



City of The Dalles Wastewater Treatment Plant Upgrade

City Council Work Session

November 21, 2016

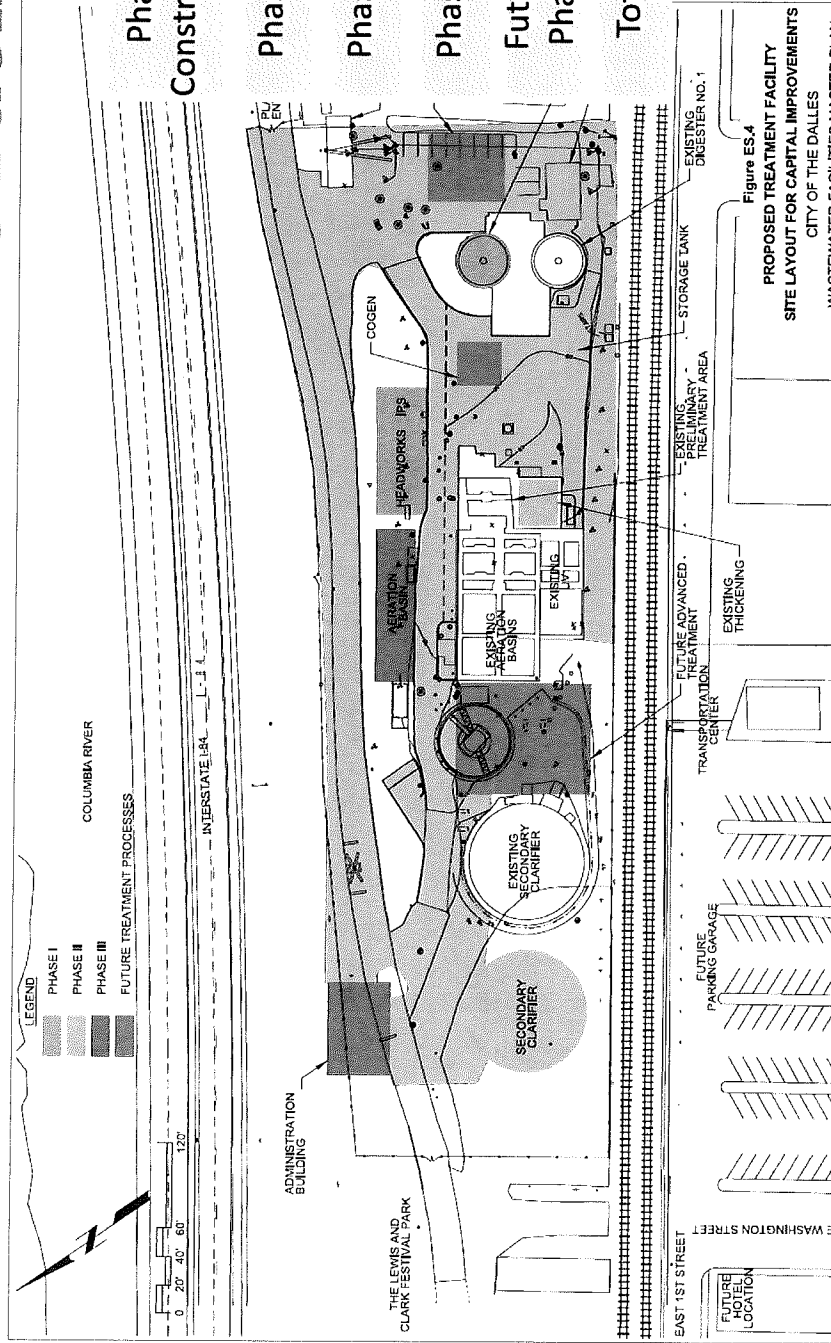


Kennedy/Jenks Consultants

Agenda

- Where we started – 2013 Facilities Plan
- Where we left off – Alternative 3D Carbon Diversion
- Current project status
- Review equipment selection and pricing
- Review challenges discovered during design
- Current GMP status
- Next Steps

Where we started- 2013 Facility Plan



Phase Construction	2013 Facility Plan	Current Estimated Plan
Phase 1	\$4.88	\$7.80
Phase 2	\$3.38	\$4.73
Phase 3	\$4.73	\$5.17
Future Phase		
Total	\$12.99	\$17.70

