maul Foster & Alongi, Inc., October 11.

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Limitations

The services undertaken in completing this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a third party is at such party's sole risk.

Observations in this report are limited to environmental cap areas that were visible to the MFA field team. In some instances, portions of the cap surface may have been covered and not readily available for inspection. Inspection of stormwater structures was limited to observations made from the surface and by means of direct observation, probes (extendible poles to check for sediment), and photography. No confined space entry was performed. Observation of some stormwater structures was also limited by storm flow and/or the presence of damaged or sediment-laden catch basin inserts that could not be safely removed. No guarantee is made that all cap or stormwater deficiencies that could impact cap/drainage system performance were identified.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

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Figures

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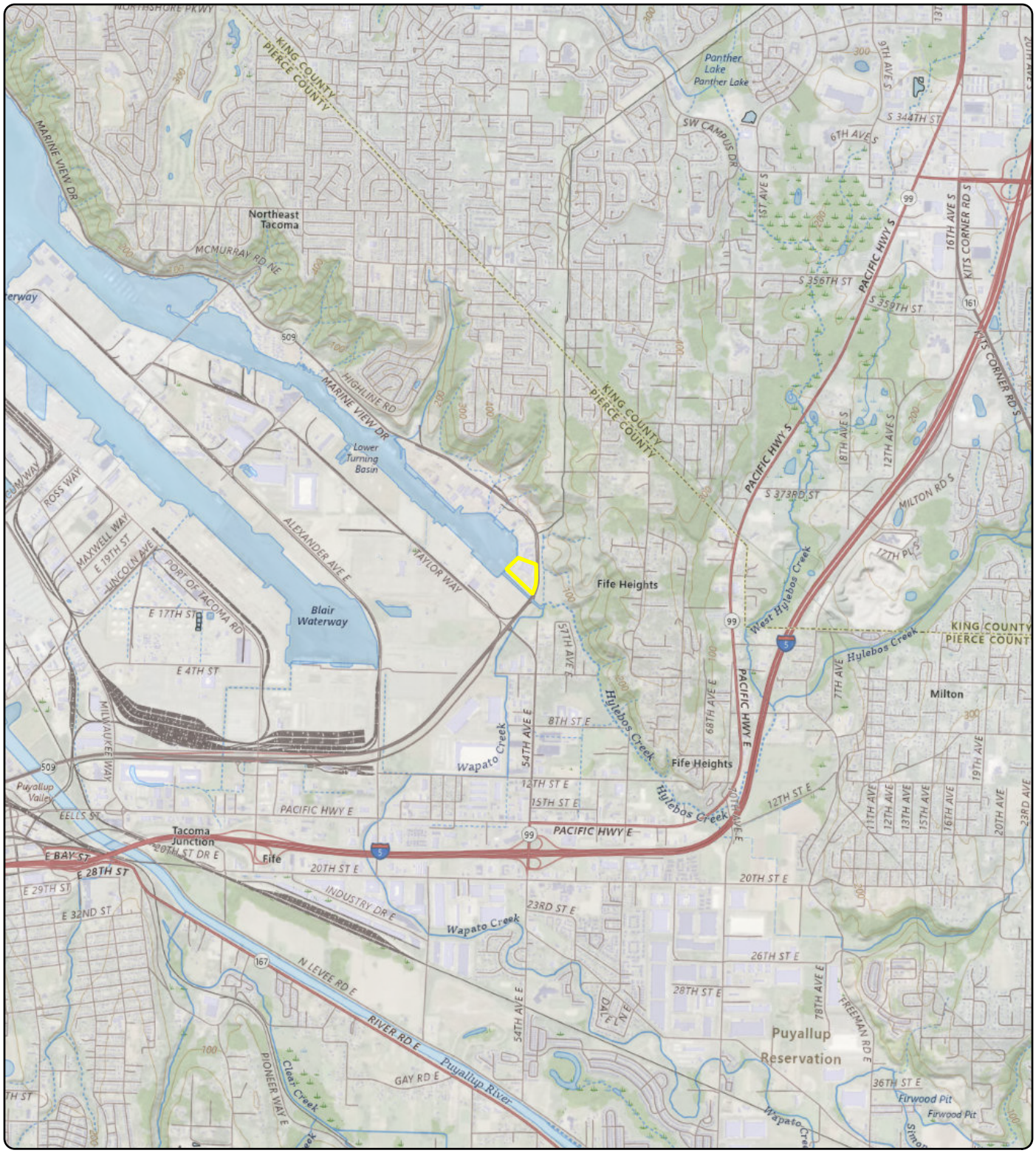

Source:
U.S. Geological Survey (2021) 7.5-minute topographic quadrangle: Poverty Bay; Township 21 north, range 3 east, section 36; Property boundary obtained from Pierce County GIS.

