
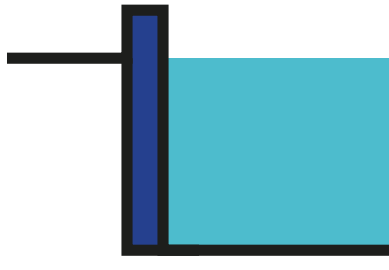
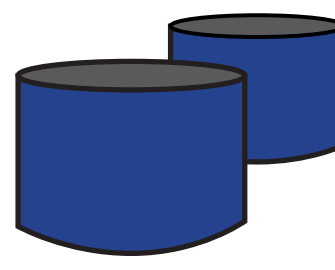

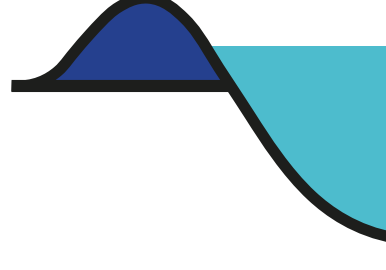





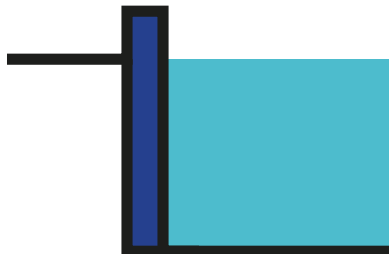
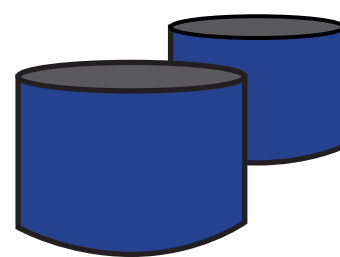

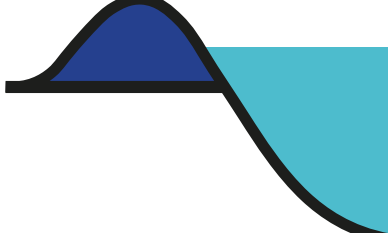



Sea Level Rise Response Planning

Evaluation Criteria for Budd Inlet Treatment Plant SLR Strategies

Evaluation Criteria	Protect Combined Storm/Sewer System 	Shoreline Flood Protection 	Increase BITP Storage/ Pumping Capacity 	Deployable Flood Protection at BITP 	Permanent Flood Protection at BITP 
 Technical Effectiveness					
Addresses high priority assets or risks	Yes Protecting combined system protects BITP	Yes Protects all inland assets from flooding	Yes Strategies will protect BITP		
Addresses multiple assets or risks	Yes Protecting combined system protects BITP	Yes Protects all inland assets from flooding	Yes Prevents flooding of BITP, release of untreated/partially treated flows to Budd Inlet, and sewer system back-ups		
Adaptable for changes/increases in sea level rise	No SLR will increase frequency of emergency response	Yes Proposed shoreline strategies are adaptable to 68" SLR	Yes Pump capacity and storage can be increased	No Higher amounts of SLR will require permanent flood protection	Yes Floodwalls and other protection strategies can be adapted to 68" SLR
Highly reliable against multiple levels of sea level rise	No SLR will increase frequency of emergency response that depends on manual operations	Yes Proposed shoreline strategies are highly reliable flood protection strategies	Yes Redundant pumps and storage can increase reliability of treatment system	No Deployable protection systems are less reliable than permanent systems	Yes Flood wall and berm are highly reliable flood protection strategies
 Socio-Economic					
Helps protects homes	Yes Protecting combined system protects BITP	Yes Protects all inland assets from flooding	Yes Prevents sewer system back-ups	Yes Prevents flooding of BITP and sewer system back-ups	
Helps protect businesses	Yes Protecting combined system protects BITP	Yes Protects all inland assets from flooding	Yes Prevents sewer system back-ups	Yes Prevents flooding of BITP and sewer system back-ups	
Enhances recreational amenities and public access	No Strategies are associated with the combined sewer system and/or BITP				
Helps protect public health	Yes Prevents flooding of the combined sewer system, release of untreated/partially treated flows to Budd Inlet, and sewer system back-ups				

