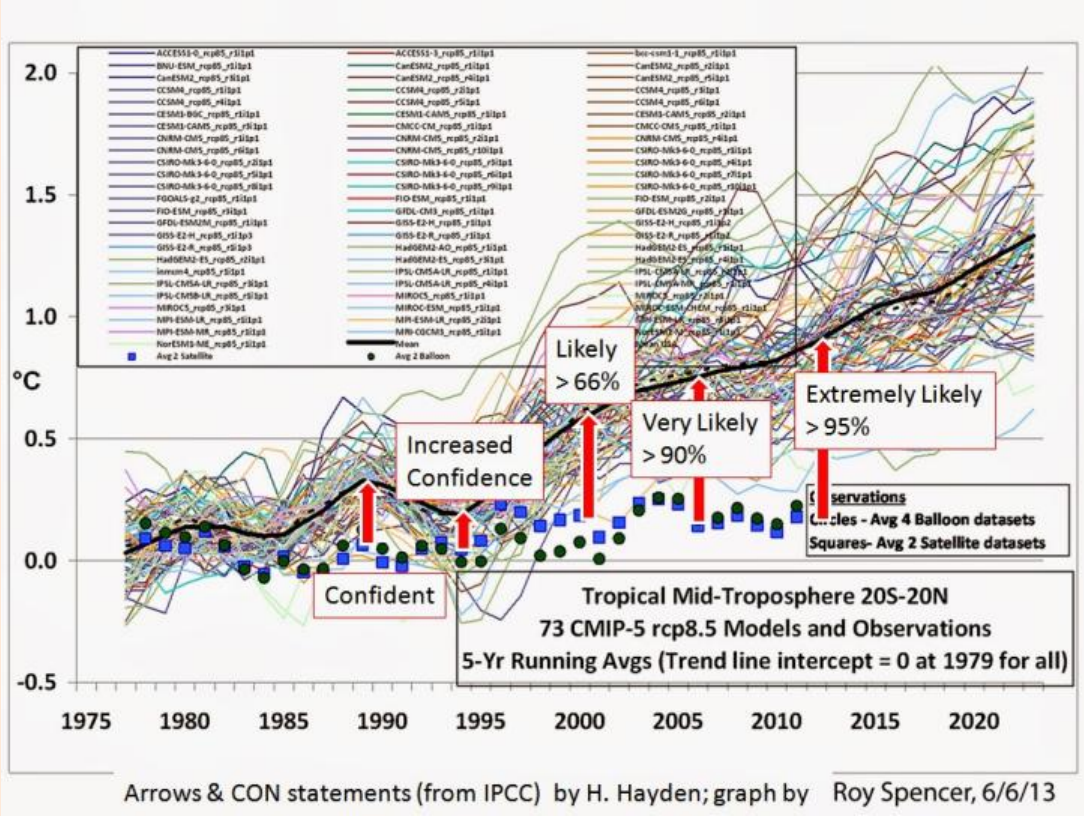
The following table contains the verbatim public comments received during the Draft Olympia Sea Level Rise Response Plan public comment period held December 11, 2018 – January 25, 2019 in order received and verbatim written comments received on January 26, 2019 at a project sponsored "King Tide Viewing Event".

PUBLIC COMMENTS AND PROJECT TEAM RESPONSE
January 30, 2019

	Comment Received	Project Partner Response
	COMMENTER 1	
#1-2	I though Al Gore said we'd already be underwater by now?	Thank you for your comment.
	COMMENTER 2	
#2-1	I read with interest your page on Rising Sea Levels which claims a 36" to 68" inch change from 2000 to 2100. The reasons for this change were given as rising global temperatures, thermal expansion and land ice. However, the Seattle Tidal gauge shows a constant linear change from 1910 - 2010 of approximately 0.2 meters. This equates to 8 inches per century. There is no indication of acceleration at the Seattle site or for that matter, anywhere else in the world. So where is the relationship between any of the three reasons sited above and the lack of accelerating SLR??? Your SLR projections are just that, projections. They are not based on ANY empirical evidence, like data from tidal gauges and thus are completely divorced from reality. I'd hazard a guess and say that these "projections" are based on the climate ensemble models, which have diverged from observations and have been falsified (see image below). As the great physicist Richard Feynman stated - ***"In general we look for a new law by the following process. First we guess it. Then we compute the consequences of the guess to see what would be implied if this law that we guessed is right. Then we compare the result of the computation to nature, with experiment or experience, compare it directly with observation, to see if it works. If it***	Page 30 of the Draft Plan addresses how much sea level rise has occurred recently in the following manner: "Estimating local sea level rise in Puget Sound during the 21st Century is challenging due to short-term sea level rise variations and a lack of long-term monitoring stations. Additionally, large-scale Pacific Ocean basin phenomena such as the El Nino-Southern Oscillation and Pacific Decadal Oscillation influence West Coast sea levels and make it difficult to accurately estimate short-term sea level rise trends. Observations at the Seattle tide station indicate sea level rise of approximately 1.5 to 3.3 inches since 2000. Continued observation of sea level rise trends in Puget Sound will be required to better understand this changing dynamic." Our projections are based on a 2012 study by the National Research Council. The NRC study provides projections of sea level rise at the Seattle tide station which incorporate a regional rate of tectonic uplift of 1 mm/year. However, measures at Olympia indicate that the ground may be subsiding at a rate of 1-2 mm/year. Therefore, the

disagrees with experiment it is wrong. ***In that simple statement is the key to science. It does not make any difference how beautiful your guess is. It does not make any difference how smart you are, who made the guess, or what his name is – if it disagrees with experiment it is wrong. That is all there is to it."***

Suggest you please start over and analyze an increase of 8-15 inches in the next 100 years.



projections included in the Draft Plan were modified to account for subsidence in Olympia.

Since initiation of our sea level rise response planning, new sea level rise projections were developed for the State of Washington by the Washington Coastal Resilience Project. The 2018 report provides an update to the 2012 NRC sea level rise projections by incorporating new science, accounting for local dynamics and providing information on the likelihood of different amounts of sea level rise under two future emissions scenarios.

As a component of our planning effort, the 2018 report was reviewed to confirm that the projections included in the Draft Plan were consistent with the latest science for Puget Sound. This review found that the Draft Plan's sea level rise projections are generally consistent with the 2018 report.

See Chapter 3 Climate Science for Olympia and Appendix C (Climate Science Review) for additional information.

We acknowledge that the rate of sea level rise is uncertain, but all indications are that sea levels are rising. Given downtown Olympia's vulnerability to even small increases in sea level rise, we feel that planning for it, is the responsible thing to do. Given the implications, this plan is a modest investment.

We are taking a phased approach to adaptation. The Draft Plan recognizes that monitoring climate change and sea level rise will be an essential element of effective response decision-making. If monitoring indicates changing sea level rise projections, in terms of either the magnitude or rate of sea level rise, the timeline for project initiation will necessarily change (either sooner or later).

