

Appendix B: RECORD OF ASSESSMENT TABLES

To efficiently communicate the results of this inspection to reviewers of this report, it is necessary that common terminology be established. The following are definitions from the USACE and Rock Manual.

Definitions

Armour Unit: A relatively large quarry stone or concrete shape that is selected to fit specified requirements; it is placed in a cover layer.

Core: An inner, often much less permeable, portion of rubble mound structure.

Cover Layer: The outer layer used in a rubble mound structure as protection against external hydraulic loads.

Crest: Highest part of a breakwater seawall, sill, or dam.

Erosion: Process by which particles are removed by the action of wind, flowing water or waves (the opposite of accretion).

Filter: Intermediate layer, preventing the fine materials of an underlayer from being washed through the voids of an upper layer.

Maintenance: Repair or replacement of components of a structure whose life is less than that of the overall structure, or of a localized area that has failed.

Rehabilitation: Restoring to good conditions, operation, or capacity. This implies that steps are taken to correct problems before the structure's functionality is significantly degraded. Rehabilitation can also be thought of as preventative.

Repair: Restoring to good condition after damage has occurred and a structure's functionality has been greatly reduced. Repair can also be thought of as corrective maintenances.

Replacement: Process of demolition and reconstruction.

Revetment: A sloping surface of stone, concrete or other material used to protect an embankment, natural coast or shoreline against erosion.

Rubble Mound Structure: A mound of random-shaped and random-placed stones protected by a cover layer of selected armour stones or specially shaped concrete armour units. The armour layer may be placed in an orderly manner or dumped at random.

Slope: The inclined face of a cutting or canal or embankment.

Slope Protection: The protection of embankment slope against wave action or erosion.

Subsidence: Sinking of the ground because of underground material movement—in this case most often caused by water passing through the existing revetments

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Seawall and Revetment Summary Table

Location: Morro Bay, CA

Structure	Priority	Condition	Length (ft)	Description
Seawall 1	Short	Fair, further investigation needed	87	Follows Revetment 3, starting on the south side of the North-T Pier and extending toward the end Tognazzini's Dockside Too.
Seawall 2	Mid	Critical	84	Concrete seawall Immediately following Revetment 12 at the South End of Tidelands Park
Seawall 3	Mid	Critical	213	Timber seawall behind the Inn at Morro Bay extending the entire length of the parking lot.
Revetment 1	Long	Fair	740	North side of Morro Rock beginning adjacent to the outfall and extends the length of the Morro Rock Beach parking lot.
Revetment 2	Mid	Poor	2414	Starts near the "Fisherman's Family Sculpture" and extends to the end of Coleman Beach, at the old PG&E in-take structure building.
Revetment 3	Short	Serious	136	Begins south of the Morro Bay Oyster Company, runs parallel to the US Coast Guard Station and Morro Bay Harbor Department Office, to the North-T Pier.
Revetment 4	Short	Serious	518	Adjacent to the Great American Fish Company, on the North end of the South-T Pier, and ends at Giovanni's Fish Market and Galley.
Revetment 5	Long	Fair	223	Begins adjacent to Giovanni's Fish Market and Galley and ends at the start of House of JuJu By the Bay.
Revetment 6	Long	Fair	49	Begins at the south boundary of the Harbor Center, LLC and ends at the north boundary of the Anderson Inn.
Revetment 7	Mid	Poor	56	Sits between the old Libertine Pub and Roses Bar and Grill.
Revetment 8	Mid	Poor	68	Sits Between Dutchmans Seafood House deck and the Morro Bay Marina.
Revetment 9	Priority	Critical	93	Begins at the south boundary of the Morro Bay Marina and extends to the old Morro Bay Aquarium.
Revetment 10	Short	Serious	81	Runs fom the Morro Bay Paddlesport shop to the Morro Bay Yacht Club.
Revetment 11	Mid	Poor	51	Begins south of the Estero Inn and extends to Associated Pacific Constructors.
Revetment 12	Long	Fair	1810	Begins adjacent to 471 Embarcadero and extends to the end of the public launch ramp parking lot south of Tidelands Park.