Where we left off – *Alternate 3D*

- Proceed with Alternative 3D including Carbon Diversion
 - Estimated project cost: \$8,732,000
- Update Facility Plan and Submit to DEQ – complete
- Further define outside funding sources
 - Target \$750,000
 - DEQ, ODOE, ESI
- Regional Feedstock Study near completion
 - Local feedstocks available
 - 6000 gallons/week FOG nearly doubles gas production

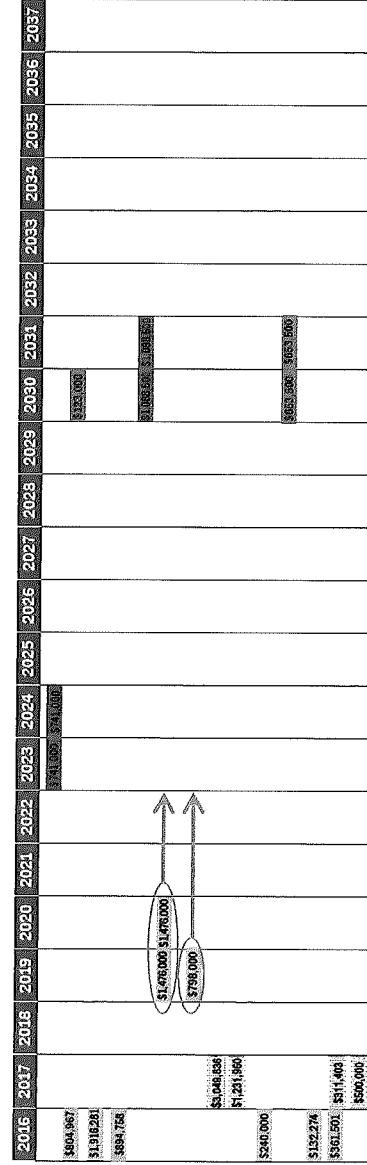
Alternative 3D – Carbon Diversion



Summary of Phases	
Phase 1A	\$4,349,781
Phase 1B	\$4,593,200
Phase 2	\$3,750,000
Phase 3	\$1,482,000
Future Phase	\$3,607,000
Total	\$17,780,000

Phase 1B cost excludes Optional Feed Stock

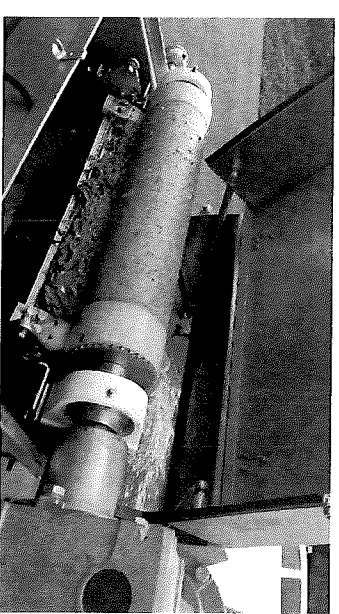
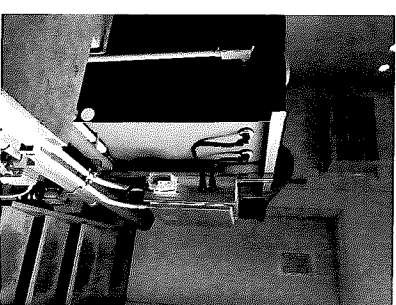
**Site Improvements -
Alternative 3D
Carbon Diversion**