		Under your suggestion of planning for an increase of 8-15 inches in the next 100-years, the Draft Plan's near-term and mid-term adaptation strategies would remain relevant.
	COMMENTER 3	
#3-1	Thanks to all those who worked together to prepare this Sea Level Rise Response Plan, including the City of Olympia, LOTT Clean Water Alliance, the Port of Olympia, and the consulting firm AECOM Technical Services Inc. After attending your public presentation last week, I drafted the following comments. The cost to protect the Port of Olympia to 2100, when sea rise could be 68", is estimated at $9 M, in Ch.8, p.107. But that does <u>not</u> include costs to: (a) Rebuild and raise the marine terminal, shipping berths, and rail (b) Retrofit and rebuild marina docks and gangways (c) What other costs are missing? 1) What is the true cost of raising the Marine Terminal so that shipping operations might continue, including (a)-(c) above? 2) What are the potential impacts of sea rise to the Cascade Pole Site monitoring well system at the Port (run by Don Bache), and to the Stormwater Treatment Facility (run by Barb Tope)? 3) <u>What are the costs, benefits, environmental impacts, and legality/feasibility of alternatives (A-C) below</u>, which have been suggested by people on the sea rise panel and in the community? A) Extreme protection: armor the entire perimeter of the Port Peninsula with a wall of tall metal sheets, buried halfway in the ground. Then build a sloping shoreline on top of this wall out into Budd Bay (as was done on part of the Port land at North Point). "This could be an opportunity to roll back the shoreline management act," according to proponents of the extreme protection model.	Based on discussions with Port of Olympia staff throughout this process, major renovations/maintenance is needed on the Marine Terminal and at the marina (dock replacements, berthing area upgrades) before impacts from sea level rise would compel the work. Based on current data, it is estimated that impacts from sea level rise specifically will not be required for approximately 64 years. Since the costs to do this work are not directly attributable to sea level rise, such costs were not included in the report. The costs of ensuring the marine terminal is in a condition conducive to continued shipping has not been determined as this work will need to be conducted prior to sea level rise compelling the work. It is the project team's understanding that the Port has recently undertaken the development of a long-term asset management plan wherein these issues will be addressed. Based on conversations with Port staff, Port staff will look to the Commission to authorize the research necessary to answer alternatives A-C. These questions need to be answered prior to the 64 year time horizon when their answers would be compelled as a result of sea level rise impacts.

	B) Raise the Marine Terminal with dredge spoils, as has historically been done. Dredge the shipping channel, turning basin, and/or Capital Lake – and dispose of the dredged material on the Port Peninsula, to build it up higher than 68". Pave it for use by heavy equipment (e.g. log trucks, log loaders, crane). Rebuild existing infrastructure, including rail lines. Might later cleanup of these dredge spoils be required if they are contaminated? C) Environmental remediation for recreation, tourism, and marine life: Remediate existing legacy pollution at the port peninsula, and establish living systems and healthy shoreline. Should current caps be changed, or can clean fill be deposited on top of asphalt? What will it take for the water to be safe to swim and fish in?	
	COMMENTER 4	
#4-1	Will there be citizen science opportunities through Stream Team and/or Oly Parks and Rec for people to help measure SLR?	To address your comment, the following is proposed for incorporation into the Sea Level Rise Response Plan's Monitoring Program: Chapter 10, page 121, Monitoring Program, Local Environmental Conditions, new fourth bullet "Consider partnering with area high schools, colleges, and citizen groups (e.g. Stream Team) to monitor local environmental conditions where feasible." See Errata Sheet.
#4-2	Is there a regional council of some sort that Olympia can participate in so that the response to SLR in the Salish Sea is coordinated?	At this time a regional council established to directly address sea level rise in the Salish Sea does not exist. However, jurisdictions and agencies from throughout the Puget Sound region are working together in various ways (e.g. through the Washington Shoreline and Coastal Planners Group) to leverage experience and knowledge. As more jurisdictions begin to address sea level rise, additional opportunities to partner are expected.

		The Draft Plan includes the following education and outreach strategy which demonstrates the Project Partners' continued commitment to coordinating with others. ED-5 Play a Role as Regional Sea Level Rise Advisor Olympia is one of the first communities in Puget Sound to develop a sea level rise response plan. Olympia will continue its role as a leader in the region and act as a planning advisor to other regional jurisdictions as they seek to respond to sea level rise challenges in the future.
#4-3	Will the design of hard barriers be softened with art like the utility boxes are nowadays?	The designs of "hard barriers" are conceptual at this time. Details such as aesthetics and recreational opportunities will be considered as the designs are refined. The Draft Plan includes the following education and outreach strategy which demonstrates the Project Partners' commitment to continual public involvement, including as "hard barriers" enter the design phase. ED-6 Conduct Community Workshops to Brainstorm Focus Area Strategies This Plan developed initial concept level strategies to address existing and future flooding and sea level rise vulnerabilities within Olympia. Additional work will be required in the future to further develop these initial concepts and move them towards implementation. This strategy would build upon the momentum gathered through public and stakeholder engagement conducted through development of this Plan by providing an opportunity for further community input into refinement of the conceptual strategies.
	COMMENTER 5	
#5-1	Thank you for the recent public meeting regarding the draft Sea Level Rise Response Plan (SLR Plan). In general, I was encouraged by the strategy to adapt to SLR in phases as needed and the straightforward approach. However, I have a few comments on some areas of the plan that I believe need more work:	We are confident that downtown Olympia can be reliably and cost effectively protected from at least the 68 inches of sea level rise currently projected within the planning horizon (year 2100). We acknowledge that greater increases in sea level rise will become more challenging especially as the rates of sea level rise begin to accelerate. If monitoring

	1. What is the limit to the effectiveness and sustainability of the proposed barriers to SLR? In other words, at what point of increased sea level will that approach cease to be viable due to unsustainable costs, lack of space, rising ground waters, infiltrating sea waters, limits to engineered barriers, or other factors? This is important both for thinking beyond 2100 and for addressing unanticipated (by the SLR Plan) increases in the rate of SLR.	indicates the magnitude of sea level rise projections has been underestimated, projects will be re-evaluated.
#5-2	2. The SLR Plan appears to be based upon the latest published IPCC reports and recent models developed by the UW CIG. However, more recent scientific reports on sea level rise have suggested that the rate of sea level rise is rapidly increasing and may in fact in the future be much higher than projected in the reports and models relied upon for this plan. The most salient reasons for those changes appear to be increased reliance on fossil fuels rather than remaining flat (ie, the "worst case scenario" relied on a business as usual use of fossil fuels, not a significant increase) and the world's glaciers and ice masses (primarily Greenland and Antarctica) as well as Arctic sea ice are melting far faster than earlier projected, which will drive a large increase in SLR over previous projections. The SLR Plan should make an attempt to project the effects of this newly projected increase, perhaps by evaluating a doubling of the rate of SLR by 2050 and by 2100. This would serve to highlight the security, engineering and economic risks inherent in the SLR plan if the projections relied upon in the current plan are significantly overly conservative (i.e., too low). Obviously, if SLR actually rises slower than currently projected, the timing and costs of response will be lower and easily addressed. It's the other scenario of much higher and much faster SLR that needs to be addressed as a real possibility.	We are taking a phased approach to adaptation. The Draft Plan recognizes that monitoring climate change and sea level rise will be an essential element of effective response decision-making. If monitoring indicates changing sea level rise projections, in terms of either the magnitude or rate of sea level rise, the timeline for project initiation will necessarily change (either sooner or later).
#5-3	3. The SLR Plan cost estimates are very low for the next few decades, rising rapidly after 2050, but still apparently manageable in today's dollars. However, if SLR increases much more rapidly, higher adaptation costs come much sooner than the plan envisions. The SLR Plan should address this risk, and lay the foundation for funding those costs and modifying the plan should they come about. Ignoring this risk by deeming it speculative and not supported by the current model is akin to sticking your head in the sand while the flood waters rise because our response plan was based on last month's weather report rather than today's.	We are taking a phased approach to adaptation. The Draft Plan recognizes that monitoring climate change and sea level rise will be an essential element of effective response decision-making. If monitoring indicates changing sea level rise projections, in terms of either the magnitude or rate of sea level rise, the timeline for project initiation will necessarily change (either sooner or later). During 2019 the Project Partners intend to formalize sea level rise collaboration (governance strategy COL-1) and develop a governance structure and organization (governance strategy COL-2). Additionally, the Draft Plan

