

## **ATTACHMENT D-1: BENEFICIAL USES AND 303(D)-LISTED POLLUTANTS**



**Table 1 Beneficial Uses and 303(d) Listed Pollutants within the Surface Water Resource Study Area**

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
<b>San Francisco to South San Francisco Subsection</b>				
Mission Creek/China Basin Channel	COMM, EST, WILD, REC-1, REC-2, NAV	Ammonia, chlordane, dieldrin, hydrogen sulfide, lead, mercury, PAH, PCB, silver, zinc	Table 3-1, Table 3-2, Table 3-3, Table 3-3A, Table 3-3B, Table 3-3C DO: 5.0 mg/L minimum Un-ionized ammonia: 0.4 mg/L as N	Mission Creek/China Basin Channel is not within the project footprint. There would be no impact on beneficial uses, water quality objectives, or listed impairments of Mission Creek/China Basin Channel, because a portion of the project footprint within the Mission Creek watershed drains into San Francisco's combined sewer system and project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs.
Drainage Ditch 1	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the drainage ditch. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management during operations may result in intermittent impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Islais Creek Channel	COMM, EST, WILD, REC-1, REC-2, NAV	Ammonia, chlordane, dieldrin, hydrogen sulfide, PAHs, toxicity	Table 3-1, Table 3-2, Table 3-3, Table 3-3A, Table 3-3B, Table 3-3C DO: 5.0 mg/L minimum Un-ionized ammonia: 0.4 mg/L as N	Islais Creek Channel is not within the project footprint. There would be no impact on beneficial uses, water quality objectives, or listed impairments of Islais Creek Channel, because project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs. Additionally, a portion of the project footprint within the Islais Creek Channel watershed drains into San Francisco's combined sewer system.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Wetland 1	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the wetland. This work may potentially result in erosion or discharge of polluted runoff. The installation of a culvert would be required for the wetland to pass below a proposed radio communication tower. Modifications to this waterbody would change the slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. Culvert maintenance and vegetation management during operations may result in intermittent impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs.
Drainage Ditch 2 and Wetlands	None listed in the Basin Plan Palustrine wetland beneficial uses may apply to the wetlands: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the drainage ditch, which contains wetlands. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management during operations may result in intermittent impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Visitacion Creek	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Construction of the East Brisbane LMF would require placing the creek into an underground culvert along the current creek alignment. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel length and slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. However, if groundwater contributes baseflows or seepage into the creek, the proposed culvert would improve water quality by impeding seepage of shallow groundwater contaminated by leachate from the former Brisbane Class II landfill into the creek. Additionally, routine maintenance on the proposed culvert and vegetation management during operations may result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Visitacion Creek and Visitacion Creek tributary with BMPs. However, biological mitigation requirements would be determined in coordination with the Authority, USEPA, and USACE.
Visitacion Creek wetlands	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	Construction of the East Brisbane LMF would likely require filling a portion of the wetland area. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this waterbody would change the slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. All beneficial uses would be permanently affected in these areas. Additionally, vegetation management and routine maintenance on the proposed culvert may result in intermittent operations impacts. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs. Biological mitigation requirements for fill would be determined in coordination with the Authority, USEPA, and USACE.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Visitacion Creek Scrub/Shrub Wetlands	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	Construction of the East Brisbane LMF would likely require filling a portion of the wetland area. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this waterbody would change the slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. All beneficial uses would be permanently affected in these areas. Additionally, vegetation management and routine maintenance on the proposed culvert may result in intermittent operations impacts. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs. Biological mitigation requirements for fill would be determined in coordination with the Authority, USEPA, and USACE.