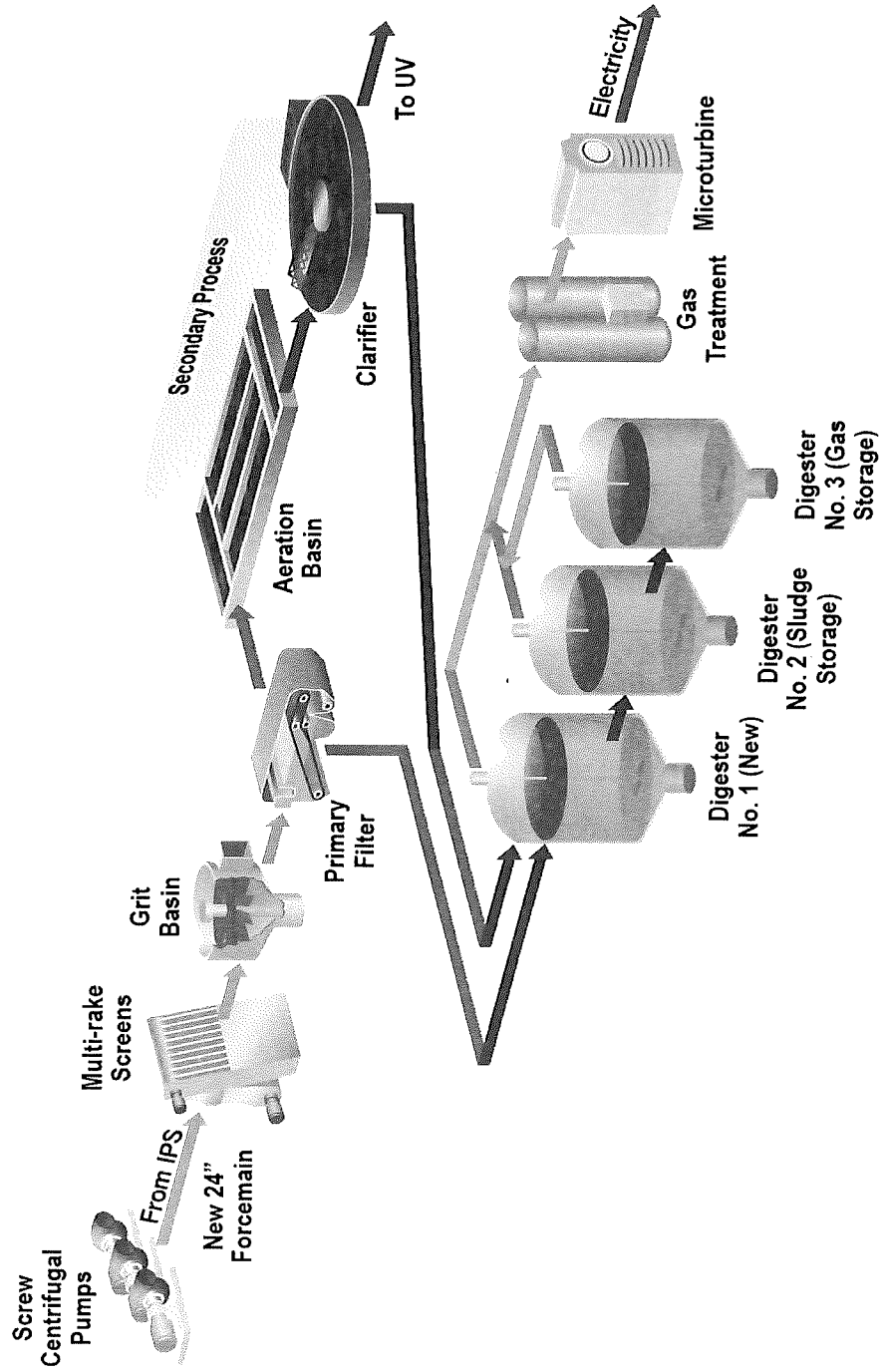
in
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Benefits of Carbon Diversion

- “Flip” WWTP Economics
 - Make Energy instead of use it
- Delays \$2.2M Aeration Basin Expansion to ~2030
- Potential to accept outside feedstocks
 - Revenue from Tipping Fees
 - 6000 gallons/weeks nearly doubles gas production
- Potential Outside Funding