		includes three immediate-term governance strategies that address funding/financing tasks (FIN-1, FIN-2, and FIN-3). Establishment of a formalized governance structure, coupled with a potential financing structure and a monitoring program, will lay the foundation for funding costs as sea level rise impacts dictate.
#5-4	4. Much of the SLR Plan envisions SLR barriers placed upon the edge of Heritage Park. Has the State of Washington commented on or approved these adaptation measures? Will the state pay for them? Have hydrological and geotechnical analyses been conducted on the effects of placing these barriers adjacent to the bluff below the State Capitol grounds? Concrete walls and earthen barriers would not be effective if water finds its way around or under them at their connection to the bluff. Higher water levels may increase sloughing of the bluff both into the park and into the estuary/lake, causing unforeseen problems and avenues for flood waters to reach downtown and the Port.	Staff from the Department of Enterprise Services have been involved in the sea level rise response planning process and have provided preliminary support for the Draft Plan. One of the first tasks to be undertaken is to formalize sea level rise collaboration (governance strategy COL-1) and develop a governance structure and organization (governance strategy COL-2). Representatives from the Department of Enterprise Services will be invited to participate in this important conversation. The Draft Plan currently includes the following informational strategy: <u>IN-3 Initiate Groundwater Study</u> Conduct a hydrogeological investigation to evaluate tidal influence on groundwater. The study should evaluate the feasibility of surface barriers at different sea level rise elevations and at what elevations sheet piling or cut-off walls would become necessary. Groundwater elevation data collected throughout downtown will help establish a baseline for quantifying the impacts of Sea Level Rise on future groundwater elevations and the effectiveness of surface flood barriers. Groundwater has the potential to impact building foundations, buried infrastructure and specifically the BITP. When tide elevations exceed land elevations behind flood barriers, hydraulic pressure may result in groundwater elevations above the land surface.

		Geotechnical and hydraulic studies will be performed to determine the need for underground barriers like sheet piling to control groundwater. The Project Partners will consider your comments when scoping the groundwater study recommended in strategy IN-3.
#5-5	5. Engineered barriers such as steel panels that rise up during high tides have initial costs and are effective only up to a certain level of SLR. Can these measures be modified as SLR increases to a height that sustains their effectiveness? At what cost? Is the cost of further modifications included in the cost estimates?	The Draft Plan provides conceptual designs and cost estimates for protecting downtown from 24 and 68 inches of sea level rise. Costs of adapting measures to sea level rise greater than 68 inches are not included in cost estimates.
#5-6	6. The City of Olympia is requiring new buildings to be constructed at a level a few feet higher than in the past to help respond to SLR. If or when SLR surpasses that level, how will the downtown area actually function? At a certain rate of flooding events these structures will cease to be viable for their intended uses (together with other pre-existing structures in the flooded areas) and their value will plummet while their insurance rates increase. This effect is already beginning to be seen in some areas in other states.	The Draft Plan envisions protecting the majority of downtown by elevating the landscape or constructing flood barriers near the shoreline. Elevating the lower floor of new structures will provide secondary protection. The Draft Plan contains the following two governance strategies (included below) that recommend revising plans and regulations to address the functioning of downtown with increasing sea levels. For example, City regulations could be revised to require the second floor to be higher to allow for the raising of the ground floor in the future. The City could also consider different zones with different requirements depending on proximity to potential elevated roads. Expected life span of buildings and facilities could also result in differing requirements. Downtown Olympia has changed dramatically over the past 150 years. We can anticipate more change in the downtown landscape in the decades ahead. Adapting to sea level rise will be one of the drivers of change, but not the only driver. <u>POL-2 Update Sea Level Rise Flood Damage Reduction Ordinance</u> Update the City's existing sea level rise flood damage reduction ordinance (OMC 16.80) to incorporate additional

		provisions for sea level rise. Updates could potentially include: • Account for higher flood elevation associated with Capitol Lake floodplain • Require lowest floor to be elevated rather than flood-proofed • *Allow extra ceiling height in first floor to accommodate future floor raising (emphasis added)* • *Allow additional total building height to accommodate raised floors (emphasis added)* • Define critical facilities and require constructing or floodproofing to 3 feet above the base flood elevation • Require minimum finish floor elevation to be set considering project's projected lifespan (emphasis added) <u>POL-3 Incorporate Sea Level Rise Into Other Planning Documents</u> Incorporate sea level rise considerations into relevant planning documents, such as the Comprehensive Plan, Downtown Strategy, Wastewater Management Plan, and others by the City, LOTT, and the Port.
#5-7	7. The future costs to the Port and LOTT to address SLR appear to be treated as "off the books" costs for this Plan that will simply be paid by those entities, whatever the cost is. Treating them this way does a disservice to the citizens who will have to pay those costs. To the extent those very real costs have been estimated or projected by the Port and LOTT they should be included in the SLR Plan.	With regard to LOTT-related costs, several of the strategies involve upgrades to the Budd Inlet Treatment Plant that will be required regardless of sea level rise, such as increasing influent and effluent pumping capacity and upsizing the north outfall pipe. For that reason, those costs were not included in the summary of cost estimates. There were, however, costs related to the mid-term strategy of flood proofing portions of the BITP that were inadvertently left out of the cost summary. To correct that, the following is proposed for incorporation into the Sea Level Rise Response Plan:

		Chapter 8, page 107, Cost of Adaptation, Table 9: Estimated Costs of Sea Level Rise Adaptation in Olympia "Budd Inlet Treatment Plant, Mid-Term Costs = $1-$6 M" See Errata Sheet.
#5-8	8. Increased SLR will increase ground water levels in the areas of the Port Peninsula and portions of downtown Olympia. Many sites of historic toxic pollution exist within those areas, some of which still contribute today to pollution of east and west bays. How will the increased ground water levels effect the movement of this remaining pollution? Will the pumping of stormwater and surfacing ground water collected behind the SLR barriers contribute to further pollution of the marine waters? If so, the costs of treatment and/or further cleanup should be evaluated and included.	The Draft Plan currently includes the following informational strategy: IN-3 Initiate Groundwater Study Conduct a hydrogeological investigation to evaluate tidal influence on groundwater. The study should evaluate the feasibility of surface barriers at different sea level rise elevations and at what elevations sheet piling or cut-off walls would become necessary. Groundwater elevation data collected throughout downtown will help establish a baseline for quantifying the impacts of Sea Level Rise on future groundwater elevations and the effectiveness of surface flood barriers. Groundwater has the potential to impact building foundations, buried infrastructure and specifically the BITP. When tide elevations exceed land elevations behind flood barriers, hydraulic pressure may result in groundwater elevations above the land surface. The Project Partners will consider your comments when scoping the groundwater study. With 68 inches of sea level rise, 29 known contaminated sites have been identified as vulnerable to flooding by a 100-year storm tide. The impacts of inundation on these vulnerable contaminated sites is site specific and can be influenced by the contaminants of concern, the extent of contamination, the media involved (groundwater, soil, or sediment), soil conditions, groundwater hydrology, and the type of remedy used to conduct the cleanup. Similarly, strategies for adapting contaminated sites to sea level rise will be varied and site-specific. The Department of Ecology's Toxics Cleanup