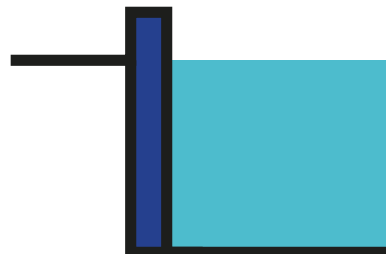
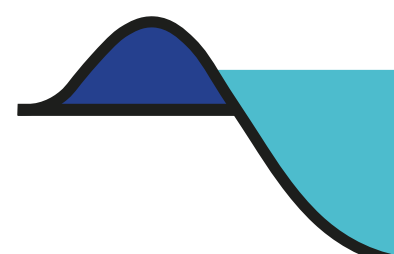


Sea Level Rise Response Planning

Evaluation Criteria for Budd Inlet Treatment Plant SLR Strategies

Evaluation Criteria	Protect Combined Storm/ Sewer System 	Shoreline Flood Protection 	Increase BITP Storage/ Pumping Capacity 	Deployable Flood Protection at BITP 	Permanent Flood Protection at BITP 
 Financial					
Lifespan of strategy	Near-term	50 to 100 years	Decades	15 to 20 years	50 to 100 years
Upfront construction/ implementation costs (\$,\$\$,,\$\$)	\$ [TBD]	\$\$ [TBD]	\$\$ [TBD]	\$ [TBD]	\$\$\$ [\$12-15M]
Ongoing maintenance cost	Emergency response required to seal catch basins prior to implementation of shoreline strategies	Typical maintenance required by City	Typical maintenance required by LOTT	Typical inspection and maintenance required by LOTT; Emergency response required during flood events	Typical maintenance required by LOTT
 Environmental					
Enhances habitat along the shoreline	No	Yes with living shoreline option implemented	No Strategies will be located within the treatment plant		
Improves water quality	Yes Prevents flooding of the combined sewer system and release of untreated/partially treated flows to Budd Inlet				
 Administrative					
Opportunity to leverage collaboration across multiple public entities	Yes Collaboration with City and State		No		
Opportunity to leverage public / private collaboration	No Strategies will be implemented by LOTT, City, and/or State				
Consistency with multiple city-wide goals	Protecting Downtown is consistent with goals, policies, and public values embodied in the Olympia Comprehensive Plan, Downtown Strategy, and Shoreline Master Plan				


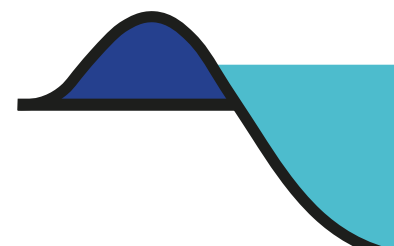



Sea Level Rise Response Planning

Evaluation Criteria for Capitol Lake SLR Strategies

Evaluation Criteria	 Construct New Wall	 Construct New Berm
 Technical Effectiveness		
Addresses high priority assets or risks	Yes Protects the combined sewer system from flooding	
Addresses multiple assets or risks	Yes Protects Heritage Park, downtown businesses, railroad tunnel, 5th Ave and Water St	
Adaptable for changes/ increases in sea level rise	Yes Wall and pathway are adaptable to 68” SLR	Yes Berm and pathway are adaptable to 68” SLR
Highly reliable against multiple levels of sea level rise	Yes Flood wall and berm are highly reliable flood protection strategies	
 Socio-Economic		
Helps protects homes	Yes Protects a number of residential developments in downtown Olympia	
Helps protect businesses	Yes Protects many businesses in downtown Olympia	
Enhances recreational amenities and public access	Yes Prevents frequent flooding of path; Design could include built-in amenities such as public seating or improved aesthetics	
Helps protect public health	Yes Prevents flooding of the combined sewer system and prevents Capitol Lake floodwaters from entering Heritage Park and downtown	Yes Prevents flooding of the combined sewer system and prevents Capitol Lake floodwaters from entering downtown; a portion of Heritage Park would flood occasionally

