KODIAK CITY COUNCIL

WORK SESSION AGENDA
Revised
Thursday, September 25, 2014
Assembly Chambers (Room 232)

6 p.m.

Work sessions are informal meetings of the City Council where Councilmembers review the upcoming regular meeting agenda packet and seek or receive information from staff. Although additional items not listed on the work session agenda are sometimes discussed when introduced by the Mayor, Council, or staff, no formal action is taken at work sessions and items that require formal Council action are placed on a regular Council meeting agenda. Public comments at work sessions are NOT considered part of the official record. Public comments intended for the "official record" should be made at a regular City Council meeting.

Discussion Items

1. Public Comments (limited to 3 minutes)

2. Kodiak Electric Association Flywheel Presentation.....1

3. Quarterly Capital Project Update.....7

4. Review of Letter to the North Pacific Fisheries Management Council on Gulf of Alaska Bycatch Management

5. September 25, 2014, Agenda Packet Review

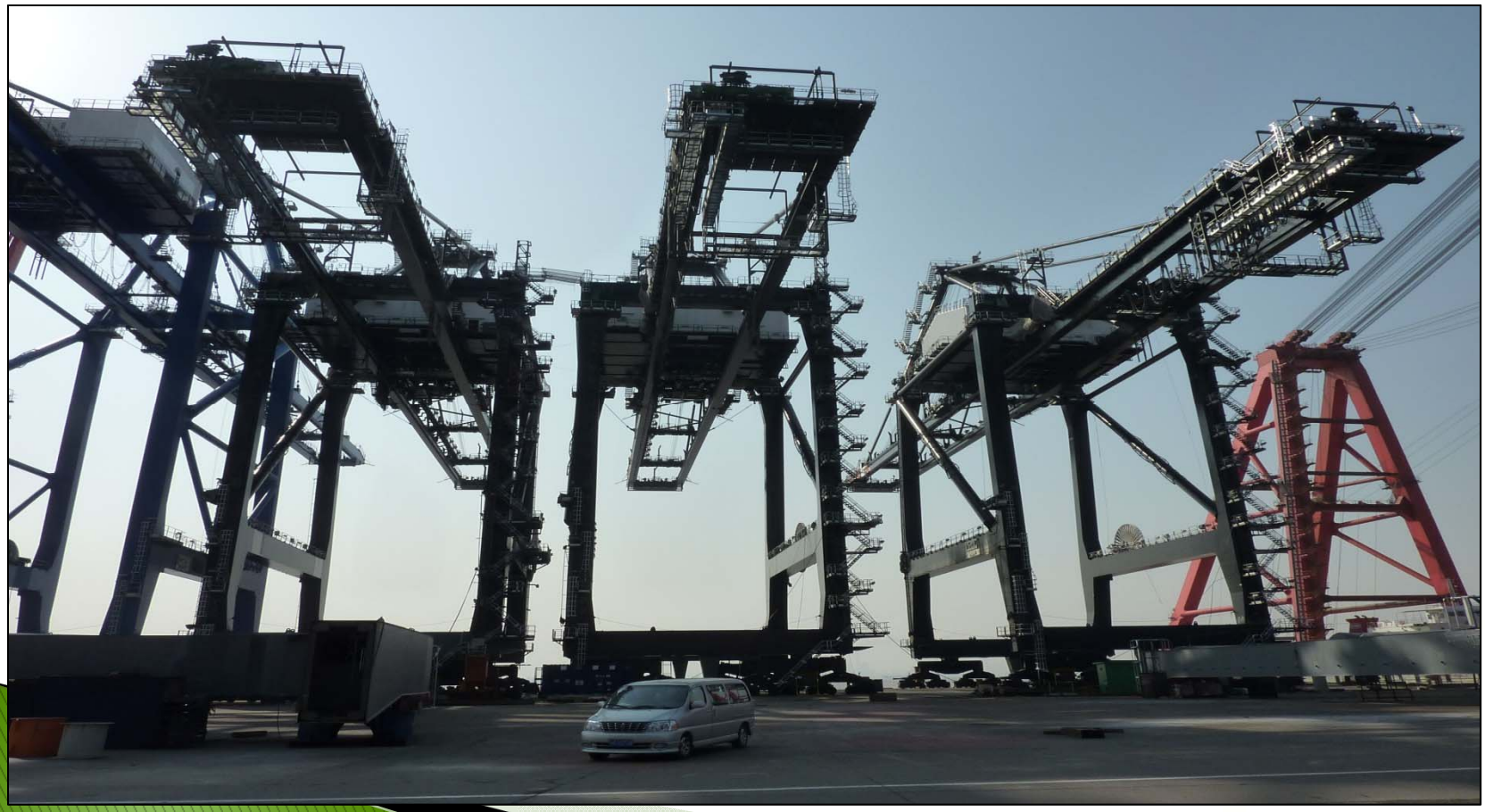
KEA Flywheel Installation

Kodiak City Council

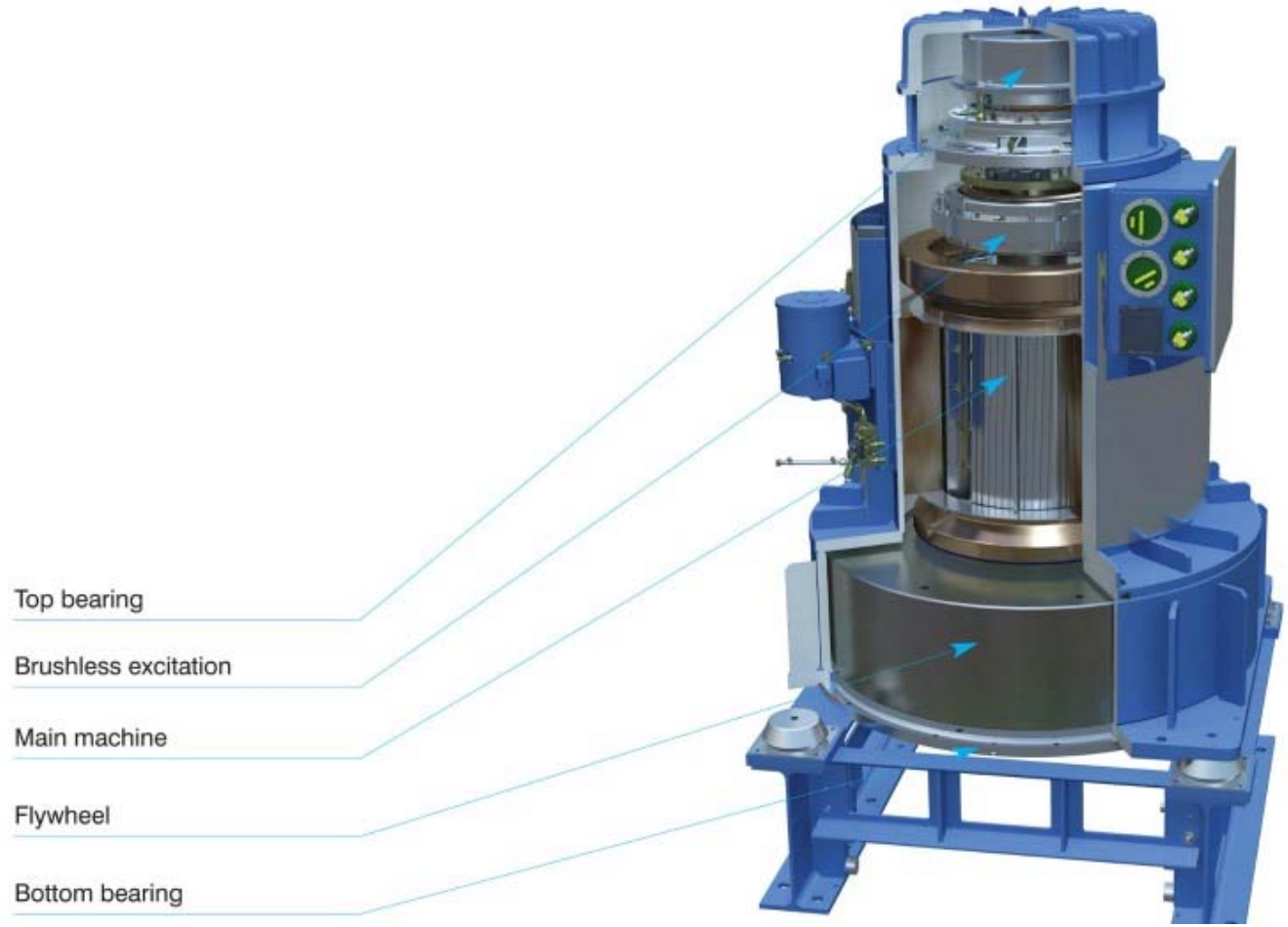
September 25, 2014

Reasons for Flywheel

- Large Electric Crane
- Electric Grid Need for Balance
- Isolated Electric Grid



Flywheel



KODIAK ELECTRIC ASSOCIATION

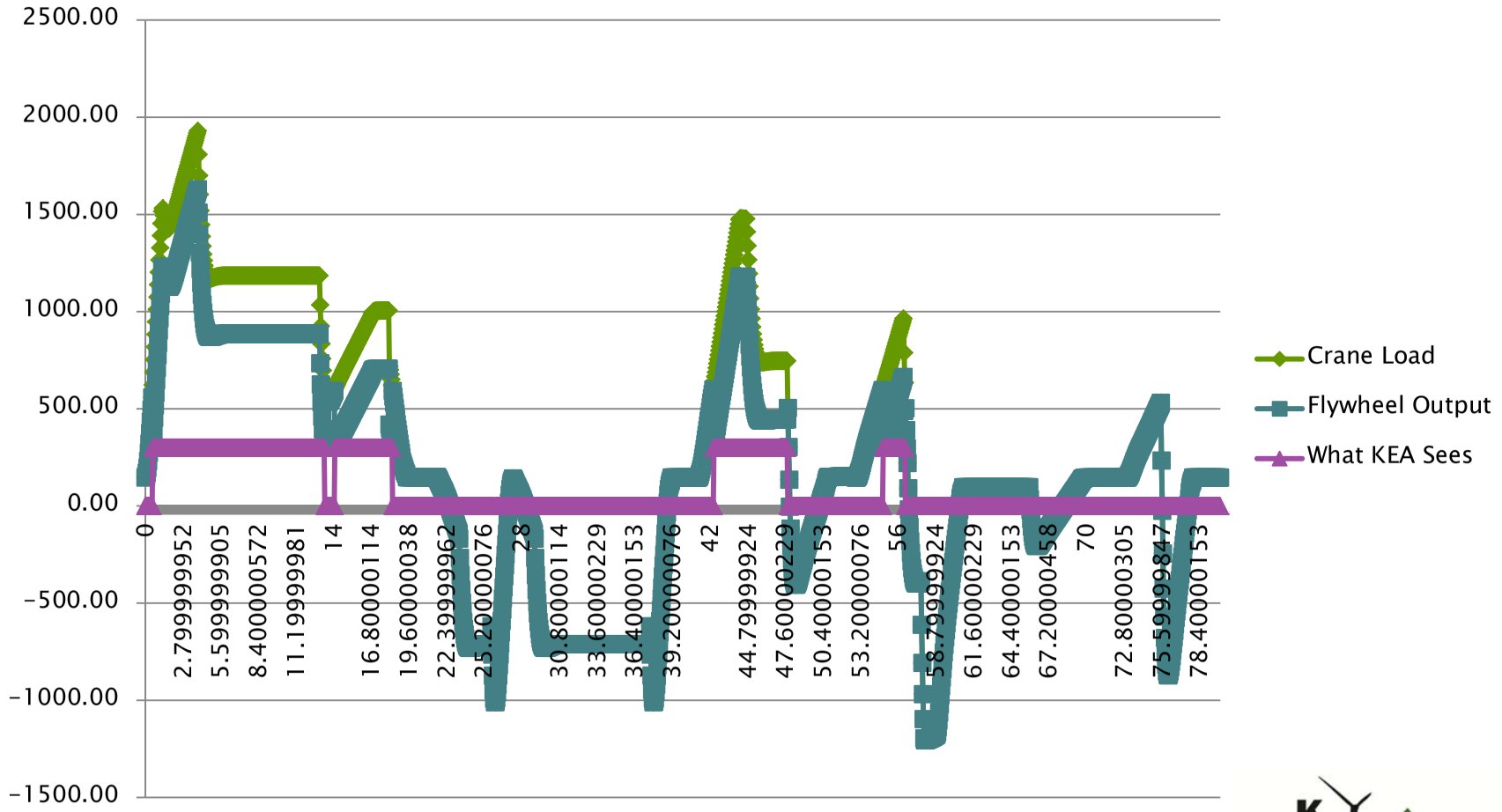
Flywheel Physical Size

KODIAK ELECTRIC ASSOCIATION

