Homer City Hall
491 E. Pioneer Avenue
Homer, Alaska 99603
www.cityofhomer-ak.gov

City of Homer
Agenda

City Council Committee of the Whole
Monday, January 13, 2020 at 5:00 PM
City Hall Cowles Council Chambers

CALL TO ORDER, 5:00 P.M.

Councilmember Hansen-Cavasos requests excusal

AGENDA APPROVAL (Only those matters on the noticed agenda may be considered, pursuant to City Council's Operating Manual, pg. 6)

CONSENT AGENDA

REGULAR MEETING AGENDA

DISCUSSION TOPIC(S)

a. Seawall Update
   - Ordinance 20-01 with attachments
   - Memorandum 20-008 with attachments

COMMENTS OF THE AUDIENCE

ADJOURNMENT NO LATER THAN 5:50 P.M.
Next Regular Meeting is Monday, January 27, 2020 at 6:00 p.m., Committee of the Whole at 5:00 p.m. All meetings scheduled to be held in the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska.

CITY OF HOMER
HOMER, ALASKA

City Manager

ORDINANCE 20-01

AN ORDINANCE OF THE CITY COUNCIL OF HOMER, ALASKA AMENDING THE FY 2020 OPERATING BUDGET TO FUND ANTICIPATED REPAIRS TO THE SEAWALL BY ESTABLISHING AUTHORITY IN THE 2020 BUDGET FOR EMERGENCY REPAIRS TO THE SEAWALL.

WHEREAS, The Homer City Council adopted Emergency Ordinance 11-49(S) which created the Ocean Drive Loop Special Service District; and

WHEREAS, The Special Service District was created to raise tax revenues from benefited property owners to support maintenance and repair of the Seawall they own, which is located on their properties; and

WHEREAS, As a tax-exempt property owner along the Seawall, the City contributes $10,000 annually to a Seawall Reserve Account for the City's portion of repairs to the Seawall; and

WHEREAS, Repairs to the Seawall have to be performed on an emergency basis in order to prevent further damage and remain in compliance with the Army Corps of Engineers permit for the Seawall; and

WHEREAS, Due to the unpredictability and the immediate need to do the repairs, the work is completed by East Road Services under the direction and supervision of the City Engineer, and

WHEREAS, Annual repairs to the Seawall are impossible to predict, yet past history offers a range from $0 in 2013 to $102,916 in 2017 with an average costs from 2015 to 2019 of $42,804; and

WHEREAS, Under HCC 3.16.020, the maximum allowable procurement expense of $10,000 can easily be exceeded due to one severe weather event; and

WHEREAS, In the event that the 2020 repairs exceed $42,804 additional authority will be requested; and

WHEREAS, Based on linear feet, the property owners are responsible for 82% of the wall repairs and the City is responsible for 18% of the wall repairs; and

WHEREAS, The City and property owners are working together on long-term solutions to address the needs of the Seawall.

NOW, THEREFORE, THE CITY OF HOMER ORDAINS:

Section 1. The Homer City Council hereby amends the FY 2020 Operating Budget by appropriating $42,804 from the Seawall Maintenance Reserve and Ocean Drive Loop Special Service District accounts for the purpose of repairing and maintaining the seawall as follows:

Appropriation/Transfer From:

Account	Description	Amount
808-0375	Ocean Drive Loop Special Service District (82%)	$35,099
156-0369	Seawall Maintenance Reserve	$7,705

Section 2. This ordinance is a budget amendment ordinance only, is not permanent in nature and shall not be codified.

ENACTED BY THE CITY COUNCIL OF HOMER, ALASKA, this 27th day of January, 2020.

CITY OF HOMER

_____
KEN CASTNER, MAYOR

ATTEST:

_____
MELISSA JACOBSEN, MMC, CITY CLERK

YES:
NO:
ABSTAIN:
ABSENT:

First Reading:
Public Hearing:
Second Reading:
Effective Date:

Reviewed and approved as to form.

_____ _____
Katie Koester, City Manager Michael Gatti, City Attorney

Date: _____ Date: _____

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January 8th, 2020

Dear Ocean Drive Loop Service Area (ODLSA) Property Owners,

I am sending this letter as part of the annual update on Seawall maintenance expenditures and to keep you up to date regarding neighborhood and Council discussion regarding a potential major maintenance project. In 2019, the City hosted two meetings with property owners to discuss the state of the Seawall and the health of the fund used to cover maintenance expenses. This topic was then brought forward to City Council at their September 23rd, 2019 worksession.