Sea Level Rise Response Planning

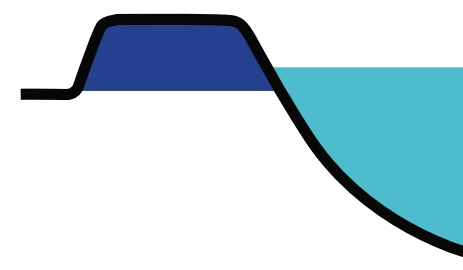



Evaluation Criteria for Capitol Lake SLR Strategies

Evaluation Criteria	 Construct New Wall	 Construct New Berm
 Financial		
Lifespan of strategy	50 to 75 years	75 to 100 years
Upfront construction/implementation costs	\$5-6M [24" SLR] plus \$2-2.5M [68"SLR]	\$4.5-5.5M [24" SLR] plus \$8.5-10M [68" SLR]
Ongoing maintenance cost	Minimal maintenance of flood wall and path	Occasional clean-up of storm debris along shoreline
 Environmental		
Enhances habitat along the shoreline	Yes If living shoreline option implemented	
Improves water quality	Yes by preventing flooding of the combined sewer system	
 Administrative		
Opportunity to leverage collaboration across multiple public entities	Yes Will require coordination with State Department of Enterprise Services	
Opportunity to leverage public / private collaboration	No Strategies would be implemented by City and State	
Consistency with multiple city-wide goals	Protecting Downtown is consistent with goals, policies, and public values embodied in the Olympia Comprehensive Plan, Downtown Strategy, and Shoreline Master Plan	

Sea Level Rise Response Planning

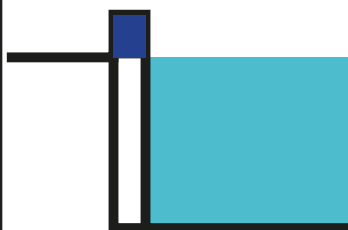
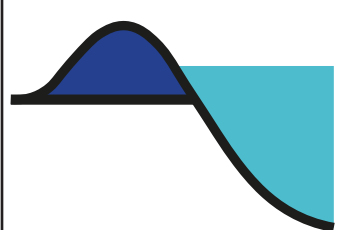
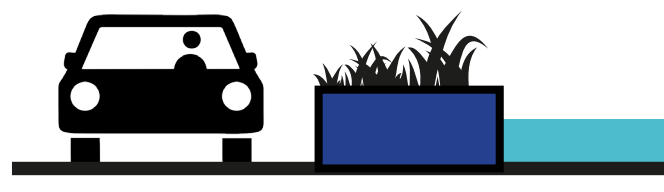

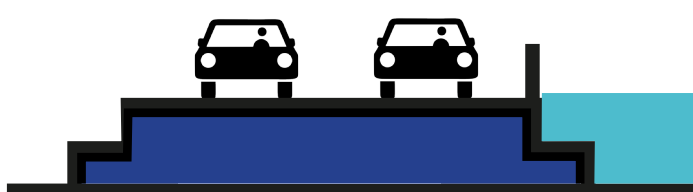


Evaluation Criteria for East Bay SLR Strategies

Evaluation Criteria	 Elevate Path
 Technical Effectiveness	
Addresses high priority assets or risks	Yes Protects BITP and Port from flooding
Addresses multiple assets or risks	Yes Protects BITP, Port, Marine Drive, downtown businesses, and railroad
Adaptable for changes/increases in sea level rise	Yes Path can be raised in future. Path is adaptable to 68" SLR
Highly reliable against multiple levels of sea level rise	Yes Raised landscape features are highly reliable flood protection strategies
 Socio-Economic	
Helps protect homes	Yes Protects a number of residential developments in downtown Olympia
Helps protect businesses	Yes Protects many businesses in downtown Olympia
Enhances recreational amenities and public access	Yes Enhances public access trail along East Bay shoreline
Helps protect public health	Yes Prevents flooding of the combined sewer system and BITP and prevents floodwaters from entering downtown Olympia

Evaluation Criteria	 Elevate Path
 Financial	
Lifespan of strategy	75 to 100 years
Upfront construction/implementation costs	\$2.5-3M [68"SLR]
Ongoing maintenance cost	Minimal maintenance of elevated path; erosion protection may be required in future
 Environmental	
Enhances habitat along the shoreline	No But shoreline enhancement opportunities could be explored further
Improves water quality	Yes Prevents flooding of the combined sewer system and protects BITP
 Administrative	
Opportunity to leverage collaboration across multiple public entities	Yes Will require coordination between Port and City
Opportunity to leverage public / private collaboration	Yes May promote collaboration between Port and Port tenants
Consistency with multiple city-wide goals	Protecting Downtown is consistent with goals, policies, and public values embodied in the Olympia Comprehensive Plan, Downtown Strategy, and Shoreline Master Plan

