APPENDIX B

SUMMARY TABLES BY REACH

Table B-1 Potential Environmental Impacts and Benefits Summary: Liddell Reach and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
		Approximately 10,000 feet long. Aboveground from downstream of Liddell Spring and follows existing ROW through redwood forest habitat to East Branch of Liddell Creek. Continues aboveground for 3 stream crossings. Pipeline buried or adjacent to dirt road along Y Creek until LID-04 crossing, within riparian corridor on east side of Y.		Runs approximately 10,000 ft. from Liddell Spring box to Y. Pipeline to be replaced in close proximity to existing alignment except for a small re-alignment at the end near the Y to eliminate LID-04. Pipeline located above ground on dirt road adjacent to East Fork Liddell Creek, rather than in creek bed or riparian corridor.		Begins at Liddell Spring box and runs 1,500 ft. down gradient. Moves a short portion of pipeline out of the ravine and in/adjacent to existing access road. Would continue to have the same pathway from canyon bottom (p.d. 1,522 ft.) to relocated Y (p.d. 9,900 ft.).			
Aesthetics	Viewshed (short-term)	None – no sensitive viewpoints or travel routes long pipeline alignment.	None	Construction equipment within staging area may temporarily prevent or impair views from Highway 1. No sensitive viewing locations present. Buried pipeline would benefit views.	None – less than significant impact	Construction equipment within staging area along Highway 1 may have slightly more impact than Alt. 2 due to pipeline following less than 1 mile of road south of Liddell Spring. Buried pipeline would benefit views.	None – less than significant impact	N/A	N/A
Agricultural Resources	None	None	None	None	None	None	None	N/A	N/A
Air Quality	None	None	None	None	None	None	None	N/A	N/A
Biological Resources	Stream Crossings (aquatic habitat)	Pipeline failure may impact aquatic habitat at stream crossings.	None	Construction activities may generate sediment runoff at three stream crossings: East Fork of Liddell Creek (LID-01), Yellow Bank Creek (LID-02), Unnamed tributary in Rattlesnake Canyon (LID-03); Eliminates downstream most crossing (LID-04).	1-1 / 9-1a, b, c, d, e, f, g, h, i, j	Same	Same	N/A	N/A
	Terrestrial Habitat	Vegetation control activities or pipeline failure may impact terrestrial habitat.	None	Potential burrowing owl and Coopers hawk nesting habitat; burrowing owl and black swift foraging habitat.	1-1 / 9-3 a, b, c, d, e, f	Same	Same	N/A	N/A
	ESA (aquatic)	Considering the age of the pipeline, the likelihood of pipeline failure is increased and may impact anadromous fish and CRLF.	None	Steelhead (downstream), CRLF.	1-1 / 9-1a, b, c, d, e, f, g, h, i, j	Same	Same	N/A	N/A
	Wetlands	None	None	Potential wetland at 1,600 ft. and potential wetland near LID-03 in Rattlesnake Canyon area.	1-1 / 9-2 a, b, c, d, e, f	Same	Same	N/A	N/A
	Riparian Corridor	Pipeline failure may impact riparian corridor due to emergency response activities.	None	Liddell Creek, "Y" Creek.	1-1 / 9-2 a, b, c, d, e, f	Same	Same	N/A	N/A

Table B-1 Potential Environmental Impacts and Benefits Summary: Liddell Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Cultural Resources	Known Sites	None (no action)	None	2 sites (1 within 100 ft.).	1-1 / 10-2, 10-3	Same	Same	N/A	N/A
Geology and Soils	Erosion	None	None	Short-term impact: potentially high due to construction on steep slide slope from 0 to 3,000 feet on Santa Margarita formation. Should not increase existing erosion potential along access roads. Long-term erosion expected in localized areas (i.e., riparian corridor down gradient of Liddell Spring).	1-2, 1-5 / 7-2	Eliminates placement of pipeline in riparian corridor immediately down gradient of Liddell Spring; Construction in existing roadbed on steep side slope from 0 to 1,522 feet on Santa Margarita formation resulting in short-term impact. Should not increase existing erosion potential along access roads.	1-7 / 7-2	N/A	N/A
	Slide Potential	Potentially high in steep areas. Evidence of past landslides.	1-1 / None	Potentially high in steep areas. Evidence of past landslides. Less stable conditions could result from new bench cuts or trenches on steep side slope from 0 to 1,500 feet	1-4 / 7-1, 7-4	Placement in existing road reduces steep slope construction to approximately 200 feet. Would route pipeline through quarry sedimentation basin area on erosive formation.	1-8 / 7-1, 7-4	N/A	N/A
	Damage from Ground Shaking	Increased likelihood of pipeline breakage/failure due to age of pipeline.	Common Impact / None	Severe shaking could result in break/failure of pipeline.	Common Impact / 7-5	Same	Same	N/A	N/A
	Mineral Resources	None	None	None	None	Short-term disturbance of quarry operations during construction. First approximate 100 feet of alignment on formation mined by quarry.	Less than significant impact / None	N/A	N/A
	Frac-outs (directional drilling)	None	None	Crossings LID-01 and-02; possibly the ridge near Rattlesnake.	1-3 / 7-3	Same	1-7 / 7-2	N/A	N/A
	Expansive Soils	None	None	7,700 to 8,500, 8,800 to 9,600 ft.	1-6 / 7-6	Same	1-7 / 7-2	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Potential spill during construction, would need SWPPP.	Common Impact / 13-1	Same	Same	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	Same	Same	N/A	N/A
Hydrology and Water Quality	Stream Sedimentation	None	None	Would require erosion control plan, 3 stream crossings (2 directionally drilled). Potential for frac-outs.	1-1 / 8-1, 8-2	Same	1-2 / 8-1, 8-2	N/A	N/A

Table B-1 Potential Environmental Impacts and Benefits Summary: Liddell Reach and Alternative (continued)

-Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Land Use and Planning	None	None	None	None	None	None	None	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels during construction.	Common Impact / 12-1	Same	Same	N/A	N/A
Public Services and Utilities	Emergency Services	None	None	Temporary road closures and traffic controls during construction may limit emergency services access.	Common Impact / 15-1	Same	Same	N/A	N/A
Recreation	Short-term Disruption	On-going O&M activities may temporarily disrupt recreation	1-1 / None	Temporary disruption due to construction activities should the Coast Dairies' property (entire alignment) become accessible to the public, or during guided tours and individual use.	1-2 / 5-1	Same	1-4 / 5-1	N/A	N/A
	Disrupt Recreation of Local Residents	None	None	Some recreation use by local residents. Temporary during construction activities. O&M activities would result in long-term impacts to local residents.	1-2, 1-3 / 5-1, 5-2	Same, except moves the pipeline out of ravine to existing access road, an already disturbed area.	1-5 / 5-2	N/A	N/A
Transportation and Traffic	Traffic	None	None	Increase traffic on Hwy 1 and Bonny Doon Road, RMC Pacific Materials access road, and private access roads off Laguna Road during construction. Three staging areas: 2 near top of pipeline reach, one 2,000 feet north of Laguna/Liddell junction.	1-1 / 14-1	Same	Same	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-2 Potential Environmental Impacts and Benefits Summary: Laguna Reach and Alternatives