La Gomera PowerStore Canary islands, Spain

KODIAK ELECTRIC ASSOCIATION

Crane Flywheel Operation



KODIAK ELECTRIC ASSOCIATION

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CIP QUARTERLY REPORT

Prepared by:

Engineering & Public Works

September 2014

Construction Projects

- Aleutian Homes Water and Sewer Replacement Phase V, Segment B
- Compost
- Pier III Replacement
- Monashka Pump House Facility Replacement

Aleutian Homes Water and Sewer Replacement Phase V, Segment B

- Started rebuilding 1950's utilities in the Aleutian Homes in 2006, Willow Street and Maple are complete. Portion of Thorsheim is complete. This is the last segment of Thorsheim being awarded with this contract
- Awarded design to DOWL in 2009
- Awarded to Brechan at the Council's Regular meeting in April
- Started construction in early May and expect to finish in October
- Work included approximately 1,500 linear feet of Thorsheim Street and the intersection with Gerasim Drive
- Submitted FY 2015 AMMG questionnaire for segment B construction. Award in July 2014 in the amount of $2,955,792.00
- Aleutian Homes Water and Sewer Phase VI including Birch Street will begin design phase this fall

Aleutian Homes Water and Sewer Replacement Phase V Segment B

- Thorsheim Street facing north.
- Intersection of Thorsheim Street and Gerasim Drive

Aleutian Homes Water and Sewer Replacement Phase V Segment B