Legend

Site Boundary

Figure 1-1
Site Location

Former Wasser & Winters Company
Log Sort Yard
1602 Marine View Drive
Tacoma, Washington

0 1,000 2,000
Feet

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Reviewed By: ahackett
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Figure 2-1
Environmental Cap Issues Observations

Former Wasser & Winters Company
Log Sort Yard
1602 Marine View Drive
Tacoma, Washington

Legend

- Pavement Observation
- Site Boundary
- Tax Lot

NOTE:
Inspection completed on August 20, 2024.

0 100
Feet

Source:
Aerial photograph obtained from Bing; tax lot data obtained from Pierce County GIS.

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Figure 2-2
Environmental Cap Repairs Observations

Former Wasser & Winters Company
Log Sort Yard
1602 Marine View Drive
Tacoma, Washington

Legend

- Pavement Observation
- Site Boundary
- Tax Lot

NOTE:
Inspection completed on August 20, 2024.

0 100
Feet

Source:
Aerial photograph obtained from Bing; tax lot data obtained from Pierce County GIS.

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Figure 2-3
Stormwater Drainage System Observations

Former Wasser & Winters Company
Log Sort Yard
1602 Marine View Drive
Tacoma, Washington

Legend

Type

- Catch Basin
- Maintenance Hole
- Oil/Water Separator
- Pump Station
- Site Boundary
- Tax Lot

NOTE:
Inspection completed on August 20, 2024.

0 100
Feet

Source:
Aerial photograph obtained from Bing; tax lot data obtained from Pierce County GIS.

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Tables

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Table 2-1: Environmental Cap Issues Observed During 2024 Inspection

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P5	Pavement	Surface gouging, typical; less than 1 inch deep	Monitor and reevaluate repair during next inspection cycle	
P6	Pavement	Surface gouging; typical; less than 1 inch deep	Monitor and reevaluate repair during next inspection cycle	

[1] Pavement IDs are sequentially numbers and are continued from previous cap inspection events to maintain consistency with recurring pavement observations. Skipped numbers indicate the issue was addressed in a previous inspection and is no longer an issue or is a repair (See Table 2-2).

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Project Number: M0615.23.001
Location: Wasser & Winters

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P8	Pavement	Repaired/sealed cracks incompletely sealed	Reseal	
P9	Pavement	Gouge in asphalt; approximately 1 foot by 4 inches	Monitor and reevaluate during next inspection cycle	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P16	Pavement	Gouges, scratches, and depressions; typical; less than 1 inch deep	Monitor for cracking and repair if observed; reevaluate during next inspection cycle	
P19	Pavement	Crack wider than 1/8 inch; extends approximately 2 feet from building corner in the vicinity of the roof drain.	Seal crack	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P23	Pavement	Vegetation growth from cracks less than 1/8 inch wide	Remove vegetation; monitor and reevaluate during next inspection cycle	
P24	Pavement	Multiple gouges in asphalt less than 1 inch deep, various lengths	Monitor and reevaluate during next inspection cycle	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P25	Pavement	Asphalt depression approximately 1 foot wide and 1 inch deep	Monitor for cracking and repair if observed; reevaluate during next inspection cycle	
P26	Pavement	Two parallel cracks wider than 1/8 inch wide, approximately 30 feet long	Seal cracks	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P27	Pavement	Surface depressions and gouges	Monitor and reevaluate during next inspection cycle	
P28	Pavement	Surface depressions and gouges	Monitor and reevaluate during next inspection cycle	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P29	Pavement	1.5 inch deep depression; about 2 feet by 1 foot	Monitor for cracking and repair if observed; reevaluate during next inspection cycle	

Notes:
ID = location identification number
P = pavement

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Table 2-2: Environmental Cap Repairs Observed During 2024 Inspection

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P3	Pavement	Madrone stump removed and gap patched with asphalt	None	
P7	Pavement	Sealed cracks; sealant in good condition	None	

[1] Pavement IDs are sequentially numbers and are continued from previous cap inspection events to maintain consistency with recurring pavement observations. Skipped numbers indicate the repair was observed during a previous inspection and no action was required or its presented as an issue needing repair (See Table 2-1).