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
		Approximately 13,000 feet long. Follows Smith Grade Road for approx. 1,300 feet to Laguna Creek Canyon, where it parallels Laguna Creek along access road and has 3 stream crossings. LAG-03 located in steep area of canyon. Remaining 5,500 feet located down gradient of dirt access road to Y, at LAG-04.		Runs 13,000 ft. from Laguna Diversion to Y. Would replace pipeline in existing alignment except the portion down-gradient of LAG-03 where it would be placed in/adjacent to existing road. Footpath access to LAG-03 may require widening, which would require removal of mature redwood trees and undergrowth. At LAG-04, the pipeline would be suspended across Y Creek on existing footbridge.		Runs 7,100 ft. following a private road to the ridge line and across pastures to the west of Laguna Creek. Requires installation of a pump at the diversion. Eliminates 2 stream crossings (LAG-02 and LAG-03).			
Aesthetics	Viewshed (short-term)	None	None	Short-term construction-related impact in riparian corridor and along Smith Grade Rd; longer construction period.	3-1 / 6-1	Short-term construction-related impact; work in close proximity to local rural residences, more readily visible to residents. Pump station construction at Laguna Diversion.		N/A	N/A
	Viewshed (long-term)	None	None	Most of the pipeline would be placed below ground on private land in Laguna Canyon; ongoing maintenance activities; visible from Smith Grade Road; may require removal of some mature trees.	3-2 / 6-3	Annual vegetation control and periodic monitoring on private and Coast Dairies' lands; pump station likely visible at Laguna diversion; Visible from Smith Grade Road and several private residences.		N/A	N/A
Agricultural Resources	None	None	None	None	None	Construction and operations and maintenance could disrupt cattle grazing on meadow for Refugio Group Property	None	N/A	N/A
Air Quality	None	None	None	None	None	None	None	N/A	N/A
Biological Resources	Stream Crossings (aquatic habitat)	Pipeline failure may impact aquatic habitat at stream crossings.	None	4 stream crossings: Laguna Creek (LAG-01, LAG-02, LAG-03); Y Creek (LAG-04).	3-1 / 9-1a, b, c, d, e, f, g, h, i, j	Eliminates construction at 3 crossings in steep canyon (LAG-01, LAG-02, LAG-03); 2 stream crossings: Laguna Creek (LAGAlt-01), Y Creek (LAG-04).	3-2 / 9-1a, b, c, d, e, f, h, i, j	N/A	N/A
	Terrestrial Habitat	Vegetation control activities or pipeline failure may impact terrestrial habitat.	None	Cooper's hawk, burrowing owl (nesting & foraging); tricolored blackbird, white-tailed kite, black swift (foraging); Tree removal activities.	3-1 / 9-3a, b, c, d, e, f	Same, but different amounts of each habitat.	3-2 / 9-3a, b, c, d, e, f	N/A	N/A
Biological Resources	ESA (aquatic)	Considering the age of the pipeline, the likelihood of pipeline failure is increased and may impact aquatic habitat.	None	Steelhead and CRLF habitat downstream; CRLF potentially at all crossings.	3-1 / 9-1a, b, c, d, e, f, g, h, i, j	Steelhead and CRLF habitat downstream; CRLF potentially at all crossings; eliminates 3 crossings in Laguna Canyon.	3-2 / 9-1a, b, c, d, e, f, h, i, j	N/A	N/A
	Riparian Corridor	Pipeline failure may impact riparian corridor due to emergency response activities.	None	In riparian corridor and riparian zone at stream crossings.	3-1 / 9-2a, b, c, d, e, f	None	None	N/A	N/A

Table B-2 Potential Environmental Impacts and Benefits Summary: Laguna Reach and Alternatives (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Cultural Resources	Known Sites	None	None	Archaeological survey necessary to determine presence of sites.	3-1 / 10-2, 10-3	Same	Same	N/A	N/A
Geology and Soils	Erosion	None	None	Substantial soil erosion in the steep canyon areas. High erosion potential on steep slopes between LAG-02 and LAG-03. O&M activities could increase soil erosion (i.e., from vegetation removal). Long-term erosion potential along existing access roads should not significantly increase.	3-2, 3-4 / 7-2	Erosion potential due to construction relatively high. Pipeline buried under existing paved road – avoids canyon areas. Sediment runoff due to construction limited to steeper reach and 2 stream crossings. High potential for soil erosion from 7,500 to 8,900 feet.	3-6, 3-8 / 7-2	N/A	N/A
	Slide Potential	Potentially high in steep areas. Evidence of recent landslides, especially in steeper terrain with highly erosive formations (i.e., between LAG-02 and LAG-03).	3-1 / None	Potentially high in steep areas, due to erosive soil and shallow bedrock. Existing access roads susceptible to landslides. Evidence of recent landslides in Laguna Canyon (i.e., between LAG-02 and LAG-03). Less stable conditions could result from bench cuts or trenches.	3-3 / 7-1, 7-4	High slide potential along residential road and on western end of alignment from 7,500 to 8,900 feet.	3-7 / 7-1, 7-4	N/A	N/A
	Damage from Ground Shaking	Increased likelihood of pipeline breakage/failure due to age of pipeline.	Common Impact / Only mitigation is to upgrade pipeline	Severe shaking could result in break/failure of pipeline.	Common Impact / 7-5	Same	Same	N/A	N/A
	Expansive Soils	None	None	Moderately to highly expansive soils found in: 0-400, 1,300-1,700, 8,200-9,100, 10,670-12,500 ft.	3-5 / 7-6	Moderately to highly expansive soils identified from 2,700-9,000 ft.	3-9 / 7-6	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Potential spill during construction into sensitive habitat (i.e., Laguna Creek at staging areas and 4 crossings), would needSWPPP.	Common Impact / 13-1	Potential for spills into aquatic habitat at 2 creek crossings and on steep section of private road (0 to 2,000 feet).	Same	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	Same	Same	N/A	N/A
Hydrology and Water Quality	Flow	None	None	Temporary diversion dam may be needed for LAG-04.	3-1 / 8-1, 8-4	Same	Same	N/A	N/A
	Stream Sedimentation	None	None	Work conducted in channel would require erosion control plan; 4 stream crossings; trenching in canyon with steep banks.	3-1 / 8-1, 8-2, 8-4	Would require erosion control plan; 2 stream crossings. Eliminates 3 stream crossings in Laguna Canyon and eliminates use of old access road	3-1 / 8-1, 8-2, 8-4	N/A	N/A