- Curbs and Modular Block Retaining Wall northeast corner of Thorsheim and Maple Streets (above)

- Maple and Thorsheim Streets facing south (below)

Compost

- October 24, 2013 Council authorized contract for design of composting facility located the “south site”
- October 31, 2013 Project design kickoff meeting and site analysis
- November 2013 CH2M Hill Engineers submitted 30% design drawings
- February 2014 CH2M Hill Engineers notified the City that the large building footprint had run the project cost over budget ($4.5M construction)
- April 2014 CH2M Hill Engineers submitted a redesigned 65% design drawings. This is the current design. Staff and operator are reviewing the new concept
- Sept 2014 CH2M Hill Engineers submitted 95% design drawings for City review
- We anticipate submittal to AKDEC for permitting by end of September
- If permitting goes well we will bid early 2015 for summer construction

Biosolids

New Compost south Site (below)

- Existing Compost Area, Top of existing landfill (above)

SURFACE AND GROUND WATER PROTECTION

The biosolids receiving, mixing, composting and curing areas are paved and covered to prevent impact from precipitation which also eliminates any contaminated rainwater runoff from these processes. Site grading will direct stormwater to an infiltration/settling basin sized to accommodate a 25-year storm event. Clean stormwater and snow melt will be diverted through the existing culvert to a rock outfall.