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Seawall and Revetment Inspection Record and Recommendations

Structure	Station	Average Calculated Slope	Field Comments	Damage Rating	Conceptual Geotechnical Recommendations	Action for Cost Estimate
Seawall 1	0+00	3	Transition from rock revetment to the north. Construction of seawall is unknown. Visible portions include concrete wall with a rock revetment placed in front of it. Rock revetment has miscellaneous sections of concrete mixed in. The concrete seawall has a ledger supporting a steel and timber wharf structure. The concrete was in satisfactory condition.	Moderate	Refurbish the revetment in front of the wall and a more detailed evaluation by the structural engineer should be performed	Refurbish Revetment and Further Investigation of Seawall and Wharf
	0+43	-	Location where the concrete wall changes to a shotcrete wall supporting a timber wharf. The shotcrete is in fair condition with minor areas of hollow sounding and cracks. The shotcrete is sloped towards the bottom and extends over the rock revetment to approximately +3 ft MLLW. At the bottom end of the shotcrete undermining is observed. Above deck behind the wall, cracked concrete was noted indicating potential loss of material underneath.	Major		
	0+87	2.2	End of Scope, seawall continues as private leasehold.	Moderate		
	1+00	-	Cracks observed in shotcrete. At +3 ft MLLW where the shotcrete ends, there is a 5' deep x 2' tall void. The timber beam over the seawall is in poor condition with major section loss due to dry rot.	Major		
Seawall 2	0+00	2.5	Cast-in-place concrete wall over rock with potential tie backs observed. Some rock and miscellaneous concrete in front of wall.	Failed	Replace with a new structural wall designed for saltwater contact or a new revetment slope should be constructed.	Replace
	0+06	-	Undermined wall 6" high by 2' deep.	Failed		
	0+10	-	Wall section failure, 6' long, miscellaneous concrete sections have been added over the failed section.	Failed		
	0+24	-	Two wall sections are observed. The seaward wall, 12" thick and up to 5.5 ft tall has failed. A wall comprised of concrete and cmu was placed behind the failed seawall is rotated seaward and does not appear to have sufficient foundation.	Failed		
	0+26	-	Seaward wall is rotated out separating from concrete placed behind, and no longer acting as a seawall.	Failed		
	0+38	-	A 10' long section behind the failed seaward wall is undermined 1' to 3' high. From 0+38 to 0+84 foundation has failed. Concrete has settled.	Failed		
	0+60	-	Outer half of wall has failed, vertical fracture.	Failed		
	0+84	4.2	The foundation has failed. To the south the wall transitions to neighboring foundation of the adjacent property, which consists of rock with concrete placed on top.	Failed		
Seawall 3	0+00	1.4	The timber sheet pile wall begins after a slope protected by piled sections of concrete slab.	Failed	Replace with a new structural wall designed for saltwater contact.	Replace
	0+20	-	The seawall has failed. The timber sheet piles and piles exhibit 100% section loss at the mudline due to decay and marine borer damage. The soil behind the wall is no longer being retained and has migrated through the wall.	Failed		
	1+00	-	The seawall has failed. The timber sheet piles and piles exhibit 100% section loss at the mudline due to decay and marine borer damage. The soil behind the wall is no longer being retained and has migrated through the wall.	Failed		
	1+73	-	The timber sheet pile wall transitions to a slope protected by small rock and miscellaneous sections of concrete. The top is not protected and has exposed subgrade. Behind the wall the retained soil is no longer retained and has eroded away leaving the tie rod system exposed. The failed area is restricted by a fence to the east. Erosion from runoff will continue to erode the material behind the wall.	Failed		