Table B-2 Potential Environmental Impacts and Benefits Summary: Laguna Reach and Alternatives (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Land Use and Planning	Short-term Disruption	None	None	None	None	Short-term disruption of residential access due to increased traffic. New easements and O&M protocols needed to minimize disturbance to local residents.	3-1, 3-2 / 3-2, 3-4	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels along Smith Grade Road, nearby residences, and in canyon.	3-1 / 12-1, 12-2	Short-term increase in ambient noise levels along Smith Grade Road and in rural residential area.	3-2 / 12-1, 12-2	N/A	N/A
	Increased Levels (long-term)	None	None	None	None	Long-term fixed noise source located at Laguna diversion (Pump Station).	3-3 / 12-3	N/A	N/A
Public Services and Utilities	Emergency Services Access	None	None	Short-term impact on access along Smith Grade Road.	Common Impact / 15-1	Short-term impact on access along Smith Grade Road and residential access road. Potentially significant impact even with mitigation.	Same	N/A	N/A
	Temporary Service Disruption	None	None	None	None	Potential disruption of garbage service (if provided) to rural residents along residential access road. Potentially significant impact even with mitigation.	Common Impact / 15-2	N/A	N/A
Recreation	Short-term Disruption	None	None	Short-term construction and O&M impacts to future recreation on Coast Dairies property (last 800 ft.).	3-2, 3-3 / 5-1, 5-2	Short-term construction impacts to future recreation on Coast Dairies property (2,800 ft.).	3-4 / 5-1	N/A	N/A
	Long-term Disruption	None	None	None	None	Long-term impacts from permanent structures (i.e., pressure-relief valves) and O&M activities. Not likely to occur around trails.	3-5 / 5-2	N/A	N/A
	Disrupt Recreation of Local Residents	Local residents use Laguna gorge – short-term O&M impacts.	5-1 / None	Short-term construction and O&M impacts to recreating local residents.	3-2, 3-3 / 5-1, 5-2	Short-term construction impacts to recreating local residents.	3-4 / 5-1	N/A	N/A
Transportation and Traffic	Traffic	None	None	Increase traffic on Hwy 1, Bonny Doon Road, Smith Grade Road, Laguna Road, and other local streets. Small staging area at junction of Laguna and Liddell pipelines.	3-1 / 14-1	Increase traffic on Hwy 1, Boony Doon Road, Smith Grade Road, Laguna Creek Road, private road along alignment, and other local roads. Small staging area at junction of Laguna and Liddell pipelines.	3-2 / 14-1	N/A	N/A
	Road Closures	None	None	Smith Grade Road from diversion to approximately 1,500 feet east during construction.	3-1 / 14-1	Smith Grade Road, private access road. Local residential emergency services disrupted daily throughout construction period. Potentially significant impact even with mitigation.	3-2 / 14-1	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-3 Potential Environmental Impacts and Benefits Summary: Laguna/ Liddell Reach and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
		Approximately 5,900 feet long. Crosses Y Creek (LAG-04) downstream of Y. Parallels Laguna Creek in riparian corridor with 2 crossings. LAG/LID-01 limited access area with steep banks. Pipeline buried except at stream crossings.		Runs 5,900 ft. from the Y through forested riparian corridor along Laguna Creek connecting to the NCP at Laguna Road. Would replace pipeline in existing alignment except for some minor re-routing at 1,750 ft. along alignment. Pipeline would be buried at LAG/LID-03.		Runs 5,100 ft. and avoids the Laguna Creek riparian corridor, wetlands, mature trees, and all crossings along the existing alignment. Alternative alignment would angle away from access road at p.d. 900 ft. and then follow existing access road to Laguna Road			
Aesthetics	Viewshed (short-term)	None	None	Short-term construction-related impact through meadow, riparian corridor, and rural residences.	2-1 / 6-4	Short-term construction-related impact view. Slightly higher impact than Alt. 2.	2-2 / 6-4	N/A	N/A
	Viewshed (long-term)	None	None	Pipeline would be below ground in aesthetically valued habitats.	N/A	Pipeline would be below ground in disturbed habitat; Would improve overall viewshed by installing ROW markers adjacent to existing roadway and by removing vegetation maintenance activities		N/A	N/A
Agricultural Resources	None	None	None	None	None	None	None	N/A	N/A
Air Quality	None	None	None	None	None	None	None	N/A	N/A
Biological Resources	Stream Crossings (aquatic habitat)	Pipeline failure may impact aquatic habitat at stream crossings.	None	Unnamed tributary (LAG/LID-01), Laguna Creek (LAG/LID-02 and -03). Construction at 2 crossings in the anadromous reach.	2-1 / 9-1a - j	Unnamed tributary (LAG/LID ALT-01)	None	N/A	N/A
	Terrestrial Habitat	Vegetation control activities or pipeline failure may impact terrestrial habitat.	None	Cooper's hawk, white-tailed kite, tricolored blackbird, burrowing owl (nesting and foraging); black swift foraging habitat; Potential for removal of mature riparian trees.	2-1 / 9-2a - f	Limited potential for impact to Cooper's hawk, white-tailed kite, tricolored blackbird, burrowing owl (nesting and foraging); black swift foraging habitat.	2-2 / 9-3a - e	N/A	N/A
	ESA (aquatic)	Pipeline failure may impact aquatic habitat for CRLF and steelhead.	None	Steelhead, CRLF habitat and southwestern pond turtle (all present)	2-1 / 9-1a - j	No impact to steelhead, CRLF or other sensitive aquatic species.	None	N/A	N/A
	ESA (terrestrial)	Pipeline failure may impact Ohlone tiger beetle habitat	None	Ohlone tiger beetle habitat	2-1 / 9-3a - e	Not surveyed for potential sensitive plant species.	None	N/A	N/A
	Riparian Corridor	Pipeline failure may impact riparian corridor due to emergency response activities.	None	In Laguna Creek corridor, mature bay and oak trees along riparian corridor.	2-1 / 9-2a - f	No impact to riparian corridor	None	N/A	N/A
Cultural Resources	Known Sites	None	None	7 known sites (5 within 100 ft.)	2-1 / 10-2	Same (3 within 100 ft.)	2-2 / 10-2, 10-3	N/A	N/A