		Program (Ecology) manages the cleanup of contaminated sites. Ecology conducted a vulnerability assessment for the state's cleanup sites to understand what types of sites are most vulnerable to climate change impacts. They found that sea level rise had the highest potential risk to sediment and upland cleanup sites in or near marine and tidally influenced waterbodies. Ecology has developed a guidance document, *Adaptation Strategies for Resilient Cleanup Remedies* (2017), which provides a framework and information for cleanup project managers to assess the risks associated with sea level rise and identify potential adaptation measures. The Project Partners will consider the findings and recommendations of this report in the development of adaptation strategies to address the impacts of sea level rise on contaminated sites in the study area.
#5-9	9. A comment was made by the presenters that the SLR Plan can be implemented and effective whether Capitol Lake continues as a lake behind the Fifth Avenue Dam or the dam is removed and the Deschutes Estuary is restored. The SLR Plan should specify what, if any, differences in SLR response measures would be required for these alternatives (or others that the Dept. of Enterprise Services is currently evaluating).	Specific differences between the adaptation strategies for lake and estuary scenarios will require hydrologic modeling beyond the scope of this plan and depend on how the dam is modified or what it is replaced with. However, indications are that the environmental impact statement work being done for Capitol Lake/Lower Deschutes Watershed will be performing hydrologic modeling for various scenarios and taking into account sea level rise.
	COMMENTER 6	
#6-1	Overall, this document is very well done and provides a good foundation for future SLR response planning. Thank you to all involved in researching and preparing this document. There is a lot of great information here. I think the most immediate concern for the Budd Inlet Treatment Plant (BITP) and LOTT is the potential for salt water infiltration into the combined sewer system. Given that, I wondered if any consideration have been given to revisiting separating out stormwater in some selected areas? While it may not be practical to separate out stormwater now, positioning us for this in the future may make sense.	In 2015, Brown and Caldwell completed a Peak Flow Reduction Evaluation, which concluded that full scale separation of the downtown combined system was not cost effective. The benefit of separation was valued at only $0.71/gallons per day, while the costs of separation would be much higher. It is possible that the value of separation will increase as sea levels rise, and this analysis should be revisited in the future.

		For this sea level rise planning effort, separating portions of the combined system was considered at the conceptual level only. The planning team determined that there may be select portions of the combined system that could be feasibly separated, and that there may be synergistic opportunities to complete these separations as part of upcoming capital projects. LOTT and Olympia staff will coordinate on emergency response planning for the combined system, and will explore this topic as part of that effort. More detailed technical analyses will need to be completed on this topic in future phases of planning.
#6-2	What are Olympia's requirements for on-site retention and treatment of stormwater in the downtown area?	Olympia's requirements for stormwater management can be found in the city's Drainage Design and Erosion Control Manual. Sites connected to drainage systems that directly discharge to marine waters or Capitol Lake (most of downtown) are not required to provide flow control (on-site detention). All sites that add or replace 2,000 of impervious surfaces for vehicle traffic (pollution generating surfaces) are required to construct water quality facilities to treat stormwater runoff.
#6-3	This also raises a related question. Do we know how much salt water infiltration the BITP can tolerate before the treatment system becomes upset? That will help determine how much emphasis we need to put on blocking storm inlets during an event and how effective they need to be. At a minimum, LOTT should be monitoring the salt water levels in the BITP influent during flooding tide events to get a better handle on what is happening.	LOTT monitors conductivity in the BITP influent and final effluent, which rises if/when there is salt water intrusion into the combined system. High conductivity can also result from use of salt based deicing products on the streets in downtown Olympia. We will look into how to more definitively monitor for salt water associated with high tide events. We do not know the specific concentration at which salt water content would impact the treatment process. That would depend on a number of factors, including flow volume, temperature, and whether or not the plant was in nutrient removal mode at the time. Our water quality analyst will explore this, considering the threshold concentration and

		the associated volume of salt water that would pose a threat to the process. Salt water content in the influent is not the only threat from the combined system. The increase in peak flows is also of concern because of the risk of overwhelming the hydraulic capacity of various treatment processes at the BITP, including pumping capacity, and the risk of overwhelming the collection system and causing backflow into city streets. The intent of the adaptation strategies outlined in the plan is to prevent overbank/overland flooding and backflow within stormwater outfalls, to in turn prevent salt water intrusion and keep increases in peak flows from the combined systems to manageable levels.
#6-4	I'm glad to see there will be some work done to track groundwater levels in the downtown area. I recommend that, in addition to water level monitoring, some periodic testing also be done for salt water intrusion. This will be useful to know if underground structures and utilities need a higher level of corrosion protection from salt water. Regardless of current conditions, Olympia's development codes should be examined in anticipation of a more corrosive environment. During the installation of wells, there should also be checking for potential LNAPL contamination, as that could be pushed upward into the combined sewer system or surface water by rising groundwater.	The suggestion to check for salt water intrusion can be incorporated into the groundwater monitoring plan as it is developed. Initial testing of groundwater that was intruding into LOTT's utilidor contained low levels of salinity – consistent with levels in drinking water/artesian springs. However, that may not be the case in the future, and it will be good to keep an eye on this. Sampling for potential LNAPL contamination will also be considered as the monitoring plan is developed.
#6-5	I was surprised to see that there was no inventory of underground storage tanks and other structures that could become buoyant during a flooding event. At a minimum, we should examine the structures (treatment system tanks and connecting infrastructure) at LOTT to make sure this isn't a potential issue of concern. Does Olympia and LOTT have design and operational standards to prevent uplifting due to rising surface water and groundwater levels?	There has been some evaluation of uplift as part of the BITP Groundwater Control and Dewatering Assessment project. Brown and Caldwell completed an investigation of buoyancy for the BITP aeration basins, utilidor, and clarifiers and provided recommendations for monitoring groundwater levels and minimizing the potential effect of buoyancy. Practices are in place to ensure offline tankage is protected from uplifting due to high groundwater levels. All new construction incorporates some means of proactively controlling potential tankage uplifting. Groundwater pressure relief valves in our secondary clarifiers, first