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Structure	Station	Average Calculated Slope	Field Comments	Damage Rating	Conceptual Geotechnical Recommendations	Action for Cost Estimate
Revetment 1	0+00	2.9	Bags of concrete placed adjacent to outfall structure. Evidence of settlement of rock at top. Typical 20" rock with >4' rock randomly mixed in.	Minor	Control surface drainage	-
	0+90	-	Settlement at top. Spreading of toe, erosion at top.	Minor	Control surface drainage	-
	1+00	3.7	Gradual slope, typical 20" rock and 4' rock mixed in.	Minor	Control surface drainage	-
	2+00	2.9	Erosion/ migration of fines and gravel at top, Elongated slope.	Minor	Control surface drainage and place additional filter material and riprap in bare areas	Add Rock
	3+00	2.7	Slope changes from elongated to steeper.	Minor	Control surface drainage	-
	4+00	2.8	Erosion and settlement at top. Loss of rock protection.	Moderate	Control surface drainage and place additional filter material and riprap in bare areas	Add Rock
	5+00	3.1	Loss of rock throughout, erosion and voids at top. Tape measure is in large void.	Moderate	Refurbish revetment and control surface drainage	Refurbish
	5+20	-	Loss of fine material at top.	Minor	Control surface drainage and place additional filter material and riprap in bare areas	Add Rock
	6+00	1.6	Losing fine material at top.	Minor	Control surface drainage and place additional filter material and riprap in bare areas, reduce slope inclination to 2:1 with additional riprap	Add Rock
	7+00	2.3	Erosion of fine materials at top, large voids, missing rock. Steeper slope.	Moderate	Control surface drainage and place additional filter material and riprap in bare areas	Add Rock
8+00	2.4	Miscellaneous section of concrete in rip rap. Erosion/ migration of fine materials from top.	Moderate	Control surface drainage and place additional filter material and riprap in bare areas	Add Rock	
Revetment 2	0+00	1.7	EL=+15 (check etrac). Erosion of fine material at top, migration of rock down slope. Greater than 4' rock toward bottom of slope. Typical 20" rock with voids exposing underlying gravel.	Moderate	Control surface drainage and place additional filter gravel and riprap in bare areas, reduce slope inclination to 2:1 with additional riprap	Add Rock
	1+00	1.7	Erosion of fine material at top, exposed smaller rock. Location of giant boulder.	Moderate	Control surface drainage and place additional filter gravel and riprap in bare areas	Add Rock
	1+60	3.1	Erosion from runoff at top, undermined slab for trash can.	Minor	Control surface drainage and replace slab	
	2+00	3.2	Loss of fine material at top and erosion evident, undermined bench slab at top.	Minor	Control surface drainage and place additional filter gravel and riprap in bare areas	Add Rock
	3+00	4.1	Typical 20" rock and gradual slope, erosion at top.	Minor	Control surface drainage and place additional filter gravel and riprap in bare areas	Add Rock
	4+00	3.4	Erosion at top, slope spreading on bottom half of slope. Typical 20" rock only, less or no large boulders. Notable erosion from runoff between 2+60 and 4+00.	Moderate	Refurbish revetment and control surface drainage	Refurbish
	5+00	2.5	Erosion loss of fine material at top.	Minor	Control surface drainage	-
	5+60	-	Major slope spread, loss of rock, erosion due to area of significant runoff, poor condition, exposed subgrade.	Major	Rebuild revetment and control surface drainage	Rebuild
	6+00	3.1	Erosion and loss of material at top of revetment, top of revetment is settling, transitions to steep slope at toe.	Major	Rebuild revetment and control surface drainage	Rebuild
	7+00	1.5	Steep slope. Slope changes from sta. 6+00 - sta. 7+00. Elevation changes from +10 ft MLLW at STA 6+00 to 20 ft MLLW.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
8+00	1.5	Steep slope, erosion at the top. Adjacent to the sidewalk, 10" of potential loss of material was measured.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap, replace lost fill	Add Rock	
9+00	1.5	Steep slope, erosion at the top.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock	
10+00	1.5	Steep slope, erosion at the top.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock	