Below provides a summary of major Seawall activities accompanied with photographs:

January 2019	Winter storms damaged wall; repairs completed ($9,873)
February 2019	Neighborhood Seawall meeting
April 2019	City Council authorizes HDR Long Term Improvements Study ($10,207), winter storms damaged wall; repairs completed ($11,936)
May 2019	Draft HDR Study received
June 2019	Final HDR study completed
August 2019	Neighborhood Seawall meeting
September 2019	City Council worksession regarding Seawall

Figure 1 - January 2019, replacing vertical posts to allow installation of new horizontal timbers.

Figure 2 - January 2019 East Portion of Wall

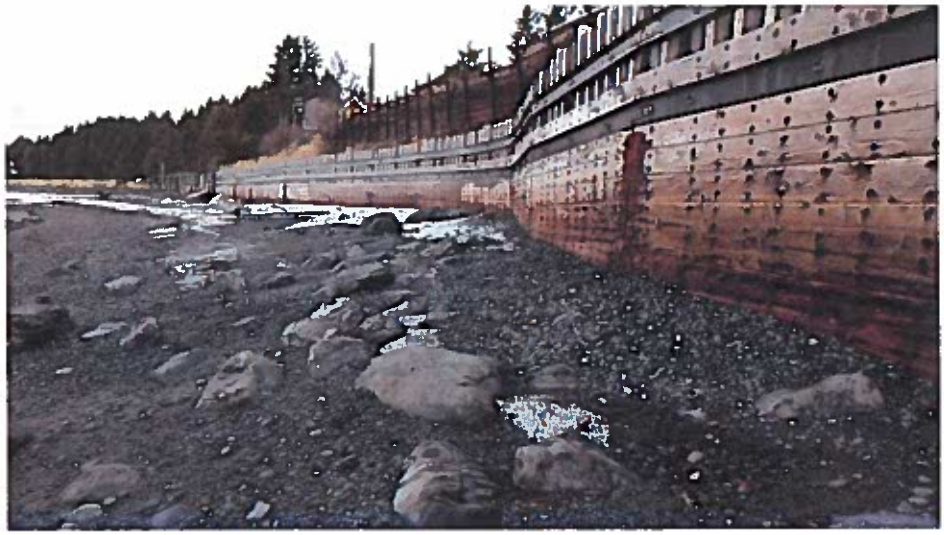

Figure 3- January 2019 West Portion of Wall

Figure 4- January 2019 Middle of Wall

Figure 5- HDR, Inc. inspection of wall to assess damage in support of recommending potential long term improvements.

As of today, the remaining balance available for use totals $102,153 (please see chart attached to letter). If we see another year like 2017, the fund would be wiped out. Rather than wait for emergencies to arise, we took a proactive step this past year by contracting with HDR, Inc. to provide an engineer's analysis of the wall in its current state and different maintenance approaches we could take to best protect the Seawall. The two most affordable concepts proposed were Armor Stone Scour Protection and Geotextile Container Scour Protection with preference given to armor stone. The current mil rate set for the ODLSA and the $10,000 contribution from the City is not enough however to cover project costs. In an effort to assist the ODLSA in making a major maintenance project of this size possible, the City may have the option to work with the Alaska

Municipal Bond Bank (AMBB) to secure a general obligation bond to cover the project's expenses; the bond would be guaranteed by the mil rate and an annual contribution made by the City.

The Council has Seawall Update as a topic of discussion on their Committee of the Whole meeting on January 13th at 5PM in Cowles Council Chambers. At the regular City Council meeting starting at 6PM, the Council has on their agenda a request for a legal opinion from the City Attorney to help the City consider the financing of a capital improvement for the Seawall and associated questions that have been brought up to date by property owners. You are welcome to attend both meetings and provide public comment.

The severity of the winter storms should make finding a solution to the Seawall one of our top priorities. Thank you for joining with me in this effort.