Table B-3 Potential Environmental Impacts and Benefits Summary: Laguna/ Liddell Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Geology and Soils	Erosion	None	None	Construction on steep creek bank at LAG/LID-02 crossing. Steep area in Santa Margarita formation from 4,000 – 5,000 ft. Vegetation control required increasing erosion potential.	2-2, 2-5 / 7-2	More construction in Santa Margarita formation from 500 to 4,500 ft. Evidence of soil erosion along existing road and gulch. Overall would limit long-term erosion by placing pipeline in disturbed low gradient roadbed.	2-7, 2-9 / 7-2	N/A	N/A
	Slide Potential	Potentially high in steep areas with highly erosive formations (e.g., 4,000 to 5,000 feet). Evidence of past landslides along portions of Laguna/Liddell Reach.	2-1 / None	On or adjacent to steep slopes so more susceptible to landslides. Evidence of past landslides, especially in steeper terrain (e.g., 4,000 to 5,000 feet). Minor construction in Santa Margarita formation (500 to 1,000 feet). Less stable conditions could result from new bench cuts or trenches.	2-4 / 7-1, 7-4	Potential reduced due to placement at base of slopes. Less stable conditions could result from new bench cuts or trenches.	2-8 / 7-1, 7-4	N/A	N/A
	Damage from Ground Shaking	Increased likelihood of pipeline breakage/failure due to age of pipeline.	Common Impact / Only mitigation is to upgrade pipeline	Severe shaking could result in break/failure of pipeline.	Common Impact / 7-5	Same	Same	N/A	N/A
	Frac-outs (directional drilling)	None	None	Crossings LAG/LID-01 and LAG/LID-03.	2-3 / 7-3	None	None	N/A	N/A
	Expansive Soils	None	None	Identified at 300-800, 2,600-3,500, 4,400-5,400 ft.	2-6 / 7-6	Moderately expansive soils at 2,100-4,800 ft.	2-10 / 7-6	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Increase spill potential into watercourses due to 4 stream crossings and pipeline located near creek. Would require fueling at remote staging area out of riparian corridor; SWPPP.	Common Impact / 13-1	Construction near ephemeral gulch, SWPPP required.	Same	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	Same	Same	N/A	N/A
Hydrology and Water Quality	Flow	None	None	Temporary diversion dam may be necessary for LAG/LID-02.	2-1 / 8-1	None	None	N/A	N/A
	Stream Sedimentation	None	None	In channel work may be required at LAG/LID-02. Would require erosion control plan. 4 stream crossings. Possible frac-outs.	2-1 / 8-1, 8-2	1 stream crossing (LAG/LID ALT-01 is ephemeral), would construct when channel is naturally dry. Would eliminate all sensitive stream crossings and riparian habitat impacts. Disruption of watercourses not necessary.	Less than significant impact / None	N/A	N/A

Table B-3 Potential Environmental Impacts and Benefits Summary: Laguna/ Liddell Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Land Use and Planning	Short-term Disruption	None	None	Short-term conflicts with sensitive land use. Construction may temporarily impair access to residential parcel along paved residential access road.	2-1 / 3-1	None	None	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels in riparian corridor and adjacent to residences. Few private residences located on eastern side of alignment in close proximity and likely disturbed.	2-1 / 12-1, 12-2	Short-term increase in ambient noise levels, adjacent to residences at end of alignment (near NCP). Fewer residences subjected during construction activities.	2-2 / 12-1, 12-2	N/A	N/A
Public Services and Utilities	Emergency Services Access	None	None	May temporarily disrupt access along Laguna Creek Road.	Common Impact / 15-1	Temporarily disrupt fire response access along dirt access road to Coast Dairies' property and Laguna Canyon.	Same	N/A	N/A
Recreation	Short-term Disruption	None	None	Construction activities may temporarily impact future recreation activities on Coast Dairies' property.	2-1 / 5-1	Construction activities may temporarily impact future recreation activities on Coast Dairies property	2-2 / 5-1	N/A	N/A
	Disrupt Recreation of Local Residents and future public recreation	None	None	Construction activities would temporarily impact future recreation activities on Coast Dairies' property. Potential diminished recreation experience over long-term from O&M activities.	2-1, 2-2 / 5-1, 5-2	Same, except a lesser potential impact.	2-3, 2-4 / 5-1, 5-2	N/A	N/A
Transportation and Traffic	Traffic	None	None	Temporarily increase traffic on Hwy 1, Laguna Creek Road, and dirt access road off Laguna Road (both east and west sides Temporary traffic control along private access road off Laguna Creek Road.	2-1 / 14-1	Temporarily increase traffic on Hwy 1, Laguna Creek Road and dirt access road off Laguna Creek Road (west side only). Temporary traffic control required on east side of Laguna Creek Road.	2-2 / 14-1	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-4 Potential Environmental Impacts and Benefits Summary: Majors Reach and Alternatives

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
		Approximately 11,000 feet long. From 0 to 8,200 feet runs through forested areas in Majors Creek Canyon, usually about 100 feet downgradient of dirt access road. Emerges onto second-tier marine terrace at 8,700 feet where it is buried until connecting with the NCS at Hwy 1.		Runs 11,000 ft. from Majors Creek Diversion, through forested areas along Majors Creek Canyon, and finally to the NCP reach near Gordola Creek. Would replace pipeline in existing alignment.		Runs 9,000 ft. and requires installation of a pump at the diversion. Alignment would follow the ridge line and would rejoin existing alignment at p.d. 9,500 ft. Would avoid installation of pipeline in sensitive riparian habitat along Majors Creek, steep vegetated slopes in the canyon.		Requires installation of pump at diversion. Alignment would follow existing access road above or below ground until the coastal plain, where it would be buried in or adjacent to dirt access road. Eliminates cliff borings, reduce construction on steep forested slopes, provides easier access for O&M activities, minimize construction in open coastal plain area.	
Aesthetics	Viewshed (short-term)	Strong linear appearance after mowing operations are conducted would result in temporary visual impacts.	4-1 / None	Construction-related impact on forest riparian corridor and marine terraces, potentially longer construction period. Mowing would result in short-term visual impacts.	4-2, 4-3 / 6-2, 6-3, 6-6	Construction-related impact on riparian corridor slope from pump station to ridge line (1,000 ft), impact on marine terrace annual grassland from 1,000 ft. to NCP Mowing would result in short-term visual impacts.	4-2, 4-5 / 6-1 – 6-5, 6-8, 6-9	Construction-related impact from presence of construction equipment on road. Mowing would result in short-term visual impacts	4-6, 4-7 / 6-2, 6-3, 6-6
	Viewshed (long-term)	None	None	Pipeline would be above ground in aesthetically valued riparian and forested habitats (approx. 8,000 ft), would be below ground on marine terraces but vegetation control would have a visual impact on view from higher terraces (approx. 2,500 ft). Potential removal of mature trees and understory..	4-4 / 6-8, 6-9	Pipeline would be above ground in aesthetically valued forested habitat (approx. 1,000 ft), below ground on marine terraces but vegetation control would have a visual impact on view from higher terraces (approx. 9,600 ft); pump station not readily visible	None	Pump station not readily visible from access road.	None
Agricultural Resources	None	None	None	None	None	None	None	None	None
Air Quality	None	None	None	None	None	None	None	None	None
Biological Resources	Stream Crossings (aquatic habitat)	Pipeline failure may impact aquatic habitat at stream crossing.	None	Gordola Creek (MAJ-01)	4-1 / 9-1g	Same	4-1 / 9-1g	Same	4-1 / 9-1g
	Terrestrial Habitat	Vegetation control activities or pipeline failure may impact terrestrial habitat.	None	Cooper's hawk, white-tailed kite, burrowing owl (nesting & foraging); American peregrine falcon (nesting); tricolored blackbird, black swift (foraging).	4-1 / 9-3a - f	Same, but amount of habitat different (Alt alignment not surveyed). 8,000 feet of pipeline constructed on upper marine terrace	4-2 / 9-3a, b, c, d, f	Substantially reduced disturbance of forest and coastal marine terrace habitat	4-3 / Same
	ESA (aquatic)	Pipeline failure may impact aquatic habitat for steelhead and CRLF.	None	Construction activities conducted near the stream could impact steelhead, CRLF and southwestern pond turtles. Construction immediately adjacent to creek (1,500 feet). 8,000 feet of pipeline construction on canyon slopes.	4-1 / 9-1a, h, i, j	Only 800 ft. pipeline would be constructed in canyon less likely to disturb steelhead and CRLF present downstream of pump station; Greatly reduce erosion processes that might impact aquatic resources; Construction of pump station could impact CRLF habitat.	4-2 / 9-1a, h, i, j	Steelhead and CRLF habitat not likely to be disturbed, construction of pump station could impact CRLF habitat	4-3 / 9-1a, h, i, j