		aeration, and second anoxic basins were installed for that very purpose. Anchoring underground storage tanks (USTs) to resist buoyancy forces has long been a standard practice. That does not mean that there are not legacy USTs that are not anchored. The Washington State Department of Ecology regulates the installation of USTs. WAC 173-303-640 requires that tank systems be anchored to prevent flotation. OMC 16.80 requires that all structural designs take into account sea level rise and specifically the effects of buoyancy.
#6-6	Will enhancing barriers to prevent lateral spreading of floodwaters into the study area cause the water to rise elsewhere outside the study area and exacerbate flooding there? I know this can be an issue with river flooding but am not sure if that is a concern here with Capitol Lake or tidal flooding in Budd Inlet.	Sea level rise adaptation measures in downtown are not anticipated to worsen flooding outside the study area. The amount of water displaced by the proposed 68 inch sea level rise strategies could raise water elevations throughout Puget Sound by less than 1/30 inch.
#6-7	There is brief mention of potentially elevating the railroad spur serving the Port Peninsula. If that is going to be seriously considered, should we also look at relocating this spur to either the Cherry or Chestnut Street ROW? Raising the railroad tracks next to the BITP could create potential operational conflicts if we expand operations to the west, as is currently being considered. If the railroad was moved east, especially along a Chestnut to Marine Drive alignment, there is a potential to use this alignment to also serve as a tidal barrier on that side of the peninsula. If this is even worth considering, it should be examined before the new building on Port property is built foreclosing this option, so the building can be configured to provide for this.	Raising the railroad is a far-future potential project. It is more likely that LOTT's master planning effort, which is a near-term project, could identify the need to realign the railroad to expand the BITP footprint. The opportunity to raise the railroad for sea level rise could then be considered in designing the realignment. We will continue to work with the Port to determine an outcome that is mutually beneficial and that addresses as many environmental and planning issues as possible.
	COMMENTER 7	
#7-1	I would suggest that the committee go to the noaa website and check projected sea rise information. It shows Washington with .45 of a foot in the next 100 years. This info about 6feet in 70 years sounds like scare info and fake news. Many area north of us project a decline. Unless huge islands appear or our land in Washington sinks your premises sound strange.	Yes, there are coastal areas in Washington State that have seen a historical drop in sea levels. For example, large portions of the Olympia Peninsula are experiencing relatively high rates of uplift (3 to 4 mm/year), causing a relative drop in sea levels since the 1930s. In contrast, other areas, including Olympia, have experienced subsidence and more rapid relative rates of sea level rise.

		We acknowledge that the rate of sea level rise is uncertain, but all indications are that sea levels are rising. Given downtown Olympia's vulnerability to even small increases in sea level rise, we feel that planning for it, is the responsible thing to do. Given the implications, this Sea Level Rise Response Plan is a modest investment. See the response to comment #1-1 for additional information.
	COMMENTER 8	
#8-1	I write today to address the issue of sea level rise in Olympia, and our efforts to solve this pressing problem. Please consider the idea presented below, and watch the short video which illustrates it. I invite you to view this ASAP, and pass it along to others---so that a ***serious discussion of this idea can arise at the upcoming Sea Level Rise meeting on January 30th***. I assume you either will be an official at this meeting, or will be attending. Please forward this email to the appropriate folks in your organization if I have missed the mark.... Perhaps this idea has come up already, at a past meeting? Following is a short 1-minute video on the sane outcome Boston has decided to implement, to help with their sea level rise. ***Please take the time to view what could be a game-changing solution for Olympia's sea level rise!*** If you've seen it before....watching it again is helpful: https://www.facebook.com/sbsnews/videos/293304521517887/ It is time we use the land which the $$-hemorrhaging Port Marine Terminal now occupies, to transition to a beautiful and functional sea-level-rise park which would present an unprecedented opportunity to take back the pride of our waterfront, open access of this precious public	Thank you for sharing the information about the work the City of Boston is doing to address sea level rise.

	land to the citizens and to the tourists who would be drawn here by it, beautify our City....and most of all, to help solve the sea-rise which we are here to address. Many millions of dollars are lost each and every year by the Marine Terminal operation. Our property taxes continue to rise to cover this losing enterprise which employs relatively few, is a dirty, unsightly and environmentally-degrading and toxic operation, and which has been a divisive issue in our multi-faceted and socially active community. The cargoes get fewer and more controversial, while the costs get higher, we go more deeply in debt, and the community gets more frustrated. ***It is fully clear at this point that Olympia is not an appropriate place, nor a competitive location, for a true working Port Marine Terminal.*** We are losing far too much, on so many levels, to keep this albatross afloat---while starving the community of its precious waterfront, closed to all. It is time we get together as a City, as a County and a Port, as a REGION.....and make a perhaps challenging, but intelligent decision to use this property to solve and mitigate our own looming climate change problems, while beautifully upgrading our status as a waterfront and tourist-friendly destination, as well as a progressive and environmentally savvy community. Too, we could discuss a solar array within or near such a park, an option for public wi-fi access solution, or a host of other citizen-friendly initiatives. Let's get positive and progressive and consider some really creative solutions. Who wants to set up a call with Boston?!	
	COMMENTER 9	
#9-1	Thank you for considering my comments on the Draft Sea Level Rise Plan. I think the City of Olympia and its partners have written an excellent draft plan to address sea level rise. I found it well-organized, clear, and thorough, and a good model for other local governments. I consider an important strength of the plan to be the Action Triggers and the ability to adapt the plan to evolving science.	The Draft Plan is focused on protecting the key publically-owned infrastructure and services of the downtown core. East Bay Drive and the privately owned property along its shoreline is located outside the project area.

	I have the following suggestions: Chapter 1. Planning Context - Figure 1. Response Plan Area – page 13 East Bay and West Bay roads are not included in red-lined project area, but they are mentioned in discussion, shown in maps, and assigned actions as part of the plan. Identifying the East Bay Drive area as part of the project area would be helpful because about 50 residences and several condo buildings are on the shoreline, and the City plans to interact with the residents.	
#9-2	Chapter 3 – Climate Science for Olympia - Sea Level Rise projections – page 31 I evaluated this section using my background in shoreline geology. I completed a master's thesis on Holocene sea level rise in northern Puget Sound at the WWU Geology Department in 1990. The projections in the draft plan are up to date for the 2018 State of Washington study. Unfortunately, evolving science is already indicating that the rate of sea level rise is likely to accelerate more than previously estimated. Three January 2019 papers in peer-reviewed science journals reached conclusions about processes that accelerate sea level rise. One found that the oceans are warming at a rate 40 percent faster on average than previously estimated, and the rate of warming continues to increase. [(1)] The second report concluded that Antarctic ice is melting six times faster now than in the 1980s, and at a rate much faster than previously estimated. [(2)] A third found that ice loss in Greenland increased fourfold between 2003 and 2012 in an area of southwest Greenland previously thought to be relatively stable. [(3)] These study results are not yet incorporated into the draft plan. Ocean warming and melting polar ice sheets are the two important processes driving global sea level rise, as the draft plan explains on page 28. These recent results increase the probability that sea level rise will exceed the draft plan projections earlier than 2100. While the rise may not reach the nine feet of the "worst case," it is now more likely to exceed 68 inches than the draft plan suggests. I hope the final plan will acknowledge these scientific results. It would help avoid a false sense of security that could make it harder to address later. The adaptability of the plan is	We acknowledge that the rate of sea level rise is uncertain, especially in the latter half of the century. The Draft Plan recognizes that monitoring climate change and sea level rise will be an essential element of effective response decision-making. If monitoring indicates changing sea level rise projections, in terms of either the magnitude or rate of sea level rise, the timeline and possibly strategies will change.