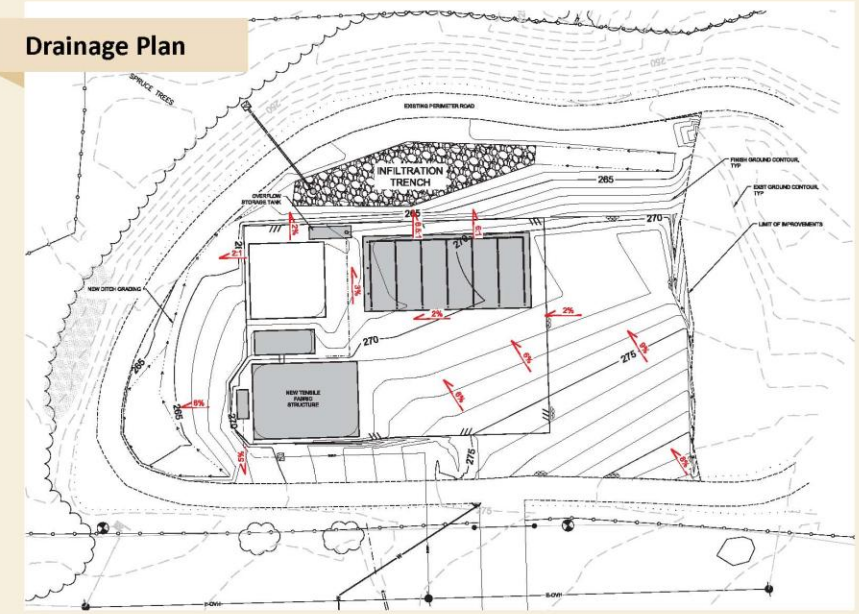
Wastewater will be generated from the composting aeration system. This condensate will be collected through a totally enclosed piping system and into a 10,000 gallon capacity underground storage tank that will be periodically pumped into a tanker truck and hauled to the City of Kodiak's WWTP for treatment. Any outdoor spillage of untreated biosolids will be flushed into the underground storage tank through the use of an operable grate manhole drain.

ODOR CONTROL

Continuous negative aeration in both composting and curing processes will provide greater than 95 percent capture of compost odors. The process air will be collected and treated through a wood chip based media biofilter for removal of the odors. Biofiltration has been determined to be the best available control technology for eliminating compost odors in several air pollution control districts in the United States. Air dispersion modeling has been performed at the planned Kodiak Composting Facility to ensure no odors pass the boundaries of the site.

The figure below shows the limits of perceptible odors from the planned facility based on the use of odor modeling using EPA recommended dispersion model.

Drainage Plan



For more information about Biosolids composting, see the following websites:

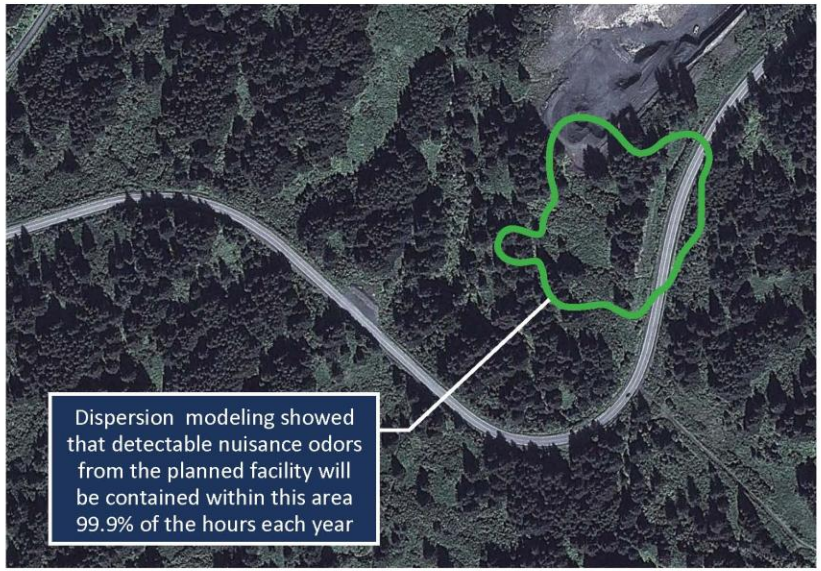
http://water.epa.gov/scitech/wastetech/upload/2002_10_15_mtb_combioman.pdf

http://www.akwater.com/compost.shtml

http://www.wef.org/AWK/pages_cs.aspx?id=1062

http://www.wef.org/Biosolids/page.aspx?id=7522Sheet

http://www.newsminer.com/news/local_news/fairbanks-wastewater-plant-s-compost-garden-is-wildly-successful/article_3fed22db-efbd-559a-bbdf-19773bc97e9a.html



COMPOST: PRODUCT BENEFIT AND USE

The compost end product that will be produced at the Kodiak Compost Facility will exceed all the highest level of USEPA and Alaska DEC requirements for a Class A Exceptional Quality (EQ) material including regulatory requirements for pathogen reduction, stability (vector attraction reduction requirements) and contaminant concentrations for metals. The product is humus-like and can be applied as a soil conditioner to gardens, food and feed crops, used in landscaping such as for lawns and athletic fields and for erosion control in roadway and other construction activities. Biosolids compost provides large quantities of organic matter and low levels of nutrients (such as nitrogen and phosphorus) to the soil, improves soil texture, and improves the soil's ability to hold nutrients, thus preventing nutrient transport to adjacent surface or ground waters.