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	11+00	1.2	Steep slope, erosion at the top.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	12+00	1.6	Steep slope, erosion at the top.	Minor	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	13+00	1.9	Steep slope, erosion at the top.	Minor	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	14+00	1.5	Steep slope, erosion at the top.	Moderate	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	14+66	-	Steep slope, erosion at the top, and exposed and undermined sidewalk footing.	Minor	Control surface drainage and reduce slope inclination to 2:1 with additional riprap, replace lost fill	Add Rock
	15+00	1.7	Steep slope.	Minor	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	16+00	2.1	Steep slope. Migration of rock material at top.	Minor	Control surface drainage	Add Rock
	17+00	1.8	Steep slope.	Moderate	Refurbish revetment and control surface drainage	Add Rockk
	18+00	1.6	Area of concrete placed at the top. Evidence of migration of rock down slope, erosion at top.	Moderate	Refurbish revetment and control surface drainage	Rebuild
	19+00	1.9	Loss of fines and rock material at top.	Minor	Control surface drainage and reduce slope inclination to 2:1 with additional riprap	Add Rock
	19+60		Rock revetment is not present.	Major	Add additional riprap	Add Rock
	20+00	6.4	Rock revetment is not present, sand with vegetation (iceplant). Erosion is evident with an undermined concrete footing of the observation deck. Below the deck there is no rock protection left.	Major	Construct engineered revetment	Rebuild
	21+00	1.5	Rock revetment is not present, sand with vegetation (iceplant). Erosion is evident. Gradual slope.	Major	Construct revetment or seawall	Rebuild
	22+00	1.6	Some rock and vegetation over sand.	Major		Rebuild
	23+00	1.8	Steep drop off at the top held back by vegetation, turning to a gradual slop with some rocks. Loss of fine material at top.	Major		Rebuild
	24+00	1.9	Steep slope held by vegetation, vegetation may be covering rock, rock protection missing towards bottom of slope.	Major		Rebuild
	24+14	1.9	Erosion and migration of rock down slope.	Major		Rebuild
Revetment 3	0+00	1.9	Transition from the Morro Bay Oyster Company leasehold to revetment. Loose concrete placed over rock at top. Where concrete ends (approximately 1/3 down the slope) voids are evident and the slope steepens. A 3" section of curb is missing from the top of the revetment.	Moderate	Rebuild revetment or construct seawall. Control surface drainage with outlet structure.	Rebuild
	0+50	-	Revetment has concrete debris with concrete placed on top. Voids under loose concrete is typical.	Major		Rebuild
	0+70	-	Concrete debris with concrete placed on top. Slope steepens. A void 6' deep was recorded below the concrete.	Major		Rebuild
	1+00	2.2	Revetment has concrete placed on slope. Voids below concrete and exposed soil and gravel.	Moderate		Rebuild
	1+36	3.1	A 6' long void was recorded below the concrete placed on top of rock under the pier, at +4 MLLW it is undermined up to 5' deep. Rock is migrating down the slope.	Major		Rebuild

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Revetment 4	0+00	2.4	Revetment 4 starts on the north side of the South T-Pier and is a continuation of a rock revetment from the leasehold to the north. Rock revetment beneath pier has a very gradual slope. Below the pier, the top of the slope is protected by smaller 6" rock and continues to typical 20" rock down the slope.	No Damage	Newer riprap, monitor for rock and soil movement	-	
	0+80	-	The slope steepens at the top, migration or large rocks down slope is evident, and several voids exposing gravel and subgrade is noted.	Moderate	Refurbish revetment	Refurbish	
	1+00	1.8	The slope is steep at the top, migration or large rocks down slope is evident, and several voids exposing gravel and subgrade is noted.	Moderate	Refurbish revetment	Refurbish	
	1+22	-	Sections of concrete debris mixed with typical 20" rock. Missing rocks exposing subgrade, heavy vegetation, potential undermining of walkway at top.	Moderate	Refurbish revetment and place slurry in void below concrete sidewalk	Refurbish	
	1+55	-	The sidewalk at the top is undermined up to 8", the top of the slope is missing rock and the subgrade soil and gravel is exposed.	Moderate	Refurbish revetment and place slurry in void below concrete sidewalk	Refurbish	
	2+00	2.3	Missing large rock protection, steep slope, migration of large rocks down slope, exposed subgrade of soil and gravel.	Moderate	Refurbish revetment	Refurbish	
	2+06	-	Loss of large rock protection, exposed gravel, and erosion is evident. The large rock at top 1/3 of slope is undermined 4ft.	Major	Rebuild revetment	Rebuild	
	2+60	-	Footing undermined up to 2ft deep. Bottom of footing is at +3.	Major	Underpin footing and rebuild revetment in front of footing	Rebuild	
	3+00	3.6	Location of concrete stairs and ramp access to floating docks. Missing rock at the top results in the concrete footing unprotected and undermined. To the south, the revetment continues and the slope steepens at the top.	Major	Underpin footing and rebuild revetment in front of footing	Rebuild	
	3+50	-	Concrete placed on top of rock at +7 MLLW.	Major	Rebuild revetment	Rebuild	
	4+00	1.6	Steep slope at top. Concrete placed on top of rock. From +10 MLLW down to +3 ft MLLW, rock is missing.	Major		Rebuild	
	4+70	-	Steep slope at top. Concrete placed on top of rock with significant voids noted at +10 MLLW below the added concrete. A void 15 foot long, by 6' deep and 2' tall is recorded.	Major		Rebuild	
	5+00	1.6	Concrete placed on top of rock from top of slope to +3.5 MLLW and voids noted below the added concrete.	Major		Rebuild	
	5+18	1.9	Steep slope, erosion evident at top, concrete placed on rock and voids. The revetment transitions to a leasehold where the shore protection consists of a combination of cast-in place concrete, stacked concrete debris, and rock.	Major		Rebuild	
	Revetment 5	0+00	2.2	Sections of concrete debris, loss of large rock, exposed smaller rock, 6"-12".	Minor	Place additional riprap	Add Rock
		0+15	-	Minor subsidence behind concrete sidewalk in AC paving.	N/A	Remove pavement, backfill any voids, place base rock and hot mix asphalt	-
		0+30	-	Loss of large rock, exposed gravel, adjacent to gangway.	Minor	Place additional riprap	Add Rock
		1+00	1.6	Abandoned concrete stairs to the north of brow access to floating docks, minor undermining. Abutment of pier access structure is undermined 2ft deep and 1 ft high, loss of large rock leaves the slope unprotected compromising the abutment. At the concrete footing of the 1st bent is undermined.	Moderate	Underpin abutment and refurbish revetment	Refurbish
		1+33	1.6	Section 20 ft long with concrete debris placed on top of revetment.	Moderate	Refurbish revetment	Refurbish
2+00		1.6	Loss of large rock, exposed subgrade of dirt and gravel.	Moderate	Refurbish		
2+23		1.7	Transition of revetment to leasehold. Rock bag wall supporting leasehold.	Moderate	Refurbish		