Table B-4 Potential Environmental Impacts and Benefits Summary: Majors Reach and Alternatives (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Biological Resources	ESA (terrestrial)	Pipeline failure may impact Ohlone tiger beetle habitat	None	Ohlone tiger beetle habitat. No known sightings.	4-1 / 9-3a - f	Ohlone tiger beetle habitat (approx. 9,700 ft.). No known sightings.	4-2 / 9-3a, b, c, d, e, f	Same	4-3 / Same
	Riparian Corridor	Pipeline failure may impact riparian corridor due to emergency response activities.	None	Within the riparian corridor, potential jurisdictional wetlands in the marine terrace grasslands east of Majors Creek.	4-1 / 9-2a - f	Pump station would be constructed at Majors diversion near riparian corridor. Additional surveys needed.	None	Same	Same
Cultural Resources	Known Sites	None	None	3 known sites on western side of Majors Creek – construction activities occurring on eastern side only. Majors Creek access road potential historic road. Construction activities would increase the wear and tear if pipeline buried in road.	4-1 / 10-2, 10-3	Same	Same	Same	Same
Geology and Soils	Erosion	None	None	Construction on steep side slope in Majors Creek Canyon, bench cuts likely from 0 to 8,000 ft. Substantial soil erosion is high where vegetation must be removed and new bench cuts created. Unlikely complete control of erosion achievable on steep slopes.	4-2, 4-5 / 7-2	Pipeline to be above ground first 800 ft. Smaller portion on steep slopes (approx. 800 ft.). Minimal vegetation removal and no new bench cuts anticipated. Long-term erosion may occur where vegetation is removed.	4-7, 4-12 / 7-2	Erosion substantially less than other alternatives due to placement in roadbed. Long-term erosion limited. Erosion potentially high in small portion of pipeline outside of road footprints.	4-12, 4-15 / 7-2
	Slide Potential	Potentially high in steep areas (highly erosive soils present). Evidence of past landslides and soil creep along much of existing alignment.	4-1 / None	Some construction on steep side slopes with potential need for bench cuts (approximately 8,000 ft of alignment). Adjacent to steep slopes so more susceptible to landslides, debris flows, and soil creep. Evidence of past landslides and soil creep.	4-4 / 7-1, 7-4	Smaller portion is on steep slopes (800 feet versus 8,000 feet).	4-9 / 7-1, 7-4	Potentially high in areas on or adjacent to steep slopes with relatively erosive soil. Susceptible to landslides, debris flows, and soil creep in these areas.	4-14 / 7-1, 7-4
	Damage from Ground Shaking	Increased likelihood of pipeline breakage/failure due to age of pipeline.	Common Impact / None	Severe shaking could result in break/failure of pipeline.	Common Impact / 7-5	Same	Same	Same	Same
	Frac-outs (directional drilling)	None	None	MAJ-01 crossing	4-3 / 7-3	Same	4-8 / 7-3	Same	4-13 / 7-3
	Expansive Soils	None	None	Moderately to highly expansive soils from 6,500-11,300 ft.	4-6 / 7-6	Moderately to highly expansive soils from 800-9100 ft. along alt. Alignment.	4-11 / 7-6	Moderately to highly expansive soils from 6,500-11,300 ft.	4-16 / 7-6

Table B-4 Potential Environmental Impacts and Benefits Summary: Majors Reach and Alternatives (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Increased spill potential in watercourses (requires fueling outside of sensitive area). Would require fueling at remote staging area out of riparian corridor; spill prevention plan required.	Common Impact / 13-1	Occurs outside of riparian corridor thus minimizing the potential for a spill to aquatic habitat. Would require refueling at remote staging area out of riparian corridor at the pump station construction site; SWPPP required. Gas-powered or diesel backup generator required at pump station – fuel stored onsite.	4-2 / 13-1	Increased spill potential in watercourses (requires fueling outside of sensitive area). Gas-powered or diesel backup generator required at pump station – fuel stored onsite.	Same
	Fire Hazard	None	None	Use of heat or flame generating equipment pose a significant hazard on steep slopes in the forest habitats.	4-2 / 13-2	Potentially high during construction – implement BMPs.	Common Impact / 13-2	Same	Same
Hydrology and Water Quality	Stream Sedimentation	None	None	Pipeline follows creek closely in riparian zone increasing the level of impact. Erosion more likely on steep slopes. Would require erosion control plan. Water quality impacts at MAJ-01 not anticipated (work to occur in dry channel).	4-1 / 8-4	Construction in canyon is limited to first 800 ft. level of impact reduced. Would require erosion control plan.	4-2 / 8-3	Substantially less environmental impacts than other alternatives. Construction removed from canyon – easier implementation of erosion controls.	4-3 / 8-4
Land Use and Planning	Short-term Disruption	None	None	Short-term impact dependent on level of development in Wilder Ranch State Park. Construction along existing ROW requires extensive activity below existing access road and second tier marine terrace.	4-1 / 3-3	Same	Same	Same	Same
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels in work area.	Common Impact / 12-1	Same	Same	Same	Same
	Increased Levels (long-term)	None	None	None	None	Fixed noise source at Majors Creek diversion (pump station), no nearby receptors.	4-1 / 12-3	Same	4-2 / 12-3
Public Services and Utilities	Emergency Services Access	None	None	May temporarily disrupt access along Majors Creek Road and diversion access road; more severe along diversion road.	Common Impact / 15-1	Same	Same	Same	Same

Table B-4 Potential Environmental Impacts and Benefits Summary: Majors Reach and Alternatives (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Recreation	Short-term disruption	None	None	Future trails located within Wilder Ranch State Park (entire length) impacted temporarily by construction. Short-term disruption from O&M activities.	4-1, 4-2 / 5-1, 5-2	Same	4-3 / 5-1	Same, except a lesser visual impact than Alternative 3.	4-5 / 5-1
	Long-term disruption	None	None	Construction could impact future recreation depending upon extent of recreational development at time of construction.	None	More visible pipeline features and on going maintenance activities. Vegetation control could result in a linear feature in natural landscape detracting from the marine terraces. Construction could impact future recreation depending upon extent of recreational development at time of construction.	4-4 / 5-2	Same, except a lesser visual impact than Alternative 3. Majority of the pipeline would avoid primary recreation areas.	4-6 / 5-2
Transportation and Traffic	Traffic	None	None	Increase traffic on Hwy 1 and Wilder Ranch State Park access road off Hwy 1.	4-1 / 14-1	Same	4-2 / 14-1	Same	Same
	Road Closures	None	None	Construction could impact recreation traffic depending upon extent of recreational development at the time of constrcution.	4-2 / 14-1	Same	4-2 / 14-1	Same	4-2 / 14-1

Impact and mitigation numbers are defined in each resource section.