Visitacion Creek constructed basins	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	The realignment of Tunnel Avenue to the east of the East Brisbane LMF would require filling one of the constructed basins and temporarily disturbing the other constructed basin. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this waterbody would change the slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into Visitacion Creek Constructed Basins during construction and operation with BMPs. Biological mitigation requirements for fill would be determined in coordination with the Authority, USEPA, and USACE.
Visitacion Creek Tributary and Wetland	None listed in the Basin Plan Palustrine wetland beneficial uses may apply to the wetland: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives of Visitacion Creek tributary, which contains a wetland area, because it is not within the project footprint and project features would control sediment transport and prevent non-stormwater discharges in the watershed with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Brisbane wetlands	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses or water quality objectives of Brisbane wetlands because they are not within the project footprint.
Guadalupe Valley Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The existing culvert where Guadalupe Valley Creek crosses the railbed would be extended; therefore, there would be temporary and permanent impacts on Guadalupe Valley Creek. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. All beneficial uses would be permanently affected in the newly culverted area. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, vegetation management and routine maintenance on the proposed culvert may result in intermittent operation impacts. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs. Biological mitigation requirements for the extended culvert would be determined in coordination with the Authority, USEPA, and USACE.
Guadalupe Valley Creek Saline Wetland	Estuarine wetland beneficial uses likely apply: AGR, COMM, EST, GWR, MIGR, NAV, REC-1, REC-2, SHELL, SPWN, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	The existing culvert where Guadalupe Valley Creek crosses the railbed would be extended; therefore, there would be temporary and permanent impacts on this saline wetland adjacent to Guadalupe Valley Creek. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. All beneficial uses would be permanently affected in the newly culverted area. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, vegetation management and routine maintenance on the proposed culvert may result in intermittent operation impacts. Project features would control sediment transport and prevent non-stormwater discharges during construction and operations with BMPs. Biological mitigation requirements for the extended culvert would be determined in coordination with the Authority, USEPA, and USACE.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Wetland 2	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	The realignment of Lagoon Road would require Wetland 2 to be permanently filled. This work may potentially result in erosion or discharge of polluted runoff. This would also cause a depletion of water resources within the Project Section. Refer to Section 3.7, Biological and Aquatic Resources, for additional information on completely filled waterbodies. Biological mitigation requirements for fill would be determined in coordination with the Authority, USEPA, and USACE.
Brisbane Lagoon	EST, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-3, Table 3-3A, Table 3-3B, Table 3-3C DO: 5.0 mg/L minimum Un-ionized ammonia: 0.4 mg/L as N	There would be no impact on beneficial uses or water quality objectives of Brisbane Lagoon, because it is anticipated that it would be avoided by construction and operations activities. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, project features would control sediment transport and prevent non-stormwater discharges into Brisbane Lagoon and other tributary drainage systems.
Brisbane Lagoon Saline Wetlands	Estuarine wetland beneficial uses likely apply: AGR, COMM, EST, GWR, MIGR, NAV, REC-1, REC-2, SHELL, SPWN, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses or water quality objectives of Brisbane Lagoon Saline Wetlands, because it is anticipated that it would be avoided by construction and operations activities. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, project features would control sediment transport and prevent non-stormwater discharges into Brisbane Lagoon and other tributary drainage systems.
Brisbane Lagoon Scrub/Shrub Wetland	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses or water quality objectives of Brisbane Lagoon Scrub/Shrub Wetlands, because it is anticipated that it would be avoided by construction and operations activities. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, project features would control sediment transport and prevent non-stormwater discharges into Brisbane Lagoon and other tributary drainage systems.



Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Oyster Point Channel	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses or water quality objectives of Oyster Point Channel during construction, because there are no proposed changes to the existing crossing structure and there are no anticipated operations impacts. However, routine maintenance may be required on the existing bridge/culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Additionally, project features would control sediment transport and prevent non-stormwater discharges into Oyster Point Channel.
Saline Wetland 1	Estuarine wetland beneficial uses likely apply: AGR, COMM, EST, GWR, MIGR, NAV, REC-1, REC-2, SHELL, SPWN, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in minor disturbances to the saline wetland during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the wetland during construction and operations with BMPs.
Drainage Ditch 13	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the drainage ditch. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management during operations may result in intermittent impacts. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Wetland 3	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in in minor disturbances to the wetland during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the wetland during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Colma Creek	WARM, WILD, REC-1, REC-2	Trash	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses, water quality objectives, or listed impairments of Colma Creek during construction, because there are no proposed changes to the existing crossing structure. However, routine maintenance may be required on the existing bridge structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into the Colma Creek watershed during intermittent maintenance activities. Additionally, during operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment.
<b>San Bruno to San Mateo Subsection</b>				
Drainage Ditch 3	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in minor disturbances to the drainage ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Wetland 4	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in minor disturbances to the wetland swale during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the wetland during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Drainage Ditch 4	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in in minor disturbances to the drainage ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Drainage Ditch 5	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the drainage ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Drainage Ditch 6	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management could result in in minor disturbances to the drainage ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
San Bruno Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on beneficial uses or water quality objectives of San Bruno Creek during construction, because it flows through an underground culvert within the project footprint and there are no proposed changes to the existing culvert. No permanent impacts are anticipated. The waterbody would receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into the drainage systems that outfall into San Bruno Creek during construction and operations.
El Zanjon	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on water quality objectives of El Zanjon during construction, because it flows through an underground culvert within the project footprint and there are no proposed changes to the existing culvert. No permanent impacts are anticipated. The waterbody would receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into the drainage systems that outfall into El Zanjon during construction and operations.
Drainage Ditch 7	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the drainage ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Highline Creek	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Upstream of the railbed, a daylighted section of the channel would be covered and a portion of the channel would be relocated. Where the channel crosses the railbed, the existing eight 54-inch reinforced concrete pipe culverts would be extended. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. All beneficial uses would be permanently affected in the newly covered and culverted areas. Biological mitigation requirements would be determined in coordination with the Authority, USEPA, and USACE. Routine maintenance may be required on the culvert structures intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges in the Highline Creek watershed during construction and operations with BMPs.
Highline Creek Tributary and Wetlands	None listed in the Basin Plan Palustrine wetland beneficial uses may apply to the wetlands: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Culverts would be installed to allow flows to pass below two alternate sites for a radio communication tower. This work may potentially result in erosion or discharge of polluted runoff. Modifications to the channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. All beneficial uses would be permanently affected in the culverted areas. Biological mitigation requirements for the new culverts would be determined in coordination with the Authority, USEPA, and USACE. Routine maintenance may be required on the culvert structures intermittently during operations. Additionally, vegetation management could result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges in the Highline Creek watershed during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Drainage Ditch 8	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	Drainage Ditch 8 would be temporarily disturbed from work within the ditch required for permanent utility relocations and demolition activities. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into the ditch during construction and operations with BMPs.
El Portal Canal	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The two existing 54-inch corrugated metal pipe culverts where El Portal Canal crosses the railbed would be extended in the upstream direction. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. Biological mitigation requirements would be determined in coordination with the Authority, USEPA, and USACE. Routine maintenance may be required on the culvert structures intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges in the El Portal Canal watershed during construction and operations with BMPs.
Mills Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on water quality objectives of Mill Creek during construction, because there are no proposed changes to the existing culvert where it crosses the railbed. However, vegetation management could result in minor disturbances and intermittent operation impacts, and routine maintenance on the existing culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Mills Creek during construction and operations.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Mills Creek Tributary Wetland	Beneficial uses of Mills Creek may apply: WARM, WILD, REC-1, REC-2  Palustrine wetland beneficial uses may also apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-1, Table 3-2, Table 3-4  DO: 5.0 mg/L minimum	The existing culvert near this wetland would be extended in the upstream direction, which may require work in the wetland area. This work may potentially result in erosion or discharge of polluted runoff. Modifications to the culvert would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the wetland. Biological mitigation requirements for the extended culvert would be determined in coordination with the Authority, USEPA, and USACE. Vegetation management could also result in intermittent operation impacts, and routine maintenance on the culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Mills Creek tributary wetland during construction and operations.
Easton Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4  DO: 5.0 mg/L minimum	The existing culvert where Easton Creek crosses the railbed and its concrete-lined channel would be protected during the construction phase. However, a track shift could result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Easton Creek during construction and operations with BMPs.