	good, with long-term actions that could be completed on a shorter timeline, if needed. They would be necessary to protect downtown later in this century while the community adapted. 1 Cheng, L. Abraham, J., Hausfather, Z., and Trenberth, K.E., "How fast are the oceans warming?" *Science*, January 11, 2019, Vol. 363, Issue 6423, pp 128-129. 2 Rignot, E., *et al*, "Four decades of Antarctic Ice Sheet mass balance from 1979-2017," Proceedings of the National Academy of Sciences of the USA, January 14, 2019. 3 Bevis, M., *et al,* "Greenland, and the ice sheet's sensitivity to atmospheric forcing." Proceedings of the National Academy of Sciences of the USA, January 22, 2019.	
#9-3	Chapter 5 – Adaptation - Retreating from Downtown – page 54 This section had helpful information on how retreat has been evaluated until now. I suggest updating this section to the conclusions of the January 2019 studies cited in Chapter 3 comments, indicating that sea level rise is accelerating more than previously thought. I hope the final plan will clarify how these results increase the likelihood that Olympia will need to retreat from parts of downtown by late in this century, rather than after 2100. The highest priority for that scenario is the LOTT Budd Inlet Treatment Plant. I think that LOTT should revisit the 2016 BITP feasibility study for retreat. The treatment plant is a critical facility for the entire region, and the water will continue to rise after 2100. It could take 50 to 75 years to plan, fund, acquire property, build, and revise the system. The plant is in a flood-prone area and an earthquake hazard area on fill sediments. It could be damaged or destroyed by a large seismic event or sea level rise. The LOTT BITP suffers from a long-term lack of feasibility that requires long-term retreat. I believe that LOTT should develop a long-term plan to relocate the functions of the Budd Inlet Treatment Plant to higher ground. Olympia is increasing its density and Tumwater, Lacey, and Urban Growth Areas of the county are growing. State government also relies on the Budd Inlet plant. A long-term plan for retreat is a responsible approach.	We are taking a phased approach to adaptation. The Draft Plan recognizes that monitoring climate change and sea level rise will be an essential element of effective response decision-making. If monitoring indicates changing sea level rise projections, in terms of either the magnitude or rate of sea level rise, the timeline for project initiation will necessarily change (either sooner or later) and alternative adaptation strategies will be considered. Relocating the Budd Inlet Treatment Plant would, as you suggest, require advanced planning and several decades to design and construct a new facility and decommission the existing facility. LOTT will be monitoring sea level rise projections and continually reassessing the appropriate timing for moving forward with various strategies, including the possibility of eventual relocation. However, wastewater treatment technologies are evolving. We do not want to get too far ahead in the design of future facilities, as it will be important to incorporate technological advancements in treatment processes that may provide additional treatment benefits and/or require less physical space and lower energy demand.
#9-4	Chapter 7 – Planning The City plans to integrate the final Sea Level Rise Plan with other planning documents. Some planning tools that would be good for sea level rise:	The Project Partners will consider your suggested planning tools when work begins to incorporate sea level rise into other planning documents (strategy POL-3).

	• Prohibiting new activities that could damage water quality when flooded, like automotive repair. • Limiting the weight of proposed buildings where they could compact the underlying fill sediments over time. For long-term purposes, it would be better to restrict future land uses than to increase Investments that will need protection from future flooding. I believe the partners should continue to work together on a plan for a long-term phased retreat from the affected areas of downtown to new areas on higher ground. As the science evolves, the phased retreat plan can be developed in more detail.	Based on current information, the strategies identified in the Draft Plan are believed to be sufficient to protect downtown. However, the Project Partners recognize evolving climate change and sea level rise projections must be closely monitored and that the adaptation strategy will be adapted to changing conditions over time.
COMMENTER 10		
#10-1	I want to commend the city for recognizing the issue of sea level rise and dedicating resources, expertise, and consideration for our future. The effort to collect data, understand the issue, and develop a response has been admirable. Thank you! I would like to offer the following comments in response to the proposed plan: There are governments involved that do not appear to be included in the planning process that should be engaged early and often. This should be seen as a regional response. The county and Tumwater are upstream. They can implement actions throughout the watershed that could contain stormwater and ease the burden on downtown flooding during events of high precipitation. The Squaxin Island Tribe should be involved in the planning process since this involves management of natural resources in their usual and accustomed area. It will also be important to eventually include private businesses, since they are both key stakeholders and resources.	Lacey, Tumwater and Thurston County have been involved in the planning process through each jurisdiction's involvement in the LOTT Clean Water Alliance. Further, several regional and State agencies as well as private property owners have already been involved in the planning process and understand the need for increased participation in the future. The work to expand and formalize these relationships are planned for implementation beginning in 2019 (strategies COL-1 and COL-2). See page 116. The volume of water associated with high tides in Budd Inlet dramatically exceeds the potential water that could be contained in Lacey, Tumwater and Thurston County. Containing upland precipitation would not appreciably reduce marine water levels.
#10-2	On page 54 in the section about retreat, I found this language: "This evaluation identified specific, limited areas that may need to be sacrificed (e.g., a road, a few buildings)..." but I had difficulty locating those specific areas in the plan. If this information is included, could it be made more clear? If it is not, could it be included?	The schematics provided in Chapter 6 of the Plan (Figures 22 and 29) depict our approach of using street rights-of-way along 4th Avenue and Columbia Street adjacent to Percival Landing to construct protective structures. Additional schematics provide a similar approach for areas along the eastern and northern shore of Capitol Lake/Lower Deschutes Watershed. Properties waterward of the physical barriers may be sacrificed.

#10-3	In the "menu of physical strategies," I saw an option that is not used in the overall strategy: floodable landscapes. It seems that there are some places in and around downtown where floodwater could be contained. These places could be landscaped with water-loving plants so they are more effective and beautiful. Heritage Park has an abundance of open green space; could some of those areas be turned into places where flood water could be contained until it subsides? Could West Bay Park and the adjacent areas be designed to contain floodwater? This could ease the burden on other areas of downtown that depend on defense against flooding. Any underutilized area should be assessed for potential to be a floodable landscape.	Floodable landscapes will be incorporated into project designs. Several of the design schematics in Chapter 6 of the Draft Plan illustrate the potential to allow flood waters to partially inundate shoreline areas. However, in general, the volume of water associated with high tides in Budd Inlet dramatically exceeds the potential water storage area in the downtown peninsula.
#10-4	I am concerned that some of the funding opportunities you have listed are not compatible with the strategy as it is written, though they could be used if floodable landscapes are incorporated. This includes the Coastal Resilience Grant Program with NOAA, which specifically focuses on natural and nature-based infrastructure, and Floodplains by Design with Dept. of Ecology, which require an ecosystem restoration component. Olympia will not qualify for these limited resources and it will be a missed opportunity.	Floodable landscapes as well as living shorelines will be incorporated into project designs. Some examples of living shorelines already exist along our urban shoreline. Several of the design schematics in Chapter 6 of the Draft Plan illustrate the potential to allow flood waters to partially inundate shoreline areas. However, in general, the volume of water associated with high tides in Budd Inlet dramatically exceeds the potential water storage area in the downtown peninsula.
#10-5	Monitoring is a critical component to all of this, and I am glad to see it included in this plan. It is vital that monitoring maintain a high level of priority throughout the response to sea level rise. We need to understand how the projections are changing and if our approach is working. Thank you for the opportunity to offer these comments. I understand that any plan for sea level rise will be a "living document", however I believe that incorporating these ideas in an early version of this document will send us on a better path. We may be able to better leverage our resources and have a more cost-effective strategy.	The Draft Plan also emphasizes the importance of monitoring and information sharing. Further refining the sea level rise and flood monitoring strategy (strategy IN-1) is planned for implementation in 2019. See page 118.
	COMMENTER 11	
#11-1	I want to start by applauding the efforts of the City of Olympia, LOTT, and the Port of Olympia to being planning for sea level rise as impacts are already occurring and will rapidly advance over the coming century as global temperatures continue to rise driving polar and glacial ice melting and associated thermal expansion of ocean waters leading to significant differences from the recent historical norm of the past few centuries. As a 27 year old person, I have lived my entire life in a world that has recognized the problem of climate change and has failed to take adequate steps to address this global	In regards to the Draft Plan's study area, the Draft Plan is focused on protecting the key publically-owned infrastructure and services of the downtown core. West and East Bay Drives and the property along these shoreline is located outside the project area. Only a small portion of West Bay Drive is vulnerable to flooding within the planning horizon.