Table B-5 Potential Environmental Impacts and Benefits Summary: North Coast Pipeline Reach and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Existing Alignment**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
		Runs 42,000 ft. from the west side of Laguna Creek to the Coast Pump Station. Traverses through residential areas, crosses 13 streams (perennial and intermittent) with some riparian habitat, grassland, agricultural and disturbed areas.		Runs 42,000 ft. from the west side of Laguna Creek to the Coast Pump Station. Would replace the pipeline in existing alignment except for 2 minor re-alignments at Sunset Farms and just north of Pogonip Creek crossing.		Same as existing alignment project except on High Street (p.d. 38,000 ft.) the alternative would follow High Street to Hwy. 1 and be routed under the City streets to the Coast Pump Station eliminating directional drilling activities at NCP-13 crossing.		N/A	N/A
Aesthetics	Viewshed (short-term)	Short-term impacts from vegetation maintenance would result in linear feature in natural landscape.	5-1 / None	Short-term construction-related impact at staging area along Highway 1.	5-2 / 6-1, 6-4, 6-5	Same	5-4 / Same	N/A	N/A
	Viewshed (long-term)	None	None	The below-ground pipeline would have the following long-term visual impacts: 1) Vegetation removal would be evident seasonally along Hwy 1, through Wilder Ranch State Park, Moore Creek Preserve. 2) Pressure relief valves would be required in a few residential yards. 3) Construction cut and vegetation control would be visible in Harvey West Park and Pogonip Creek.	5-3 / 6-3	(1) and (2) from existing, not (3)	5-5 / 6-2	N/A	N/A
Agricultural Resources	Short-term disruption	None	None	Construction activities may temporarily disrupt agricultural activities during growing season. Short-term disruption of irrigation water supply may occur for farms on north side of Highway 1 during construction. Prime Farmland or Farmland of Statewide Importance identified from 6,000 to 23,000 ft. and 42,000 to 43,100 ft.	5-1, 5-2 / 4-1, 4-2	Same, except avoids farmland from 42,000 to 43,100 ft.	Same	N/A	N/A
	Soil Compaction	None	None	May occur on the pipeline ROW and primary staging areas with repeated use.	5-4 / 4-3	Same, except avoids farmland from 42,000 to 43,100 ft.	Same	N/A	N/A
	Soil Productivity	None	None	May be reduced if topsoil and subsurface soils are mixed.	5-3 / 4-3	Same, except avoids farmland from 42,000 to 43,100 ft.	Same	N/A	N/A
Air Quality	Emissions Release	None	None	Possible volatile fuel emissions release from unauthorized trash dump site during construction and O&M activities.	5-1, 5-2 / 11-1, 11-2	Same plus emissions from 5 LUST sites.	5-3, 5-4 / 11-1, 11-2, 11-3	N/A	N/A

Table B-5 Potential Environmental Impacts and Benefits Summary: North Coast Pipeline Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Biological Resources	Stream Crossings (aquatic habitat)	Pipeline failure may impact aquatic habitat at stream crossing.	None	Crossings at Laguna Cr. (NCP-01), Majors Cr. (NCP-02), Gordola Creek (NCP-03), Baldwin Cr.(NCP-04), Unnamed creek (NCP-05), Lombardi Cr. (NCP-06), Sandy Flat Gulch (NCP-07), Peasley Gulch (NCP-08),Wilder Creek (NCP-09), Moore Cr. (NCP-10, NCP-11), Arroyo Seco Cr. (NCP-12), Pogonip Cr. (NCP-13).	5-1 / 9-1a - j	Same, less Pogonip Creek (NCP-13).	5-2 / Same	N/A	N/A
	Terrestrial Habitat	Vegetation control activities or pipeline failure may impact terrestrial habitat.	None	Burrowing owl, white-tailed kite, tricolored blackbird (nesting and foraging); Cooper's hawk, black swift (foraging).	5-1 / 9-3a - f	Same	5-2 / Same	N/A	N/A
	ESA (aquatic)	Pipeline failure may impact aquatic habitat for steelhead and CRLF.	None	Construction activities can potentially disturbed habitat for steelhead and CRLF. Present in most watersheds and at NCP-01, NCP-03, NCP-04, NCP-07, NCP-08, NCP-09, and downstream of NCP-10 and NCP-11.	5-1 / 9-1a - j	Same	5-2 / Same	N/A	N/A
	ESA (terrestrial)	Pipeline failure may impact Ohlone tiger beetle habitat	None	Ohlone tiger beetle.	5-1 / 9-3a - f	Same	5-2 / Same	N/A	N/A
	Wetlands	None	None	Potential jurisdictional wetlands in the grasslands west of the City.	5-1 / 9-2a - f	Same	5-2 / Same	N/A	N/A
	Riparian Corridor	Pipeline failure may impact riparian corridor due to emergency response activities.	None	Construction in riparian corridor.	5-1 / 9-2a - f	Same	5-2 / Same	N/A	N/A
Cultural Resources	Known Sites	None	None	18 known sites (10 within 100 ft.).	5-1 / 10-2	18 known sites (9 within 100 ft.).	5-2 / 10-2, 10-3	N/A	N/A
Geology and Soils	Erosion	None	None	Moderate potential for substantial soil erosion. Small areas with steep slopes and erosive Santa Margarita formation soils in Wilder Creek (26,000), Moore Creek (30,000 to 31,000), above Harvey West Park (40,200 to 40,600).	5-3 / 7-2	Same; low potential for substantial soil erosion; avoids steep slope above Harvey West Park.	5-9 / 7-2	N/A	N/A
	Slide Potential	Slope failure potential is low due to little evidence of past landslides and soil creep along NCP Reach, except adjacent to stream crossings.	5-1 / None	Areas on or adjacent to steep slopes primarily at stream crossings more susceptible to slope failure. Little evidence of past landslides and soil creep, except adjacent to stream crossings.	5-5 / 7-1, 7-4	None	None	N/A	N/A
	Damage from Ground Shaking	Increased likelihood of pipeline breakage/failure due to age of pipeline.	Common Impact / None	Severe shaking could result in break/failure of pipeline.	Common Impact / 7-5	Same	Same	N/A	N/A
	Frac-outs (directional drilling)	None	None	Crossings at NCP-03 through –10, and –13.	5-4 / 7-3	None	None	N/A	N/A