Sincerely,

Katie Koester

Katie Koester
City Manager

Seawall Maintenance Expenditures

	2012	2013	2014	2015	2016	2017	2018	2019*	Total
Seawall Maintenance Expenditures	$38,292	$0	$0	$3,126	$30,328	$102,916	$44,594	$33,054	$252,310

Seawall Revenue ("Seawall Maintenance Fund")

156-0369	2012	2013	2014	2015	2016	2017	2018	2019*	Total
Seawall Reserve Account (**City**)	$70,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$140,000

808-0375	2012	2013	2014	2015	2016	2017	2018	2019*	Total
Mil rate deposits (**ODLSA private property owners**)	$19,167	$22,078	$35,176	$24,802	$24,759	$30,140	$28,917	$29,424	$214,463

Remaining Balance for Future Seawall Maintenance

	2012	2013	2014	2015	2016	2017	2018	2019*	Total
Combined Seawall Revenue	$89,167	$32,078	$45,176	$34,802	$34,759	$40,140	$38,917	$39,424	$354,463
Seawall Maintenance Expenditures	$38,292	$0	$0	$3,126	$30,328	$102,916	$44,594	$33,054	$252,310

Remaining Balance: $102,153

***Please note:** The above 2019 figures will be finalized once the City audit is completed by September 2020.

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Homer City Council
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(p) 907-235-3130
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Memorandum 20-008

TO: Mayor Castner and Homer City Council

FROM: Councilmember Aderhold

DATE: January 8, 2020

SUBJECT: Request for a Legal Opinion Concerning the Seawall

In December of 2018, seawall property owners came to the City with concerns about the Seawall's long term viability. This, combined with the high cost of maintenance, prompted Administration to hold two neighborhood meetings with residents of the Ocean Drive Loop Service Area (OLDSA), both of which I attended. At the last meeting in August 2019, neighbors reviewed the results of a feasibility study for long term maintenance options on the Seawall performed by Coastal Engineer McPherson of HDR, Inc. and asked for a worksession with City Council to discuss next steps. This was held on September 23rd, 2019. The general consensus from the neighbors and staff was that armor stone placed at the toe to reinforce the wall was the preferred option. HDR, Inc.'s rough order of magnitude estimate for Armor Stone Scour Protection was $1.5M-$2.1M.

Currently, the fund used to repair the Seawall has $102,153 remaining; this fund is comprised of a portion of ODLSA property taxes and an annual $10,000 contribution from the City. In order to make the lower end ($1.5M) of the Armor Stone Scour Protection recommendation possible, the City could secure a general obligation bond through the Alaska Municipal Bond Bank (AMBB). Property taxes generated by the ODLSA, along with the City's contribution, could be used to guarantee the bond.

According to the State Assessor's Office, a service area/tax jurisdiction cannot have a property tax that exceeds more than 30 mils. However, per AS 29.45.100, the mil rate can exceed 30 mils if there is bonded debt. Since 2013, ODLSA properties have had a mil rate of 21.4625 with 9.9625 going towards the Seawall. Using information provided by AMBB, a $1.5M bond amortized over 30 years at 3% interest would require an annual payment of $75,915. Based on linear feet, property owners would be responsible for 82% ($62,250) and the City would be responsible for 18% ($13,665). Based on 2019 property values, the mil rate needed to cover the ODLSA amount would be around 20.6 or about double what the current mil rate portion for the Seawall is.

ODLSA property owners will have to vote in favor of issuing the bond for the work to proceed, which in turn would permit the City to exceed 30 mils for ODLSA residents if required by the bond payments. There remain unanswered legal questions for Council to be willing to take on such a project. To that end I am requesting a legal opinion that concerns financing a capital improvement for the Seawall and expanding the ODLSA to incorporate more properties, specifically:

- How would the City hold a vote for ODLSA property owners to decide on bonding for the Seawall improvements?
- Would the general obligation bond qualify as tax exempt given the City owns two properties within the ODLSA and is the facilitator of the Seawall's maintenance?
- What is the City's obligation to maintain the wall if ODLSA property owners do not vote in favor of the bond and the current Seawall maintenance account does not have enough funds to cover the Seawall's costs?
- The ODLSA used to include the property located at 811 Ocean Drive Loop; however, the former property owners gained approval from Council to be excluded from the ODLSA. The new property owners are currently working to source armor stone to reinforce their section of the wall. Is there a way to incorporate their efforts into the project?
- At the worksession, Council asked about expanding the ODLSA. Could different mil rates be established for properties based on their proximity to the wall?
- What is the legal process to increase the mil rate over 30 mils per AS 29.45.090 with bonded indebtedness? Can the mil rate fluctuate based on assessed value, or is it set by the voters when ODLSA residents approve the bond?