	problem through both international and local means. Because of this understanding I have been compelled to dedicate my life to addressing climate change drivers through supporting mitigation efforts, as well as planning for the projected changes and taking adaptation actions in response to these understandings. My background as an advocate for equitable climate change adaptation founded on an education from the Evergreen State College's Master of Environmental Studies program influence the way in which I have viewed the draft plan and the subsequent comments I have provided below. Upon initial review of this plan, a very basic concern regarding the study area arises in regards to the active effort to omit the areas along the western shorelines of Budd Inlet as this area contains a number of publicly owned un-utilized properties provide ample opportunities to implement adaptation action in response to local sea level rise concerns. I applaud the intentions of the current vision statement to attempt to consider economic, social, and environmental concerns for the downtown area. However, I believe a critical missing component of these considerations regard the role of political systems in this vision statement as governments will have to continue to play a leading role in decision making for this area. I also am concerned with how the concept of environmental values are considered in the context of the downtown as the urban core currently sits over the top of historic productive estuary environments that are no longer existent in Budd Inlet and restoring these types of ecosystems has been shown to play a vital role in adapting to sea level rise. The draft plan and intention of this effort to not engage the consideration of retreat from the current area of downtown while planning for a scope of horizon to 2100 is irresponsible. If you are to uphold your first key principle of incorporating the best available science as implemented by other coastal communities, then it is imperative to recognize for the need to plan for at least 10 feet of sea level rise as a number of cities in California have mandated. City of Olympia's own research projecting less than this threshold of 10 ft. as a devastating impact to a large portion of the downtown and clearly indicates the need to at least also assess retreat projections in comparison to protect in place strategies. This is necessary because citizens who will be significantly impacted have a right to know the options available in light of these reasonable possibilities.	The Project Partners that governance agree will be key to Plan implementation and sought to emphasize the importance of governance structures in the Draft Plan. Refer to Chapter 7 for additional information. Based on current information, the strategies identified in the Draft Plan are believed to be sufficient to protect downtown. However, the Project Partners recognize evolving climate change and sea level rise projections must be closely monitored and that the adaptation strategy will be adapted to changing conditions over time. The Project Partners understand that the research will evolve in the years and decades ahead. It will be our responsibility to stay abreast of changing science and respond appropriately. The high range projection (68 inches by year 2100) used in the Draft Plan has an approximately 5 percent probability of occurring. The University of Washington Climate Impacts Group recently published *Projected Sea Level Rise for Washington State* which identifies a 0.1 percent chance of 100 inches of sea level rise. The 10-foot (120 inch, a.k.a. "H++" or "extreme") scenario has not had a probability assigned to it. To address your comment that the area between 4th and 5th avenues does not have a proposed barrier, the addition of a barrier at the western edge of the isthmus between 4th and 5th avenues is proposed for addition to Figure 29. See the Errata Sheet. In regards to your costs concerns, a cost-benefit analysis will be performed prior to any substantial investment in adaptation measures. Additionally, the costs to replace infrastructure that otherwise reaches its effective useful life were not included in the scope of this project since any such

	If Olympia seeks to learn from leading examples of coastal communities adapting to sea level rise then it is imperative to look to the relocation efforts of Taholah village on the Quinault Indian Nation reservation to see the enormous opportunities that are available to benefit communities who are forward thinking and can lead to significant equitable outcomes. Olympia's instance on protecting the downtown as it exists today for the next 81 years. The City of Olympia is taking on a huge amount of liability as public projects are continued to be invested that run a high risk of failing and impacting all private entities who are allowed to continue on land development as usual in the at risk areas of Downtown Olympia. The City of Olympia also faces liability concerns regarding having facilitated the illegal dumping and filling of much of the historic shoreline and associated estuary mudflats that were ensured protection by the 1854 Medicine Creek Treaty for access to important historic shellfishing areas and vital salmon habitat and fishing areas. This fact is not addressed in the current draft is a major omission. These treaty rights are still applicable to the areas within the project planning area. This project must be carried out with both the local treaty tribes for these lands including the Squaxin Island Tribe, the Nisqually Indian Tribe, and the Puyallup Tribe of Indians as well as representation from a Washington State representative who mediates for these tribal governments treaty rights in a nation-to-nation relationship while also respecting the state-city relationship dynamic as well. Retreat efforts provide an opportunity to facilitate the remediation of existing violations of treaty rights impacted by the loss of critical habitats and functions, as well as the existing pollution occurring of the marine environment from contaminated estuary fill as its associated stormwater runoff into Budd Inlet. Other options need to be considered outside of protect in place as it exists in this plan, the fundamental idea that flood barriers can be establish both along Heritage Park and through multiple areas along West Bay would still have no way to provide a complete connected barrier, as the area between 4th and 5th Ave have no barrier, and could never be fully enclosed without closing all traffic on both major roadways from installed flood gates. The current plan will still flood downtown through this vulnerability. This is just a small example of the illogical nature of this overall greater approach for the entire downtown are.	costs would be required regardless of sea level rise. See response to comment #3-1 for additional information. In regard to your comments about the Budd Inlet Treatment Plan, LOTT tracks growth projections and is continually planning to accommodate our communities' increasing demands for wastewater system capacity over time. In step with that planning, LOTT will monitor sea level rise projections and continually reassess the appropriate timing for moving forward with various adaptation strategies, including the possibility of eventual relocation. However, wastewater treatment technologies are evolving. We do not want to get too far ahead in the design of future facilities, as it will be important to incorporate technological advancements in treatment processes that may provide additional treatment benefits and/or require less physical space and lower energy demand.

	The cost to build significant protective infrastructure reinforcements will only further sink the City of Olympia into both a figurative and literal sinking debut, and will in the long term add to the expense of removing many built public infrastructure investments when retreat from the area becomes inevitable. Assumptions that LOTT's Budd Inlet Treatment Plant is cheaper to protect in place compared to the cost of constructing a new upland treatment facility fails to also address the question of what happens if you significantly invest in protection measures for the current location as the lower cost alternative, but the plant fails and is unable to provide adequate service for its current 118,000 customers and more as growth projections for the Thurston region project increased population growth over the coming century. The projected costs of the draft adaptation plans are woefully inadequate in terms of the costs considered and the very expensive associated costs with the proposed adaptation efforts that are addressed in the excluded costs sections. The excluded costs are some of the largest changes needed and will drive the costs of this approach well above $1 billion. The public has the right to be provided total information regarding alternatives to the approaches presented. This exclusion further erodes the credibility and legitimacy of this sea level rise plan as an effort to ensure the public good of Olympia throughout the rest of the century. Overall, I am sincerely disappointed with this plan overall and believe it is leading the Olympia community down an irresponsible path that compounds on a number of fundamental mistakes created through the colonial settlement of the downtown area of the City of Olympia. Despite Olympia attempting to act as a leader in the face of climate changes, the actions described in the draft plan will lead to many future problems. This can be avoided by shifting away from the necessity to protect this currently and most likely future undesirable area, and instead investigating the possibilities of establishing a vision of what benefits can be planned for through conscious retreat to better live with the water as is a current stated proposal (even though the current stated proposal seek to oppose the water through a variety of ill-advised strategies). As these planning efforts move forward, please seek to be more open-minded and see that the future of Olympia is going to be very different from its current state and work to establish a community that will be sustainable for the next century and beyond.	
COMMENTER 12		