Table B-5 Potential Environmental Impacts and Benefits Summary: North Coast Pipeline Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Geology and Soils	Expansive Soils	None	None	Along majority of reach.	5-8 / 7-6	Same	5-11 / 7-6	N/A	N/A
	Liquefaction	Moderately high potential for liquefaction from 41,000 to 44,200 ft.	5-2 / None	Moderately high potential for liquefaction from 41,000 to 44,200 ft. Low potential at stream crossings.	5-6 / 7-7	Moderately high potential for liquefaction from 5,000-9,600 ft.	5-10 / 7-7	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Fueling and equipment maintenance would need to occur at staging areas away from stream crossings; SWPPP needed; potential hazardous materials site at landfill.	5-1, Common Impact / 13-1, 13-3	Same with addition of 5 LUST sites.	5-2Common Impact / 13-1, 13-3	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	Same	Same	N/A	N/A
Hydrology and Water Quality	Stream sedimentation	None	None	Would require erosion control plan; 13 stream crossings Potential frac-outs.	5-1 / 8-2	Same, less 1 crossing (NCP-13).	5-2 / 8-2	N/A	N/A
Land Use and Planning	Shot-term disruption	None	None	Construction could temporarily impact land use, as the existing alignment passes through substantial urban residential and commercial areas.	5-1 / 3-4	Construction could temporarily impact sensitive land uses, as the existing alignment passes through substantial urban residential and commercial areas.	5-2 / 3-1	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels in work area; numerous receptors within the city limits, construction in very close proximity to residences..	5-1 / 12-1, 12-2	Same, with reduced impact to residential areas.	5-2 / 12-1, 12-2	N/A	N/A
Public Services and Utilities	Emergency Services Access	None	None	May impede services due to temporary road and street closures for road crossing or parallel construction.	Common Impact / 15-1	Same, with reduced impact to residential areas.	Same	N/A	N/A
	Temporary Disruption	None	None	Would temporarily shut down deliveries from NCS during NCP tie-in; Construction could temporarily disrupt emergency services, garbage, and other services at numerous locations along the alignment. Temporarily disrupt school operations during construction.	5-1, 5-2 / 15-2, 15-3	Same. Substantially less disturbance to residential areas north of High St.	5-3, 5-4 / 15-2, 15-3	N/A	N/A
Recreation	Short-term disruption	O&M activities may temporarily disrupt access to 6 beaches.	5-1 / None	Wilder Ranch State Park (including near headquarters), Moore Creek Preserve, Harvey West Regional Park, Arroyo Seco. Construction would temporarily block or disrupt coastal access along the Hwy 1 route at: 4 Mile, 3 Mile, Fern Grotto, Sand Plant, Strawberry beaches.	5-2 / 5-1	Same, less Harvey West Regional Park. Temporarily disrupt bike traffic along the bike trail between the east end of High Street and Evergreen Street.	5-4 / 5-1	N/A	N/A
	Long-term disruption	None	None	O&M activities already occurring under current conditions, but would occur over long-term.	5-3 / 5-2	ROW marker maintenance and staff visits could result in long-term impacts.	5-5 / 5-2	N/A	N/A

Table B-5 Potential Environmental Impacts and Benefits Summary: North Coast Pipeline Reach and Alternative (continued)

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Existing Alignment	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Transportation and Traffic	Traffic	None	None	Increase traffic on Hwy 1 from staging area to Hwy 9, non-public access road off Hwy 1 at Wilder Ranch State Park, Hwy 9, Laguna Creek Road, Mission Street, West Street and other city streets from 30,500 to EOP. Traffic would increase at entrances to potential staging areas at Sunrise Farms, City of Santa Cruz Landfill on Dimeo Rd.	5-1 / 14-1	Same. Additional streets: Cardiff Court, Cardiff Place, High Street, Evergreen Street, Coral Street, and Encinal Street. This alternative would not include disruption of residential streets north of High St.	5-2 / 14-1	N/A	N/A
	Temporary Road Closure	None	None	Four major road crossings would occur at: Laguna Creek Road, Hwy 1at 2 locations, and Sand Quarry entrance road.	5-1 / 14-1	Same, reduced impact to residential areas.	5-2 / 14-1	N/A	N/A
	Streets Under Construction (City Limits)	None	None	Meder Street, Cardiff Ct., Cardiff Pl., High St., Kalkar Dr., Spring St., Ortalon Av., Meadow Rd., Harvey West Blvd., Encinal St., Pioneer St., Golf Club Dr./ Roaring Camp Big Trees Railroad, Hwy 9	5-1 / 14-1	Meder Street, Cardiff Ct., Cardiff Pl., High St., Evergreen St., Coral St., Encinal St., Hwy 9 .	5-2 / 14-1	N/A	N/A
Transportation and Traffic	Transportation	None	None	Bikeways along High Street and Coral Street impacted by construction. Bus routes 10 (High Street to ROW between Cardiff Place and Highway 1), 2 (Meder Street to ROW between Reese Lane and Bay Drive), 4 (Harvey West Blvd. and DuBois Street).	5-1 / 14-1	Same.	5-2 / 14-1	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-6 Potential Environmental Impacts and Benefits Summary: Laguna Diversion and Alternative

	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Repair**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Aesthetics	None	None	None	None	None	N/A	N/A	N/A	N/A
Agricultural Resources	None	None	None	None	None	N/A	N/A	N/A	N/A
Air Quality	None	None	None	None	None	N/A	N/A	N/A	N/A
Biological Resources	Terrestrial Habitat	Cooper's hawk – no construction under this alternative.	None	Construction could temporarily disturb potential nesting habitat for Cooper's hawk	L-2 / 9-3a, b, c, d	N/A	N/A	N/A	N/A
	ESA (aquatic)	No change; current operations impact aquatic resources; Steelhead and CRLF located downstream; habitat can be affected by existing sediment transport and sediment management approach.	L-1 / None	Construction activities temporarily disturbing CRLF foraging and dispersal habitat near the diversion; ponded area used by CRLF behind diversion dam reduced; Steelhead and CRLF located downstream; habitat could be affected by proposed sediment transport; Proposed modifications would result in restoration of the sediment transport regime within the creek (a net benefit).	L-2, L-3 / 9-1a, d, e, f, h, i, j	N/A	N/A	N/A	N/A
	Riparian Corridor	No change	None	Small, temporary loss at construction site.	L-2 / 9-2a, b, e	N/A	N/A	N/A	N/A
Cultural Resources	Known Sites	None	None	Small potential for diversion to be historic structure.	L-1 / 10-1	N/A	N/A	N/A	N/A
Geology and Soils	Erosion	None	None	Some erosion may occur during bank stabilization.	L-1, L-2 / 7-2	N/A	N/A	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Would need SWPPP.	Common Impact / 13-1	N/A	N/A	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	N/A	N/A	N/A	N/A
Hydrology and Water Quality	Flow	None	None	Pneumatic gate would allow more efficient response to changes in flow conditions and reduce flow velocity loss during pour over, environmental benefit.	Environmental Benefit	N/A	N/A	N/A	N/A
	Stream Sedimentation	Impedes downstream transport of sediment and decreases habitat available for CRLF and steelhead.	None	Instream excavation/construction has the potential to generate sediment for downstream transport. Intended to improve downstream transport of sediment.	L-1 / 8-1, 8-4	N/A	N/A	N/A	N/A
Land Use and Planning	None	None	None	None	None	N/A	N/A	N/A	N/A