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Project Name: Environmental Cap Repairs Inspection Report
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Location: Wasser & Winters

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P8	Pavement	Sealed cracks; asphalt cracked in places	Reseal	
P10	Pavement	Sealed cracks; sealant in good condition	None	

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Location: Wasser & Winters

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P11	Pavement	Sealed crack running parallel to building; sealant in good condition; approximately 12 lf	None	
P12	Pavement	Previous asphalt repair in good condition	None	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P13	Pavement	Sealed cracks; sealant in good condition	None	
P14	Pavement	Previous asphalt repair, good condition	None	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P15	Pavement	Repaired asphalt; approximately 12 lf by 15 lf	None	
P17	Pavement	Previous asphalt repair; good condition	None	

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ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P18	Pavement	Previous asphalt repair; good condition	None	
P20	Pavement	Sealed cracks; sealant in good condition	None	

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Location: Wasser & Winters

ID[1]	Type of Structure	Observation	Recommended Actions	Photographs
P21	Cap edge	Repaired asphalt edge, 30 lf of the southeast portion	None	
P22	Pavement	Sealed crack; approximately 4 lf; sealant in good condition	None	

Notes:
ID = location identification number
lf = linear feet
P = pavement

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Table 2-3: Stormwater Drainage System Issues Observed During 2024 Inspection

ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
CB1	Catch basin	Unable to inspect	nm	Unable to access due to rain event and ponded water	Monitor and reevaluate during next inspection	
CB2	Catch basin	Unable to inspect	nm	Catch basin sealed closed with metal plate/does not receive stormwater	None	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
CB3	Catch basin	Unable to inspect interior of structure due to tight fit of grate	Sediment and debris accumulation visible in insert	Damaged insert. Prior to inspection, structure was covered by steel plate to protect structure from heavy equipment used in the vicinity	Replace insert; clean structure in accordance with stormwater maintenance requirements. Consider permanently sealing structure, similar to CB2	
CB4	Catch basin	Unable to inspect due to integrity of insert	Sediment and debris accumulation visible in insert	Damaged insert	Replace insert; clean structure in accordance with stormwater maintenance requirements	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
CB5	Catch basin	Structurally sound, functioning normally.	Water in structure and too deep to measure	No insert, trace floatables on surface	Replace insert; remove floatables in accordance with stormwater maintenance requirements	
CB6	Catch basin	Structurally sound, functioning normally.	Water in structure and too deep to measure	No insert; floatables and sheen on surface	Replace insert; remove floatables in accordance with stormwater maintenance requirements	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
CB7	Catch basin	Unable to inspect	Sediment and debris accumulation around structure	Damaged insert;	Clean structure in accordance with stormwater maintenance requirements; replace insert	
CB8	Catch basin	Unable to inspect	Sediment accumulation around structure	Damaged insert; trash and debris around structure	Clean structure in accordance with stormwater maintenance requirements; replace insert	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
CB9	Catch basin	Unable to inspect	nm	Straw barrels and waddles surround structure	Monitor and reevaluate during next inspection cycle	
CB10	Catch basin	Unable to inspect	nm	Debris and sediment accumulation around structure	Monitor and reevaluate during next inspection cycle	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
MH1	Maintenance hole	Unable to locate	nm	None	Could not locate maintenance hole (consistent with inspections conducted after 2014); investigate if manhole was decommissioned	[no photograph]
MH2	Maintenance hole	Structurally sound; functioning normally	Water in structure and too deep to measure	None	None	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
MH3	Maintenance hole	Structurally sound; functioning normally	Water in structure and too deep to measure	None	None	
MH4	Maintenance hole	Structurally sound; functioning normally	Water in structure and too deep to measure	Floatables on surface	Remove floatables in accordance with stormwater maintenance requirements	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
MH5	Maintenance hole	Structurally sound; functioning normally	Water in structure and too deep to measure	None	None	
OW1	Oil/water separator	Structurally sound; functioning normally	Water in structure and too deep to measure	None	None	

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ID	Type of Structure	Observed Condition	Sediment Accumulation	Additional Observations	Recommended Actions	Photographs
PS	Pump station	Structurally sound; functioning normally	Water in structure and too deep to measure	None	None	

Notes:
CB = catch basin
ID = location identification number
MH = maintenance hole
nm = not measured
OWS = oil water separator
PS = pump station

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