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Sanchez Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The existing 4-foot by 10-foot box culvert would be extended. This work may potentially result in erosion or discharge of polluted runoff. Modifications to this channel would change the channel slopes, affecting the path, speed, and volume of existing discharges to and existing flows within the waterbody. Biological mitigation requirements for the extended culvert would be determined in coordination with the Authority, USEPA, and USACE. Additionally, vegetation management could result in temporary and intermittent operation impacts, and routine maintenance on the existing culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Sanchez Creek during construction and operations with BMPs.
Sanchez Creek Tributary and Wetland	Beneficial uses of Sanchez Creek apply: WARM, WILD, REC-1, REC-2 Palustrine wetland beneficial uses may apply to the wetland: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The existing 54-inch reinforced concrete pipe culvert would be protected during the construction phase. However, a track shift could result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could result in intermittent operation impacts, and routine maintenance on the existing culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Sanchez Creek tributary during construction and operations with BMPs.
Burlingame Creek	None listed in the Basin Plan	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on water quality objectives of Burlingame Creek during construction, because there are no proposed changes to the existing culvert where it crosses the railbed. However, vegetation management and routine maintenance on the existing culverts could result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Burlingame Creek during construction and operations with BMPs.



Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
San Mateo Creek	FRSH, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2	Toxicity	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There are no proposed changes to the existing bridge over San Mateo Creek. However, a temporary construction easement in the creek, a track shift, and construction activities at the San Mateo station could result in minor disturbances to San Mateo Creek. This work may potentially result in erosion or discharge of polluted runoff. Additionally, vegetation management and routine maintenance on the existing bridge could result in intermittent operation impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.
<b>San Mateo to Palo Alto Subsection</b>				
Drainage Ditch 9	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	There would be no permanent impacts on Drainage Ditch 9, but vegetation management could result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. Vegetation management could also result in intermittent operation impacts to the ditch. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Leslie Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The existing 4.4-foot by 10.6-foot box culvert would be protected during the construction phase, so there would be no permanent impacts on Leslie Creek. However, vegetation management could result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. Vegetation management could also result in intermittent operation impacts to Leslie Creek, and routine maintenance on the existing culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into Leslie Creek during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Drainage Ditch 11	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	There are no proposed changes to the culvert where the ditch crosses the railbed. However, vegetation management could result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. Vegetation management may also result in intermittent operation impacts to the drainage ditch. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Borel Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management and routine maintenance on the existing culvert could result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into Borel Creek during construction and operations with BMPs.
Wetland 5	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to the wetland during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; vegetation management could also result in intermittent operation impacts on the wetland. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the wetland during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Drainage Ditch 12	None listed in the Basin Plan	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to the ditch during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts to the ditch. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives by controlling sediment transport and preventing non-stormwater discharges into the ditch during construction and operations with BMPs.
Fiesta Creek	None listed. Beneficial uses of Borel Creek may apply: WARM, WILD, REC-1, REC-2  Palustrine wetland beneficial uses may also apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to Fiesta Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; vegetation management could also result in intermittent operation impacts to Fiesta Creek. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.
Laurel Creek	WARM, WILD, REC-1, REC-2	Diazinon	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives, beneficial uses, or diazinon impairment of Laurel Creek during construction. There would be no impact during construction because Laurel Creek is located entirely in an underground culvert within the project footprint except for a small daylighted area that is surrounded by permanent fencing. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into Laurel Creek during construction and operations with BMPs. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Laurel Creek tributary	Beneficial uses of Laurel Creek apply: WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to Laurel Creek tributary during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts to Laurel Creek tributary, and routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.