Table B-7 Potential Environmental Impacts and Benefits Summary: Laguna Diversion and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	**Impact No. / Mitigation No.**	**Alternative 2 – Repair**	**Impact No. / Mitigation No.**	**Alternative 3 – Alternate Alignment 1**	**Impact No. / Mitigation No.**	**Alternative 4 – Alternate Alignment 2**	**Impact No. / Mitigation No.**
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels.	Common Impact / 12-1	N/A	N/A	N/A	N/A
Public Services and Utilities	Temporary Service Disruption	None	None	Could temporarily shut down existing water diversion.	Common Impact / 15-2	N/A	N/A	N/A	N/A
Recreation	None	None	None	None	None	N/A	N/A	N/A	N/A
Transportation and Traffic	Traffic	None	None	Slightly increase traffic on Smith Grade Road, Highway 1, Bonny Doon Road during construction.	L-1 / 14-1	N/A	N/A	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-7 Potential Environmental Impacts and Benefits Summary: Majors Diversion and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Repair	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Hydrology and Water Quality	Flow	None	None	Pneumatic gate would allow more efficient response to changes in flow conditions and reduce flow velocity loss during pour over. Construction activities would temporarily impact flows and water quality at diversion site, but would result in net environmental benefit over long-term.	M-1 / 8-1, 8-4	N/A	N/A	N/A	N/A
	Stream Sedimentation	Impedes downstream transport of sediment and decreases habitat availability for CRLF and steelhead downstream.	None	Improve downstream transport of sediment over long-term (net environmental benefit). Short-term increases in sediment downstream of diversion in anadromous reach – no mitigation measures for this impact.	M-1 / 8-1, 8-4	N/A	N/A	N/A	N/A
Land Use and Planning	None	None	None	None	None	N/A	N/A	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels.	Common Impact / 12-1	N/A	N/A	N/A	N/A
Public Services and Utilities	Temporary Service Disruption	None	None	Could temporarily shut down existing water diversion.	Common Impact / 15-2	N/A	N/A	N/A	N/A
Recreation	Short-term disruption	None	None	Currently unofficial recreation use, potential future use in surrounding Wilder Ranch State Park. Temporary disruption from O&M activities.	M-1, M-2 / 5-1, 5-2	N/A	N/A	N/A	N/A
Transportation and Traffic	Traffic	None	None	Slightly increase traffic on Hwy 1 and dirt access road.	M-1 / 14-1	N/A	N/A	N/A	N/A

Impact and mitigation numbers are defined in each resource section.

Table B-8 Potential Environmental Impacts and Benefits Summary: Majors Diversion and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Repair	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Aesthetics	None	None	None	None	None	N/A	N/A	N/A	N/A
Agricultural Resources	None	None	None	None	None	N/A	N/A	N/A	N/A
Air Quality	None	None	None	None	None	N/A	N/A	N/A	N/A
Biological Resources	Terrestrial Habitat	No change	None	Construction could temporarily disturb Cooper's hawk (nesting)	M-2 / 9-3a, b, c, d	N/A	N/A	N/A	N/A
	ESA (aquatic)	Current operations impede downstream sediment transport; Steelhead and CRLF located downstream; habitat may be adversely effected by current sediment transport regime; CRLF habitat at site; Reduced value of potential CRLF habitat at Majors Diversion Pond.	M-1 / None	Steelhead and CRLF located downstream; CRLF habitat at site; Proposed modifications would result in restoration of the sediment transport regime in the stream which is anticipated to improve habitat quality downstream; Modified facility reduce the diversion pond habitat for CRLF foraging. Provides net environmental benefit.	M-1, M-2 / 9-1a, d, e, f, h, i, j	N/A	N/A	N/A	N/A
	Riparian Corridor	No change	None	Small, temporary loss at construction site.	M-2 / 9-2a, b, c, e	N/A	N/A	N/A	N/A
Cultural Resources	Known Sites	None	None	Low potential for diversion to be a potentially historic structure.	M-1 / 10-1	N/A	N/A	N/A	N/A
Geology and Soils	Erosion	None	None	Some erosion may occur during bank stabilization.	M-1, M-2 / 7-2	N/A	N/A	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Would need SWPPP and fueling at remote staging area out of riparian corridor. Fuel stored on-site for backup generator (gas or diesel powered).	Common Impact / 13-1	N/A	N/A	N/A	N/A
	Fire Hazard	None	None	Potentially high during construction – implement BMPs.	Common Impact / 13-2	N/A	N/A	N/A	N/A

Table B-8 Potential Environmental Impacts and Benefits Summary: Reggiardo Diversion and Alternative

Resource Category	Resource Issues	Potential Environmental Impacts / Benefits							
		Alternative 1 – No Project	Impact No. / Mitigation No.	Alternative 2 – Repair	Impact No. / Mitigation No.	Alternative 3 – Alternate Alignment 1	Impact No. / Mitigation No.	Alternative 4 – Alternate Alignment 2	Impact No. / Mitigation No.
Aesthetics	None	None	None	None	None	N/A	N/A	N/A	N/A
Agricultural Resources	None	None	None	None	None	N/A	N/A	N/A	N/A
Air Quality	None	None	None	None	None	N/A	N/A	N/A	N/A
Biological Resources	ESA (aquatic)	Current operations may impact steelhead, coho, and CRLF depending on timing and extent of sediment excavation activities.	R-1 / None	Same	R-2 / 9-1a, h	N/A	N/A	N/A	N/A
Cultural Resources	Known Sites	None	None	The diversion has low potential to be a historic structure.	R-1 / 10-1	N/A	N/A	N/A	N/A
Geology and Soils	Erosion	None	None	Evidence of past bank erosion immediately downstream of diversion. Increase in erosion potential not expected along existing access roads.	R-1 / 7-2	N/A	N/A	N/A	N/A
Hazards and Hazardous Materials	Hazardous Materials Spill	None	None	Would need SWPPP and fueling at remote staging area out of riparian corridor.	Common Impact / 13-1	N/A	N/A	N/A	N/A
	Fire Hazard	None	None	Potentially high during O&M activities – implement BMPs.	Common Impact / 13-2	N/A	N/A	N/A	N/A
Hydrology and Water Quality	None	None	None	None	None	N/A	N/A	N/A	N/A
Land Use and Planning	None	None	None	None	None	N/A	N/A	N/A	N/A
Noise	Increased Levels (short-term)	None	None	Short-term increase in ambient noise levels during O&M activities.	Common Impact / 12-1	N/A	N/A	N/A	N/A
Public Services and Utilities	None	None	None	None	None	N/A	N/A	N/A	N/A
Recreation	None	None	None	None	None	N/A	N/A	N/A	N/A
Transportation and Traffic	Traffic	None	None	Would increase traffic overall on Hwy 1, Smith Grade Road, Laguna Road, Bonny Doon Road and other local streets.	R-1 / 14-1	N/A	N/A	N/A	N/A

Impact and mitigation numbers are defined in each resource section.