ENC:
Armor Stone Excerpt from the HDR, Inc. Report

Fiscal Note:
Legal time researching this project would be billed proportionality to ODLSA property tax fund and the City of Homer Seawall Reserve fund.

Seawall Improvement Concepts

Several concepts for improving the longevity of the existing seawall were reviewed.

1) Armor Stone Scour Protection
2) Geotextile Container Scour Protection
3) Groin Field
4) New Steel Sheet Pile Wall
5) New Soldier Pile and Concrete Lag Wall

Concept 1: Armor Stone Scour Protection

Armor stone scour protection involves constructing a revetment type structure at the base of the existing seawall. The structure would utilize at least two stone material classes: a filter stone and a primary armor stone. A non-woven geotextile fabric would be placed as a barrier between the filter stone and the seawall as well as the beach. Filter stone would then be placed as a wedge between the primary armor stone and the seawall. This rock material and geotextile fabric will act as filter layers to reduce sediment migration through the structure. Sediment loss behind the seawall should thereby be minimized, which would reduce localized failure from "sink holes." The filter stone will also provide protection to the existing seawall from the larger primary armor stone which could damage the seawall during construction or if stones moved during a storm event. This revetment concept would reduce scour (lowering of the beach) at the base of the seawall, which if were to continue, could result in the collapse of the seawall. This concept should also prevent continued damage at the base of the seawall such as the "kicking out" of the seawall at the base as observed during the site visit. However, it should be noted that repairing a localize failure of the seawall would become significantly more challenging with a rock structure in place at the toe. Figure 8 provides a schematic of this concept.

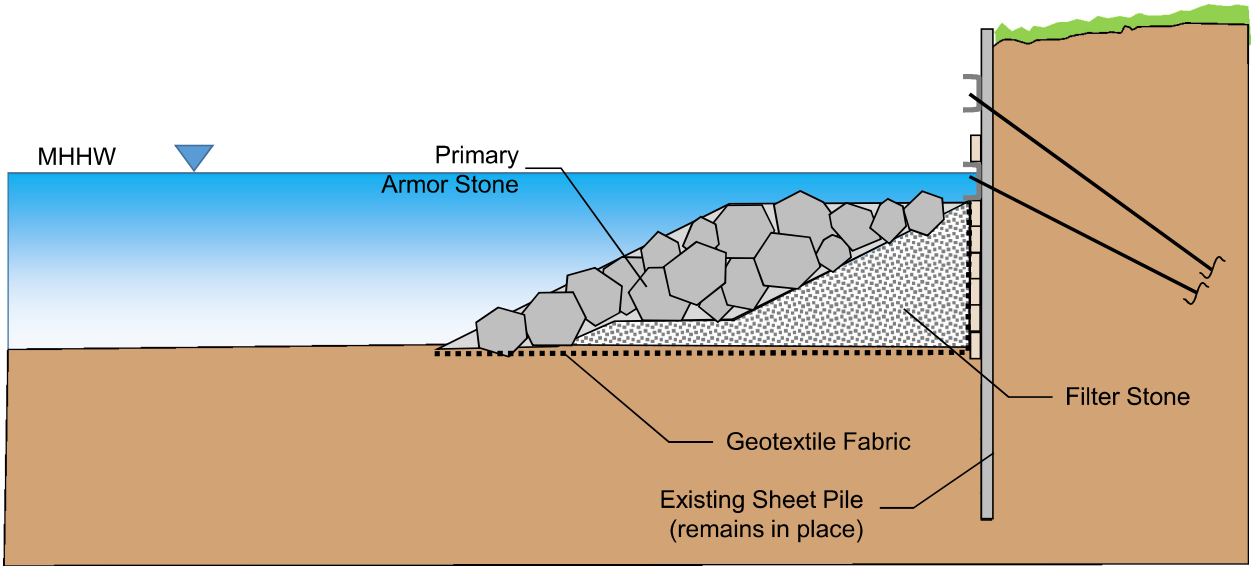

Figure 8. Concept 1 - Armor stone scour protection schematic.