Kodiak Biosolids Composting

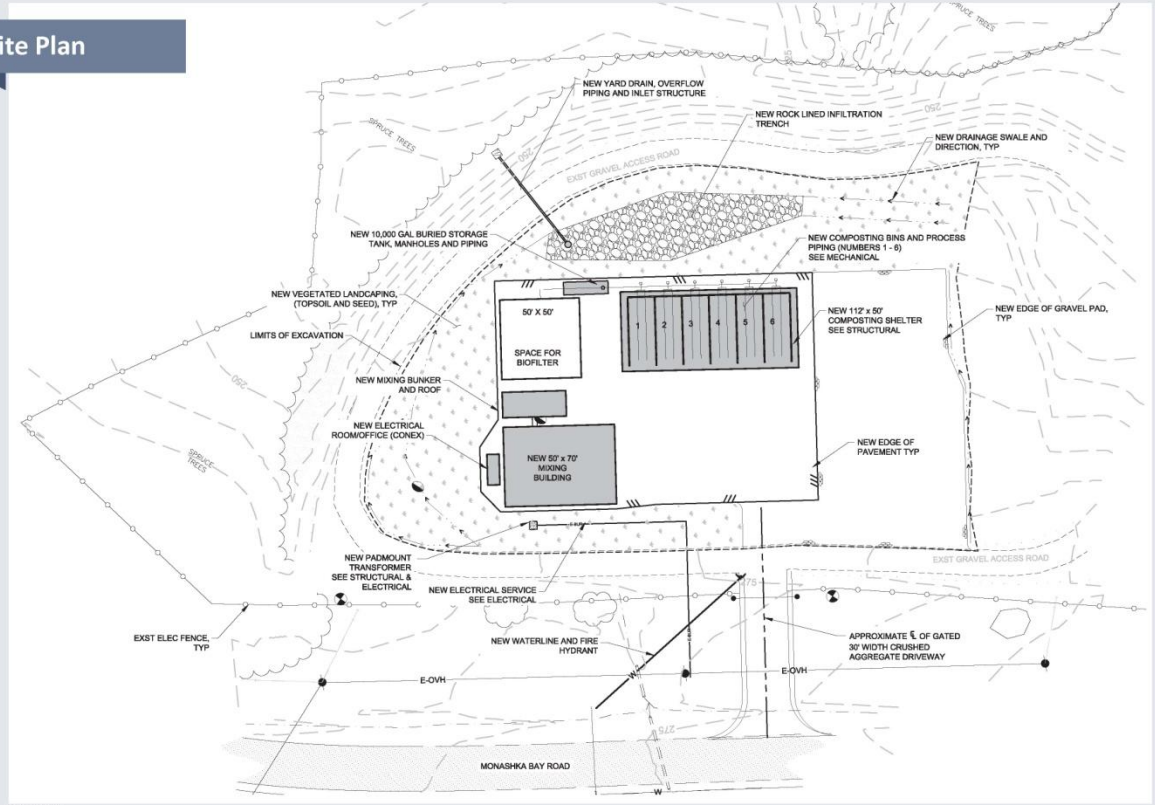
According to the US EPA, composting is a viable, beneficial option in biosolids management. It is a proven method for pathogen reduction and results in a valuable product that is easy to handle, store, and use. The bottom line is that composting provides an environmentally sound, sustainable solution that can promote economic development and minimize the impact on City and Borough residential and commercial sewer rates.

TECHNOLOGY OVERVIEW

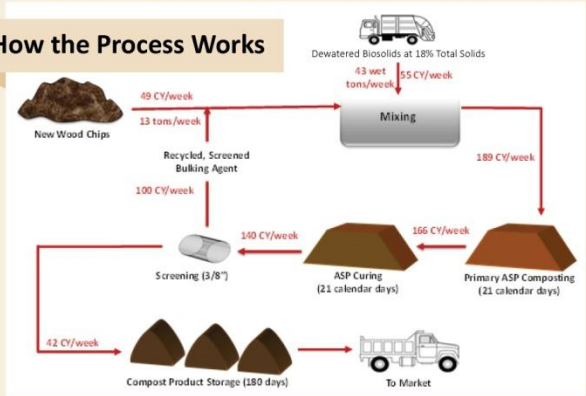
The composting process for the City of Kodiak Biosolids Composting Facility will be the aerated static pile (ASP).

- This is the most commonly used biosolids composting system in North America used at over 100 of the 260+ facilities that process biosolids;
- It is one of the lowest cost systems for biosolids composting;
- The system can be designed to minimize odors and other environmental impacts;
- The process complies with the EPA and ADEC regulations for Class A Exceptional Quality Biosolids;
- The product produced can, and has been, successfully marketed; and
- The City staff and contractor are familiar with the process. They have operated a Class B composting demonstration project permitted by ADEC for more than a year at the KIB landfill.

Site Plan



How the Process Works



PROCESS SUMMARY

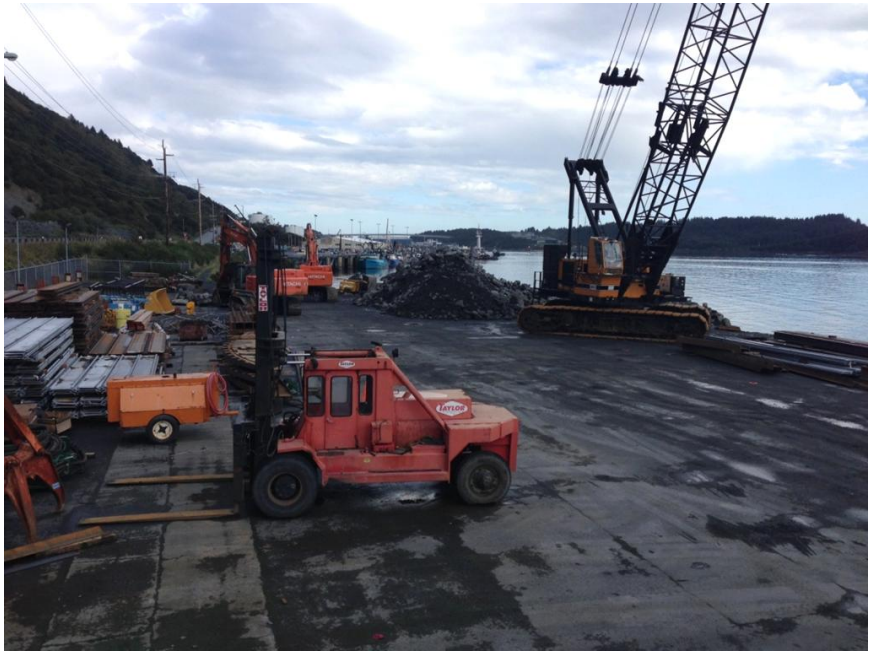
Dewatered biosolids is generated at the City of Kodiak Wastewater Treatment Plant. Dewatered cake will be dumped within a 3-sided bunker in the mix and receiving building as shown on the Site Plan. Mixing of dewatered cake and wood chips will be conducted inside the mixing building using a stationary batch mixer. The initial mix will be moved with an elevating conveyor into a covered three-sided bin for pick-up by front-end loader for transfer to the composting bins.