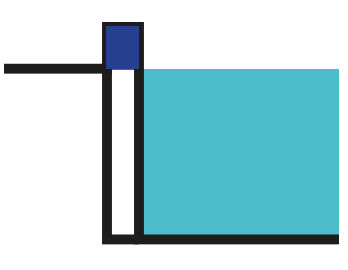
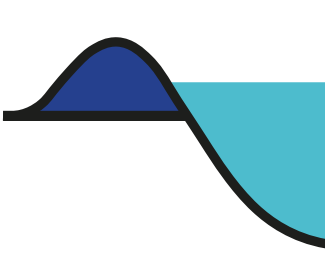
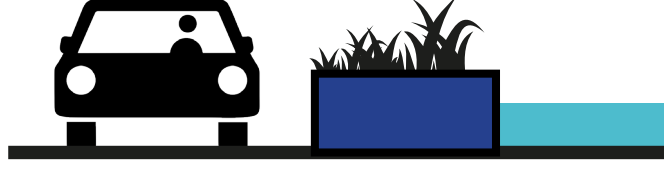
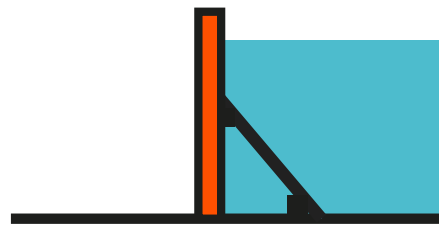




Sea Level Rise Response Planning

Evaluation Criteria for Percival Landing SLR Strategies

Evaluation Criteria	 Construct New Wall/ Raise Wall	 Construct New Berm	 Raised Planters	 Flood Gates	 Raised Streets
 Technical Effectiveness					
Addresses high priority assets or risks	Yes Protects the combined sewer system, Water Street pump station, Olympia Community Center, and Marine Terminal				
Addresses multiple assets or risks	Yes Protects many downtown businesses, streets, and homes				
Adaptable for changes/increases in sea level rise	Yes Wall is adaptable to 68" SLR	Yes Berm is adaptable to 68" SLR	Yes Planters could be rebuilt or raised for higher SLR	Yes But flood gates would need to be rebuilt for higher SLR	No Difficult to further elevate streets but could be supplemented by future shoreline raising
Highly reliable against multiple levels of sea level rise	Yes Flood walls and berms are highly reliable flood protection strategies			Yes Flood gates are reliable if properly maintained and tested	Yes Raised street would be effective flood barrier
 Socio-Economic					
Helps protects homes	Yes Protects a number of residential developments in downtown Olympia				
Helps protect businesses	Yes Protects many businesses in downtown Olympia and Port of Olympia operations				
Enhances recreational amenities and public access	Possibly Design could include built-in amenities such as public seating or improved aesthetics			No But access to adjacent areas and streets would be maintained	
Helps protect public health	Yes Prevents flooding of the combined sewer system and prevents floodwaters from entering downtown				

Sea Level Rise Response Planning

Evaluation Criteria for Percival Landing SLR Strategies

Evaluation Criteria	 Construct New Wall/ Raise Wall	 Construct New Berm	 Raised Planters	 Flood Gates	 Raised Streets
 Financial					
Lifespan of strategy	50 to 75 years	75 to 100 years	30 years	30 years	50+ years
Upfront construction/ implementation costs (\$/\$\$/\$\$\$\$)	\$\$	\$\$	\$\$	\$\$	\$\$\$
	\$11-13.5M [Total for 24" SLR] plus \$85-105M [Total for 68"SLR]				
Ongoing maintenance cost	Typical inspection and maintenance required	Occasional clean-up of storm debris along shoreline	Landscaping and irrigation required	Typical inspection and maintenance required; Observation during flood events required	Typical street maintenance required
 Environmental					
Enhances habitat along the shoreline	Yes with living shoreline option implemented	No			
Improves water quality	Yes Prevents flooding of the combined sewer system and release of untreated/partially treated flows to Budd Inlet				
 Administrative					
Opportunity to leverage collaboration across multiple public entities	Yes Coordination with State Department of Natural Resources	No			
Opportunity to leverage public / private collaboration	Yes City may coordinate with local waterfront businesses and property owners along street raising corridor				
Consistency with multiple city-wide goals	Protecting Downtown is consistent with goals, policies, and public values embodied in the Olympia Comprehensive Plan, Downtown Strategy, and Shoreline Master Plan				