Advantages:

- The seawall toe would be shored up with the armor stone mitigating localized failures of the seawall increasing the longevity of the structure. Continued lowering of the beach elevation in front of the seawall would not be a major concern.
- Armor stone structures can be design to have a long service life.

Disadvantages:

- If a localized failure were to occur due to a seepage of sediment through the seawall, repair of the failure would be more challenging (costly) than the current repair method.
- Armor stone can have a high construction cost.

Variations of Concept 1 – There are several other materials that can be used in lieu of armor rock for revetment type structures. These include gabion mattresses or baskets, geotextile marine mattresses, articulating concrete blocks, and concrete armor units. The following provides a few thoughts on these types of technologies for this application.

- Gabions – Gabions are wire baskets or mattresses that contain stone. Their advantage is that through the containment of smaller stones, their ability to withstand waves and currents is much greater than if the same size stones were uncontained. However, gabions will become ineffective and may fail if the wave environment is too great – which may be the case along the seawall. Since gabions are made of steel, they have a tendency to degrade quickly in a saltwater environment. To combat corrosion, gabions are manufactured with galvanized steel, stainless steel, and PVC coatings.
- Marine Mattress – Marine mattresses are similar to gabions in that they contain smaller stone, however, marine mattress use a flexible geosynthetic material. These structures are generally able to withstand the saltwater environment better. Similar to the gabion concept, marine mattresses are not effective and subject to failure if the wave environment becomes too extreme which may be the case along the seawall.
- Articulating Block Mats (ABMs) – ABMs come in a variety of shapes, sizes, and configurations. Often, ABMs interlock/connect with a puzzle type shape and/or rope or cable. ABMs offer good mitigation against erosion but are often damaged due to undermining of the structure and do not have the ability to self-adjust like an armor stone revetment. In addition, ABMs are typically used in lower energy wave environments.
- Concrete Armor Units (CAUs) – CAUs come in a variety forms but often resemble large concrete “jacks.” These type of structures can be very advantageous in high wave energy environments because they can be constructed larger than easily quarried armor stone. CAUs would breakdown wave energy approach the seawall but are not preferred over traditional armor stone in this situation because they would not easily mitigate localized scour and local failure of the existing seawall (i.e. they would not prevent sediment migration through the existing seawall).

Rough Order Magnitude Costs

A rough order of magnitude (ROM) cost for each concept was developed. Quantities were determined through conceptual design and assumed rough unit rates were applied to develop the ROM costs. Note, no design has been performed to determine quantities, and comparable project costs were not reviewed. ROM costs should be used as a general "order of magnitude" and not used for financial planning purposes. Costs associated with design and permitting of the concepts is include in the ROM cost values.

Table 2. Rough Order Magnitude Costs for Reviewed Concepts

	Rough Order Magnitude Cost
Concept 1 – Armor Stone Scour Protection	$1.5M to $2.1M
Concept 2 – Geotextile Container Scour Protection	$0.6M to $0.9M
Concept 3 – Groin Field (assumes 4 groins)	$3.0M to $4.3M
Concept 4 – New Steel Sheet Pile Wall	$2.9M to $4.0M
Concept 5 – New Soldier Pile and Concrete Lag Wall	$3.2M to $4.4M

Recommendations

The following provides some recommendations for advancing improvements to the Homer Seawall.

- Consider performing a more detailed alternatives analysis that focuses on 2 or 3 preferred concepts from this effort to advance the designs to a preliminary level and obtain more informed potential costs.
- Only consider the geotextile container option if funds are limited and the opportunity to receive additional funds is not likely in the foreseeable future.
- If the City of Homer procurement rules allow, consider advancing the seawall options as a design/build delivery project. These designs are not complicated and the cost can be highly influenced by the contractor's availability, equipment spread and location, and on-hand materials.
- For concepts using armor stone, recommend advancing the project through a traditional design/bid/build or construction manager/general contractor (CM/GC) delivery project.
- For the groin field concept, recommend performing an extensive modeling and performance analyses to inform potential for down-drift erosion impacts.