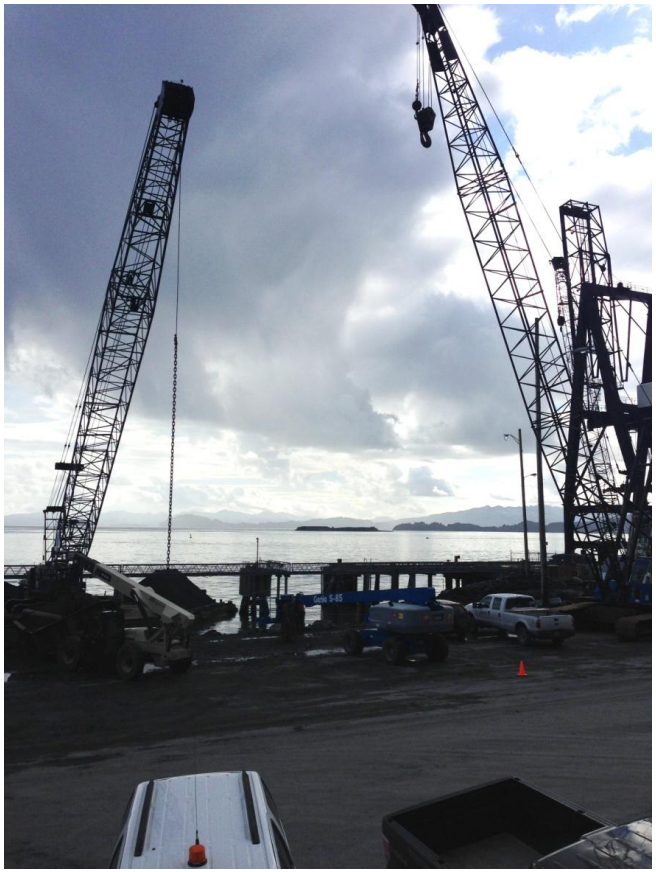
Composting will occur in three covered compost bins. The bins will have an asphalt pad upon which two perforated plastic pipes and associated fan will be placed to provide aeration for process and odor control. A 21-day retention time will comprise the active composting phase of the operation. Three additional bays of equal size are provided to allow three weeks of additional curing under aeration. One fan will be provided for each bin. Aeration will be continuous for the duration of the composting process. Screening of the finished compost will be done using a portable screen to recycle wood chips into the process and produce a high quality compost product.

Pier III Replacement

- Project status report submitted by Arcadis for September 2014
- Barge loading at Near Island quarry
- In-water earthwork fill complete
- Sheet pile installation in progress
- First barge delivery of piles and structural steel expected end of September
- Pipe pile installation expected to start October 2014
- Winter construction should progress well as most work will be done from land based cranes and equipment
- Expected completion summer 2015. The finalized delivery schedule will be evaluated near the end of this year

Pier III Replacement

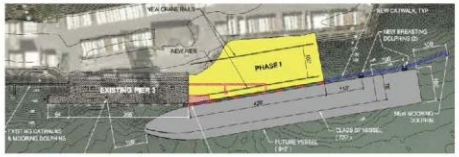




- Construction staging area (above left)
- Crane staging for sheet pile installation (above)
- Crane loading rock box for fill placement (left)

Kodiak Pier III

PROJECT STATUS UPDATE
JUNE-AUGUST 2014



Project Update

Material Production - The Pier III Replacement Project requires a large amount of off-site material fabrication and production. Over 95% of the classified fill, riprap and armor stone has been developed. The granite armor stone is being produced at Shakmanof Cove quarry on Kodiak Island with the balance of the material from the BR Fish Near Island quarry. Pier superstructure materials are being fabricated, primarily in the Pacific Northwest/ Washington area. Completed beams, flanges, full length piles, pile caps, fenders, dolphins, catwalks, and pre-cast panels are being consolidated in a Seattle transportation yard. There are a number of very large and complex shapes being built that will be further bolted and welded together on site. The beam assemblies are being fit up and then disassembled to reduce potential for field adjustments.Fabrications are typically being galvanized or metalized prior to shipping. The first fabricated materials barge is scheduled to leave Kodiak at the end of September. The balance of fabricated construction materials will be shipped in December. All owner-supplied pipe pile has been received and is at the fabrication shops.

Bullrails welded to perimeter and end plates on cap.

Construction– Pacific Pile & Marine (PPM) is about 85% complete with the in-water Type C underlayment fill material being used to raise the grade seaward of the sheetpile. This material is being placed below the riprap and armor stone. About 4500 tons of Type C material is remaining. Production is going slower than expected. Materials are being barged from Near Island to the pier. Initial excavation for the upland sheetpile installation has been completed. Sheetpile installation is scheduled to start the 2nd week of September. Equipment mobilization has occurred.