#12-1	Thank you for the opportunity to provide comments on the Draft Sea Level Rise Response Plan that was created by the Project Partners including the City of Olympia, LOTT Clean Water Alliance, Port of Olympia, and AECOM. Created in 1874, the Thurston County Chamber of Commerce is a member-based organization operating in Thurston County. The Chamber works with an array of community partnerships, ranging from private businesses, non-profits, and government, to address the challenges and opportunities before our community. The Thurston County Chamber of Commerce supports the overall analysis, findings, and strategies contained in the Draft Sea Level Rise Response Plan. We encourage the Project Partners to continue moving forward with implementation of the plan and in accordance to the general sequence of near-, mid-, and long-term adaptation strategies. We find that the level of detail contained in the draft plan is sufficient for determining specific milestones and deliverables and will enable the public to monitoring progress against those deliverables in a clear and transparent fashion. Although we applaud the technical analysis, strategies, and planning elements contained in the Draft Plan, we are concerned that the plan, and specifically the sections dealing with governance and finance, does not directly assume the inclusion of the State of Washington as a project partner in the investigation of a long-term public financing mechanisms. We see great opportunity for Capitol Lake / Lower Deschutes Watershed and the Sea Level Rise Responses Plan to come into governance and financial alignment for common regional benefits. We encourage the Project Partners to place governance strategies for financing as a top priority in the next 12 to 24 months and to begin working more closely with the State in this area. We also encourage the Project Partners to include a diverse set of economic and financial stakeholders from around the region in this work. Finally, we appreciated the discussion concerning FEMA and the National Flood Insurance Program. The acknowledgement that FEMA accreditation standards will be required cannot be overstated. We are mildly concerned by the statement, “While accredited flood protection may lessen the financial and regulatory burden on individual property owners and developers, building and maintaining accredited protection could be more costly for the community” and believe the statement is editorial in nature and does not reflect the true intent of the plan.	Staff from the Department of Enterprise Services have been involved in the sea level rise response planning process and have provided preliminary support for the Draft Plan. The Project Partners agree that establishing a governance structure is a key implementation task. Formalizing collaboration (strategy COL-1) and developing a governance structure (strategy COL-2) are planned for implementation beginning in 2019. Representatives from the Department of Enterprise Services will be invited to participate in these important conversations. The City of Olympia and the Department of Enterprise Services currently closely coordinate flood management response each winter. The Project Partners see this relationship expanding as other work efforts associated with Capitol Lake/Lower Deschutes Watershed evolve. Thank you for your comment regarding including a diverse set of stakeholders should be involved in future governance/financing discussions. The Project Partners will consider your comments as the governance structure is established. Thank you for your comments regarding FEMA and the National Flood Insurance Program. Whether or not to build flood protection measures to FEMA accreditation standards will be an important and complex community decision process, and one the Project Partners hope your organization will take part in. This issue has been identified as Informational Strategy IN-5 in Chapter 9.
COMMENTER 13		

#13-1	Below are my comments on the City's Draft Sea Level Rise Response Plan. Based on the premise that those who benefit from any measures the City and other government entities take to prevent, mitigate, or compensate for damage from sea level rise and on the amazing data collection capabilities demonstrated in the Draft Sea Level Rise Response Plan, the joint Sea Level policy trio of the City of Olympia, LOTT Clean Water Alliance, and the Port of Olympia should formulate a shared cost assessment schedule to be applied to properties affected by this ongoing flooding event. This should include the formation of a Local Improvement District (LID), or more precise public entity, defining the geographic and other bounds of those properties that will participate in the funding and benefits of all measures taken. While there may be other characteristics by which to identify, classify and assess property owners, vertical (vs slope) altitude above sea level, value of property, projected window of vulnerability, e.g., # of inches of rise by a certain future date, and effectiveness of mitigation measures show be included as a minimum.. People who do not live, work or otherwise operate in "downtown" Olympia may be affected as members of groups who *do* have a "downtown' presence, e.g., Olympia taxpayers as effective stockholders in the municipal corporation of Olympia. LOTT service customers would be a prime example. County residents as part of the Port. Do not assume that absolute resistance is the only option. This is a battle that we started and which we will eventually lose. Our long range (50-100 years) plan must be to begin rebuilding Olympia far enough up the slope to not be affected by the maximum rise predicted or at least expected in the next 150 years. While all Olympians should share in decision-making, the members of the LID should weigh disproportionately in deciding which courses of action to take.	Thank you for your comments. The Project Partners agree that governance and financial needs will be key to Plan implementation. Local improvement districts are discussed in Appendix E and will be considered as a funding approach moving forward. It is important that costs be shared equitably.
COMMENTER 14 – JANUARY 26, 2019 KING TIDE EVENT WRITTEN COMMENT		

#14-1	What a good point I learned that the City of Olympia (our government) is "not responsible to protect private property." I would like large signs and notices that we citizens understand this – with 3 new buildings, - Bayview and the Oyster House in the flood plain; I don't want to pay to fix flooding to these property owners. Thank you for this Q&A event – very helpful	Thank you for your comment.
COMMENTER 15 – JANUARY 26, 2019 KING TIDE EVENT WRITTEN COMMENT		
#15-1	I only see barriers being built to mitigate sea level rise. I thought the prevailing though now is to build wet lands. What if the Port area became a wetland.	Floodable landscapes as well as living shorelines will be incorporated into project designs. Some examples of living shorelines already exist along our urban shoreline. Several of the design schematics in Chapter 6 of the Draft Plan illustrate the potential to allow flood waters to partially inundate shoreline areas. However, in general, the volume of water associated with high tides in Budd Inlet dramatically exceeds the potential water storage area in the downtown peninsula.
COMMENTER 16 – JANUARY 26, 2019 KING TIDE EVENT WRITTEN COMMENT		
#16-1	As I live close by I am naturally most interested in your work. Appreciate further info & newsletters.	Thank you for your comment.
COMMENTER 17 – JANUARY 26, KING TIDE EVENT WRITTEN COMMENT		
#17-1	The previous report an engineered response to sea level rise included the concern on the migration of contaminants in a very clearly titled section with discussion. The current report appears to have no such section, I have not even found acknowledgement of the existence of this issue. The appearance is the City of Olympia does not want to draw attention to this significance issue. Not just "Cascade Pole" put also the contaminated areas outside the "containment wall" as well as contamination in the other areas. Yes, some clean up has been done but much remains & will migrate.	The Draft Plan's previously published Vulnerability and Risk Assessment addresses contamination in the downtown area. The Vulnerability and Risk Assessment is available on the sea level rise webpage and will be incorporated into the final Olympia Sea Level Rise Response Plan as an appendix. See the response to comment #5-8 for additional information.