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Structure	Station	Average Calculated Slope	Field Comments	Damage Rating	Conceptual Geotechnical Recommendations	Action for Cost Estimate
Revetment 6	0+00	1.7	Revetment 6 begins to the south of a cast-in-place concrete wall and piles over a rock revetment. Some large 4' rock over 20" rock. Rock has migrated down slope, rock missing at top and along slope. Has steep slope sections.	Minor	Refurbish revetment. Existing piles may need to be replaced.	Refurbish
	0+20	-	Rock has migrated down slope, rock missing at top and along slope. The rock is piled up behind the timber pile bent and the slope steepens downhill of the piles.	Moderate		Refurbish
	0+30	-	Steep slope, losing rock material and protection at lower half, missing large rocks.	Moderate		Refurbish
	0+35	-	Large rocks are missing exposing 6" and smaller rock. Close to vertical slope from +5 ft to +3 ft MLLW, where rock is missing and undermining is evident.	Moderate		Refurbish
	0+49	1.6	Rock revetment transitions to the leasehold to the south, to a rock revetment with cast-in-place concrete on top.	Moderate		Refurbish
Revetment 7	0+00	1.8	Top half of slope is very steep. Rock migration down slope. Large rock protection is missing in the middle of the slope leaving the top of the rock slope unsupported. Typical 4' rock with 20" and smaller rock.	Major	Refurbish revetment. Existing piles may need to be replaced.	Refurbish
	0+14	-	Top section of slope is very steep with loss of large rock and migration of rock down the slope. A section of poured concrete is undermined. A 12" diameter galvanized corrugated drain pipe is left unsupported.	Moderate		Refurbish
	0+20	-	Where the public access structure is located, rock is piled behind the first timber pile bent. On the downhill side of the bent there is an abrupt dropoff. Loss of material on lower half of slope. Typical 4' rock with 20" rock.	Moderate		Refurbish
	0+37	-	Typical 4' rock with 20" rock with public access structure in the background.	Moderate		Refurbish
	0+56	2.3	Transition to leasehold boundary. The timber pile supporting the walkway to Rose's Bar and Grill is split and in poor condition.	Moderate		Refurbish
Revetment 8	0+00	2.1	Rock revetment transition to Dutchman's Seafood House leasehold to north. Top of rock revetment has concrete placed on top with a drainage ditch and 30" concrete drain pipe. Loss of rock supporting the placed concrete resulting in subsidence and crack in concrete.	Moderate	Refurbish revetment	Refurbish
	0+53	-	Large rock protection missing exposing 6" rock and smaller, subgrade soil exposed.	Major		Refurbish
	0+63	-	No rock protection at the top of slope exposing soil subgrade. A 12" drain pipe extends through the slope and is unsupported. Settlement and cracking of the concrete sidewalk was noted indicating potential loss of material and undermining.	Moderate		Refurbish
	0+68	1.8	Ramp and transition of revetment to leasehold boundary, concrete wall (out of scope).	Moderate		Refurbish
Revetment 9	0+00	1.5	The revetment transitions to the north leasehold which consists of a rock revetment with concrete and steel beams supporting a building structure. Revetment 9 consists of 4' to 1' rock, the slope is steep, loss of large rocks migrating down the slope. Loss of rock protection on top exposing soil subgrade. A concrete drainage ditch is placed over the rocks, the ditch is undermined and there is a steep drop off at the end of the ditch where rock protection is missing.	Major	Refurbish revetment	Refurbish
	0+50	-	At the abutment of the public access structure, erosion of fine material is beginning to undermine the concrete footing. A 30" diameter concrete drain pipe is noted with loss of rock under the pipe leaving it unsupported. Rock protection is missing at the top of the slope.	Moderate	Refurbish revetment	Refurbish
	0+60	-	To the south of the public access structure, a wall consisting of miscellaneous pieces of concrete, timber, and cast-in-place concrete supports the sidewalk which is piled above the revetment. The slope is very steep and large rock is not present. The makeshift wall is undermined up to 3.5' deep and to 2' high in one area and 20" deep by 16" high along the remainder of the wall.	Major	Refurbish revetment	Refurbish
	0+93	1.7	Erosion, bottom half has rock missing and is too steep. Erosion and loss of rocks. To the south of the makeshift wall placed at the top of the slope of the revetment 9, the shore protection transitions to the leasehold which consists of smaller, mostly 1-ft and smaller rock placed with concrete.	Major	Rebuild revetment	Rebuild