KEA Flywheel – The City Council approved the KEA easements for the Gibson Cove flywheel and Pillar Mountain power lines on August 28th. The Ordinance will go into effect about October 4th. The preliminary replat of the Gibson Cove site to align the travel way and the Right-of-Way (ROW) has been completed and will be submitted to the Borough.

Permits – Permitting is complete. USACE in-water permits have been received. City also received the water, storm drain and sewer permits from ADEC.

Achievements

- USACE and ADEC permits received
- Majority of armor stone, riprap and classified fill produced
- Majority of Type C in-water fill placed
- Heavy equipment mobilized
- Preliminary Gibson Cove replat completed

Future Milestones

- Deliver first fabricated materials barge
- Complete Type C Material Placement
- Start riprap placement
- Begin armor stone installation
- Start sheetpile installation

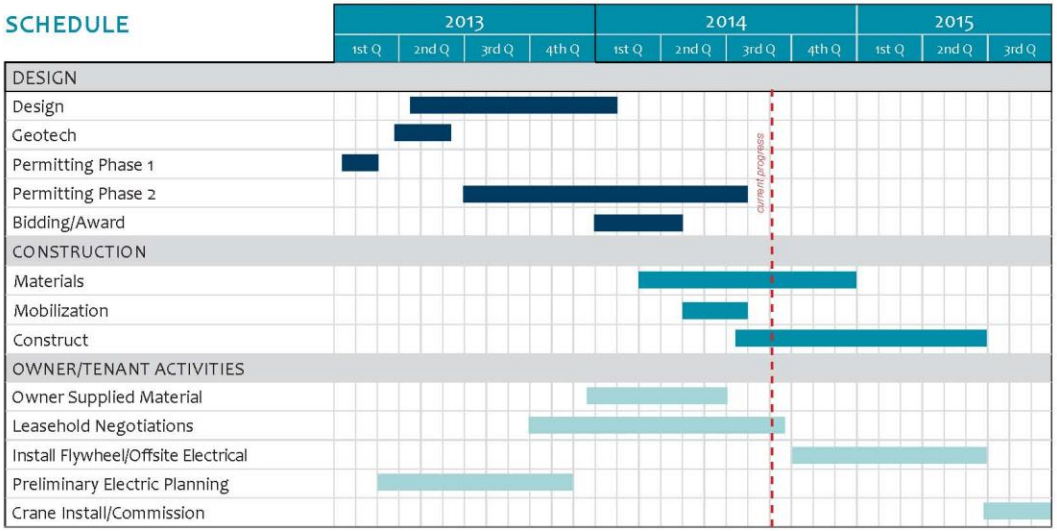
Galvanized fenders with UHMW panels waiting for metalizing on cap plate tops.

Splicing plates fit up on beams.

ARCADIS
Infrastructure · Water · Environment · Buildings

Project Contact: Roe Sturgulewski, ARCADIS, 907.276.8095
roe.sturgulewski@arcadis-us.com

SCHEDULE



BUDGET

	Draft Budget	Estimate at Completion	Committed (as of 8/31/14)	Spent (as of 8/31/14)
DESIGN				
Wave Modeling	$64,000	$64,000	$63,348	$63,348
Geotech	$348,000	$348,000	$347,683	$347,683
Survey	$31,000	$31,000	$30,600	$30,600
Design	$691,000	$691,000	$690,210	$690,192
Permitting	$111,000	$111,000	$110,155	$110,131
Const. Admin.	$1,000,000	$1,000,000	996,021	$403,341
Subtotal Design	$2,245,000	$2,245,000	$2,238,017	$1,645,294
ADMINISTRATION				
City	$50,000	$50,000	$34,454	$34,454
Professional Services	$625,000	$625,000	$623,509	$476,791
Legal	$20,000	$20,000	$8,938	$8,938
Other	$30,000	$30,000	$4,834	$4,834
Subtotal Administration	$725,000	$725,000	$671,735	$525,016
CONSTRUCTION				
Dock	$25,850,000	$25,850,000	$25,843,909	$5,519,543
Material	$2,800,000	$2,800,000	$2,796,897	$2,566,999
Mitigation	$32,000			
Subtotal Construction	$28,682,000	$28,650,000	$28,640,806	$8,086,543
CONTINGENCY	$1,915,445	$1,947,445		
TOTAL	$33,567,445	$33,567,445	$31,550,558	$10,256,853

Box beams for grids P25 and P26 waiting for fit-ups in yard.

PROJECT TEAM CONTACTS

CITY OF KODIAK
Glenn Melvin, City Engineer
907.486.8068

PND ENGINEERS
Kenton Braun, Project Engineer
907.561.1011

HORIZON LINES
Ken Gill, Alaska Director of Operations
907.263.5016

ARCADIS U.S., INC.
Roe Sturgulewski, Project Manager
907.276.8095

Pier III Replacement

- Barge loading from Near Island quarry (above)
- Typical barge weighing ticket (right)

P|N|D Engineers, Inc.
1506 W. 36th Avenue,
Anchorage, AK 99503
p. 907.561.1011

Barge Displacement Report

Job Name: Kodiak Pier 3 Replacement Job #: 111012 Barge Name: 180-2

Location Loaded: Near Island Weather: Overcast/Rain Date: 8/07/2014

Type of Material: Type C Report #: 002

Empty	8/7 2000	Loaded	8/7 1534

Empty		Loaded	
Bow		Bow	
9'6"	9'4"	3'4	2'1
Port 9.5	Starboard 9.33	Port 3.0	Starboard 2.08
Barge Name		Barge Name	
9'5" (837)		2'4" 2948	
Average Freeboard		Average Freeboard	
Average Draft		Average Draft	
9'3"	9'9"	2'7"	1'8"
Port 9.25	Starboard 9.75	Port 2.58	Starboard 1.67
Stern		Stern	