Laurel Creek Tributary Wetland	Palustrine wetland beneficial uses likely apply: AGR, COLD, FRSH, GWR, NAV, REC-1, REC-2, SPWN, WARM, WILD, RARE.	None	Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to Laurel Creek tributary wetland during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts to Laurel Creek tributary wetland, and routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.
Belmont Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to Belmont Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts to Belmont Creek. Routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Brittan (Arroyo) Creek	None listed. Beneficial uses of Pulgas Creek apply: WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Brittan (Arroyo) Creek during construction. There would be no impact during construction because there are no proposed changes to the existing culvert and the creek is located in a concrete channel with vertical walls that is surrounded by permanent fencing. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges in the Brittan (Arroyo) Creek watershed during construction and operations with BMPs.
Pulgas Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Pulgas Creek during construction, because there are no proposed changes to the existing culvert and a majority of the creek is located in an underground conduit within the project footprint. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges in the Pulgas Creek watershed during construction and operations with BMPs.
Cordilleras Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	Vegetation management may result in minor disturbances to Cordilleras Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts on Cordilleras Creek, and routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into the creek during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Arroyo Ojo de Agua	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Arroyo Ojo de Agua. There would be no impact because the creek is located almost entirely within an underground conduit within the project footprint and there are no proposed changes to the existing culvert. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into drainage systems within the Arroyo Ojo de Agua watershed during construction and operations with BMPs.
Redwood Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Redwood Creek, because the creek is located entirely within an underground conduit within the project footprint and there are no proposed changes to the existing culvert. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into drainage systems within the Redwood Creek watershed during construction and operations with BMPs.
Atherton Channel	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	The existing twin box culverts would be protected during the construction phase. However, vegetation management may result in minor disturbances to Atherton Channel during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management could also result in intermittent operation impacts on Atherton Channel, and routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the channel during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
San Francisquito Creek	COLD, MIGR, SPWN, WARM, WILD, REC-1, REC-2	Diazinon, sedimentation /siltation, trash	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There would be a track shift on the existing bridge over San Francisquito Creek, but there are no proposed changes to the bridge structure. However, vegetation management may result in minor disturbances to San Francisquito Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management and routine maintenance may be required on the existing bridge structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs. Due to the sediment-related impairment, robust construction site BMPs that stabilize disturbed soil and minimize erosion would be employed near San Francisquito Creek. During operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities.
Constructed Watercourse 1	None listed in the Basin Plan.	None	Table 3-4 DO: 5.0 mg/L minimum	A track shift may result in minor disturbances to the watercourse during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated. Vegetation management near the watercourse may be required intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the watercourse during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Matadero Creek	COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2	Diazinon, trash	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Matadero Creek during construction, because there are no proposed changes to the existing culvert. However, a track shift may result in minor disturbances to the creek during construction. This work may potentially result in erosion or discharge of polluted runoff. Routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into drainage systems within the Matadero Creek watershed during construction and operations with BMPs. During operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment. Additionally, the pesticide diazinon would not be used for any construction or operations phase activities.
Barron Creek	WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	A track shift may result in minor disturbances to Barron Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into the creek during construction and operations with BMPs.
Adobe Creek	COLD, WARM, WILD, REC-1, REC-2	None	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Adobe Creek during construction, because there are no proposed changes to the existing. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would control sediment transport and prevent non-stormwater discharges into drainage systems within the Adobe Creek watershed during construction and operations with BMPs.