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Revetment 10	0+00	1.6	Loss of rock and almost vertical slope at the middle of the slope, loss of rock protection on the bottom half of slope. Revetment has concrete placed on top. Mostly 20-in rock with larger 4-ft rock migrating down the slope.	Major	Rebuild revetment	Rebuild
	0+35	-	Sections of rock are missing exposing the soil subgrade and leaving the slope unprotected.	Major		
	0+81	2.2	Revetment 10 transitions to the south to a rock revetment mixed with concrete debris poured in place concrete. Sections of the concrete are undermined and migrating down the slope. At the end of revetment 10 there is loss of rock, voids, and undermined concrete and rock.	Major		
Revetment 11	0+00	2	Miscellaneous concrete debris mixed in with 20-in rock. Rock is not visible at the top of the slope with heavy vegetation and exposed soil. A section of steep slope near the top. Rock is migrating down the slope. Revetment 11 transitions to the leasehold boundary to the north consisting of rock revetment with a concrete building foundation.	Major	Refurbish revetment	Refurbish
	0+10	-	Location of the abutment for the public access structure, a concrete abutment placed above the rock revetment.	-		
	0+35	-	Rock is not visible at the top of the slope with exposed soil. Sections of concrete is placed over the rock. Concrete sections and large rocks are migrating down the slope.	Moderate		
	0+51	2	Transition to south leasehold consists of rock revetment with concrete placed on top and a pile supported structure.	Moderate		
Revetment 12	0+00	2.2	Transition from Revetment 12 to the north leasehold on 451 Embarcadero, consists of rock (20-in and smaller) revetment with concrete foundation and pile supported structure. Revetment 12 consists of typical 20" to 4' rock. Heavy vegetation and loss of rock at top of slope with exposed subgrade. Above the slope is soil and a concrete sidewalk. At the top the slope is steep. Areas with concrete placed on top of revetment. The concrete contains large river rock as aggregate.	Minor	Refurbish revetment	Refurbish
	0+74	-	Location of a 14" diameter corrugated plastic drain pipe.	Minor	Place additional riprap around outfall	Add Rock
	1+00	2.7	Location of a 4' diameter corrugated plastic drain pipe. Slope appears to have spread. At the top there is loss of rock protection, erosion, and exposed soil.	Moderate	Refurbish revetment	Refurbish
	1+25	-	Miscellaneous sections of concrete mixed in revetment. Missing large rock, exposed subgrade on slope and expose soil at top.	Moderate	Refurbish revetment	Refurbish
	2+00	2.3	Location of an undermined tree and steeper slope directly below the tree. Loss of rock at top.	Major	Refurbish revetment	Refurbish
	3+00	2.4	Rock is not present at the top of the slope, leaving the top unprotected with exposed soil and vegetation. Slope appears to be spreading.	Major	Refurbish revetment	Refurbish
	4+00	3	Rock is not present at the top of the slope, leaving the top unprotected with exposed soil and vegetation. Slope appears to be spreading.	Major	Refurbish revetment	Refurbish
	4+25	-	Location of undermined concrete sidewalk and cracked concrete. Erosion from runoff is evident.	Moderate	Repair concrete and place root barrier	
	5+00	2.3	Voids, loss of large rock, steep slope at the mid section.	Moderate	Refurbish revetment	Refurbish
	6+00	2.5	Voids, loss of large rock, steep slope at the mid section.	Moderate	Refurbish revetment	Refurbish
	6+38	-	Location of concrete stairs and ramp for access to gangway. The concrete footing is undermined 12" deep, erosion of fine material is evident, and there is no rock protection.	Major	Underpin stairs and refurbish revetment	Refurbish
	7+00	2	Rock is not present at the top of the slope. Erosion from runoff is evident at the top, rock has migrated down slope.	Moderate	Refurbish revetment and control surface drainage	Refurbish
	8+00	1.6	Rock does not appear to be present at the top of the slope, is covered by heavy vegetation, and erosion from runoff is evident. Loss of material has resulted in undermined sidewalk and exposed light foundation. Where vegetation ends on the slope, the slope steepens dramatically (from +11 to +7 ft MLLW).	Moderate	Refurbish revetment and control surface drainage. Repair concrete	Refurbish
	9+00	1.6	Vegetation covers top of slope. Where vegetation ends on the slope, the slope steepens dramatically (from +12 to +5 ft MLLW).	Major	Refurbish revetment	Refurbish
	10+00	1.6	Loss of protection and erosion is evident at top of slope. Slope is very steep and voids are noted around +6 ft MLLW.	Major	Refurbish revetment	Refurbish
	11+00	1.1	Vegetation covering top of slope. Erosion and undermining is evident at the top. Below the vegetation areas of extremely steep slope and loss of large rock exposing subgrade gravel and soil.	Major	Refurbish revetment	Refurbish