Notes: Loader, piles, tires Ramp Up — Loader, piles, tires Ramp Up

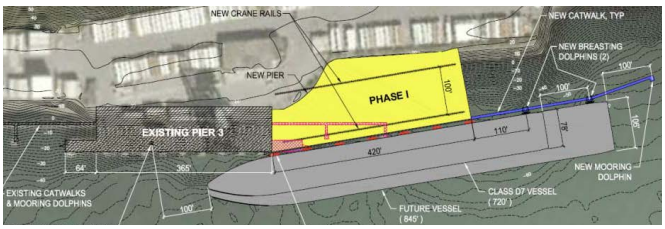
Total Tons Loaded Based on Displacement: 2109

Monashka Pump House Facility

- February 2013 Council approved preliminary design contract amendment with CH2M Hill Engineers
- October 2013 Council authorized full design of the new pump house
- January 2014 CH2M Hill Engineers submitted 50% design drawings
- Late February 2014 CH2M Hill Engineers submitted 95% design drawings
- April 22, 2014 Council authorized award of Bid Package A to ASRC SKW Eskimos Inc. for "yard piping"
- May 22, 2014 Council authorized award of Bid Package B to ASRC SKW Eskimos Inc. for new pump house
- Current schedule predicts substantial completion mid-December 2014, then winter shut down and old building demolition in spring 2015

Kodiak Pier III

PROJECT STATUS UPDATE
JUNE-AUGUST 2014



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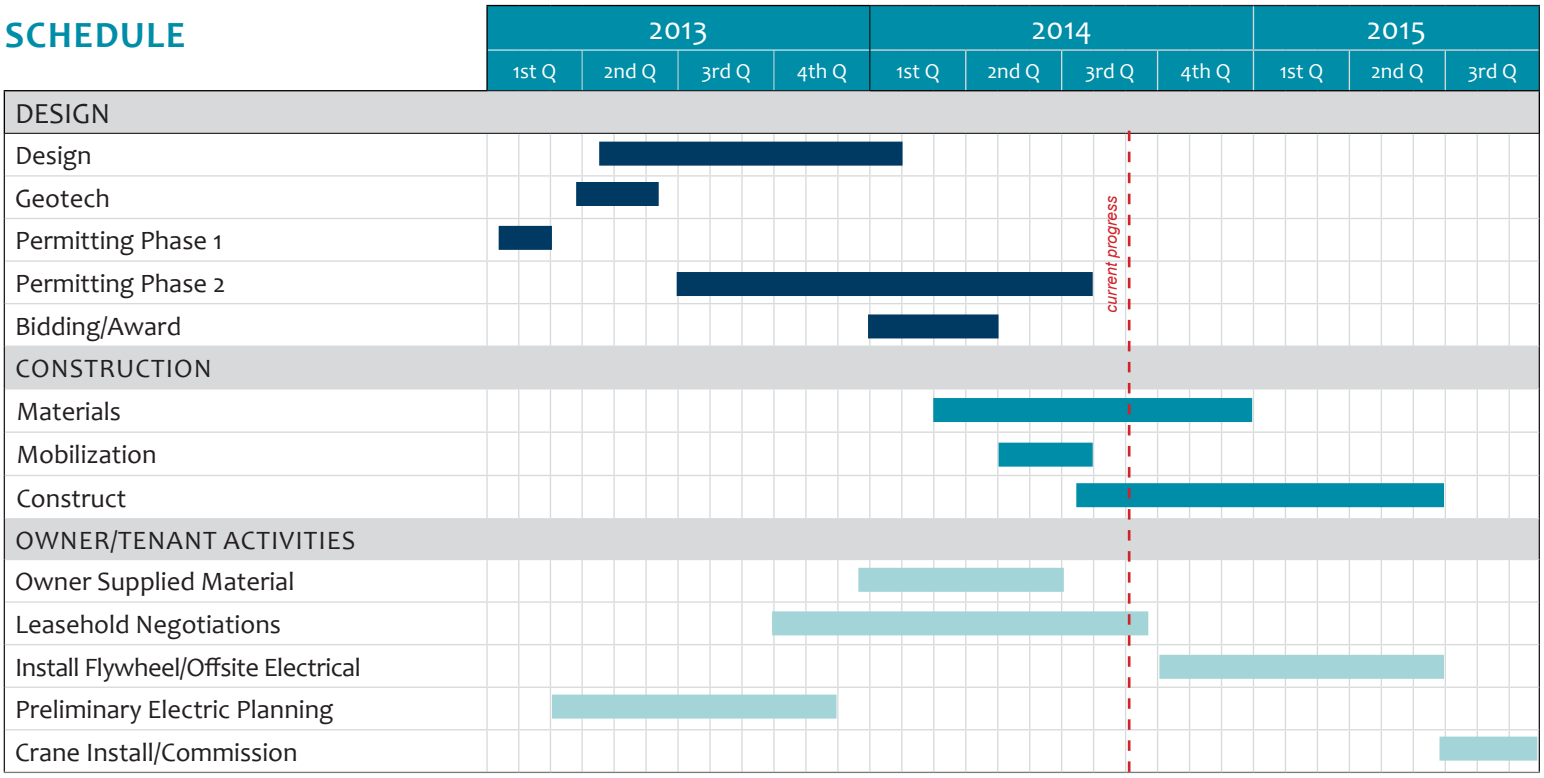

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