**Mountain View to Santa Clara Subsection**



Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Permanente Creek	GWR, COLD, RARE, SPWN, WARM, WILD REC-1, REC-2	Diazinon, selenium (total), toxicity, trash	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of Permanente Creek during construction, because there are no proposed changes to the existing culvert. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into Permanente Creek during construction and operations with BMPs. During operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities. There would be no impact on the selenium impairment, because the primary source of selenium in the creek is a quarry located upstream of the project footprint.
Stevens Creek	FRSH, GWR, COLD, MIGR, RARE, SPWN, WARM, WILD, REC-1, REC-2	Diazinon, temperature (water), toxicity, trash	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to Stevens Creek during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management may also result in intermittent operation impacts to Stevens Creek, and routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into Stevens Creek during construction and operations with BMPs. During operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities. Vegetation management could result in small, incremental increases in water temperature, but these changes are not likely to be detectable.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
Sunnyvale East Channel	None listed. Beneficial uses of Guadalupe Slough apply: EST, RARE, WILD, REC-1, REC-2.	None	Table 3-1, Table 3-2, Table 3-4 DO: 5.0 mg/L minimum	A track shift and vegetation management may result in minor disturbances to the channel during construction. This work may potentially result in erosion or discharge of polluted runoff. No permanent impacts are anticipated; however, vegetation management and routine maintenance on the existing culvert structure may result in intermittent operations impacts. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into Sunnyvale East Channel during construction and operations with BMPs.
Calabazas Creek	AGR, GWR, COLD, WARM, WILD, REC-1, REC-2	Diazinon	Table 3-1, Table 3-2, Table 3-4, Table 3-6 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives, beneficial uses, or listed impairments of Calabazas Creek during construction, because there are no proposed changes to the existing culvert and the channel is located in an underground conduit within the project footprint. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into drainage systems within the Calabazas Creek watershed during construction and operations with BMPs. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities.
El Camino storm drain	None listed. Beneficial uses of Calabazas Creek apply: AGR, GWR, COLD, WARM, WILD, REC-1, REC-2.	None	Table 3-1, Table 3-2, Table 3-4, Table 3-6 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives or beneficial uses of El Camino Storm Drain during construction, because just a small portion of the channel is located within the project footprint and it is expected to be avoided by construction activities. However, vegetation management may be required intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into drainage systems within the El Camino Storm Drain watershed during construction and operations with BMPs.

Waterbody	Existing Beneficial Uses	CWA Section 303(d) List Impairments	Water Quality Objectives (tables referenced are in the Basin Plan)	Alternative A Impacts on Beneficial Uses, Listed Impairments, and Water Quality Objectives
San Tomas Aquino Creek (Saratoga Creek)	COLD, RARE, WARM, WILD, REC-1, REC-2	Diazinon, trash	Table 3-1, Table 3-2, Table 3-4 DO: 7.0 mg/L minimum	There would be no impact on the water quality objectives, beneficial uses, or listed impairments of San Tomas Aquino Creek during construction, because there are no proposed changes to the existing culvert. However, routine maintenance may be required on the existing culvert structure intermittently during operations. The waterbody would also receive incremental increases in contaminants released from trains during operations, such as brake dust and PAHs. Project features would prevent the violation of water quality objectives and impairment of beneficial uses by controlling sediment transport and preventing non-stormwater discharges into drainage systems within the San Tomas Aquino Creek watershed during construction and operations with BMPs. During operations, good housekeeping practices and maintaining the proposed right-of-way would minimize accumulations of trash that may develop and subsequently affect the trash impairment. Additionally, the pesticide diazinon would not be used for any construction of operations phase activities.

Sources: San Francisco Bay RWQCB 2017; SWRCB 2017

Authority = California High-Speed Rail Authority

BMP = best management practice

CWA = Clean Water Act

DO = dissolved oxygen

FRA = Federal Railroad Administration

LMF = light maintenance facility

mg/L = milligrams per liter

PAH = polycyclic aromatic hydrocarbon

PCB = polychlorinated biphenyl

RCP = reinforced concrete pipe

USEPA = U.S. Environmental Protection Agency

USACE = U.S. Army Corps of Engineers

Beneficial use codes: AGR = agricultural supply; BIOL = preservation of biological habitats of special significance; COLD = cold freshwater habitat; COMM = commercial and sport fishing; FRSH = freshwater replenishment; GWR = groundwater recharge; IND = industrial service supply; (L) = limited beneficial use; MIGR = fish migration; MUN = municipal and domestic supply; POW = hydropower generation; PROC = industrial process supply; RARE = preservation of rare, threatened, or endangered species; REC-1 = water contact recreation; REC-2 = noncontact water recreation; SPWN = fish spawning, reproduction or early development; WARM = warm freshwater habitat; WILD = wildlife habitat

Waterbodies are listed from north to south along the San Francisco to San Jose Project Section.

Narrative water quality objectives in the San Francisco Bay RWQCB Basin Plans also apply to each waterbody unless otherwise specified in the Basin Plan.