APPENDIX B: RECORD OF ASSESSMENT TABLES
Seawall and Revetment Inspection Record and Recommendations

Structure	Station	Average Calculated Slope	Field Comments	Damage Rating	Conceptual Geotechnical Recommendations	Action for Cost Estimate
	12+00	1.3	Vegetation covering top of slope. Slope below vegetation is very steep. Location of a corrugated steel drain pipe and miscellaneous concrete debris.	Major	Refurbish revetment	Refurbish
	13+00	1.4	Vegetation covering top of slope. Slope below vegetation is very steep. Concrete debris are mixed in with revetment.	Major	Refurbish revetment	Refurbish
	13+40	-	Location of undermined sidewalk and erosion at top. Just north of timber public access structure.	Major	Refurbish revetment and control surface drainage. Repair concrete	Refurbish
	14+00	2	Just south of timber access structure, erosion and undermining is observed. A 20 ft long section of sidewalk is undermined. The footing for the access structure is exposed and erosion is evident.	Major	Refurbish revetment and repair concrete	Refurbish
	15+00	2.2	Rock is not present at the top of slope. Vegetation on top and erosion is evident. Areas of steep sections and rock migrating down slope.	Moderate	Refurbish revetment	Refurbish
	15+80	-	Location of brow access to gangway.	Moderate	Refurbish revetment	Refurbish
	16+00	2.9	Erosion from runoff from parking lot is evident. Failed AC Paving.	Moderate	Refurbish revetment and control surface drainage. Repair concrete	Refurbish
	16+60	-	Location of 36' wide concrete boat ramp.	-	Refurbish revetment	Refurbish
	17+00	2.5	Slope spreading and rock migrating down slope.	Major	Refurbish revetment	Refurbish
	17+40	-	Location of brow access to gangway. Below the concrete abutment, loss of rock and undermining observed. Abutment is not adequately supported.	Major	Refurbish revetment	Refurbish
	18+00	2	Revetment comprised of concrete debris, cmu blocks, and 20" typical rock with some 4' rock. Migration of rock down slope. Erosion evident at top of slope at top and loss of rock at top.	Major	Refurbish revetment and control surface drainage	Refurbish