WWTP Process Flow



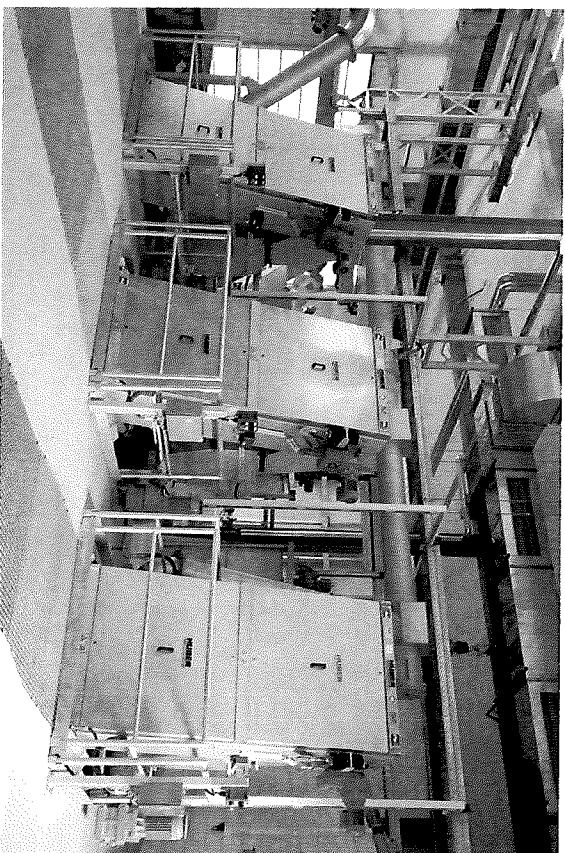
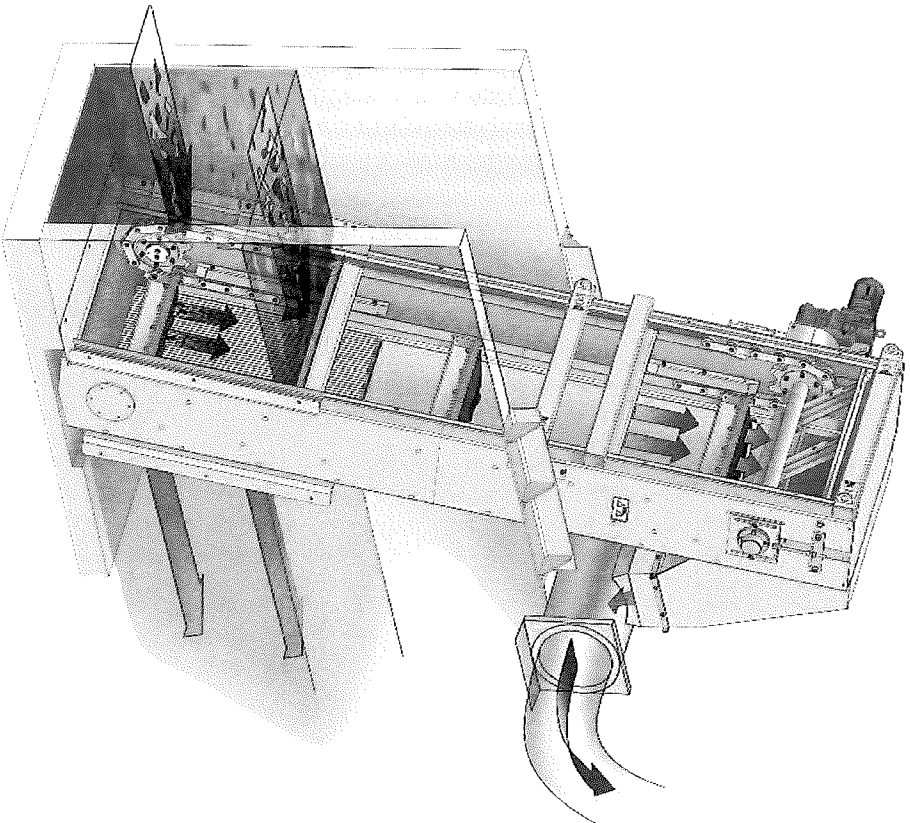
Current Project Status

- Facility Plan and 80% Design are complete
- Finalizing GMP pricing
- Working on outside funding
 - Energy Smart Industrial: \$25,000 to \$50,000
 - DEQ SRF Loan Forgiveness: \$300,000 (NET)
 - ODOE CHP Tax Credits: ~\$500,000
- Awaiting Regional Feedstock Study
 - Near completion
 - Local feedstocks available
 - 6000 gallons/week FOG nearly doubles gas production
 - Add FOG Receiving Station ~\$500,000

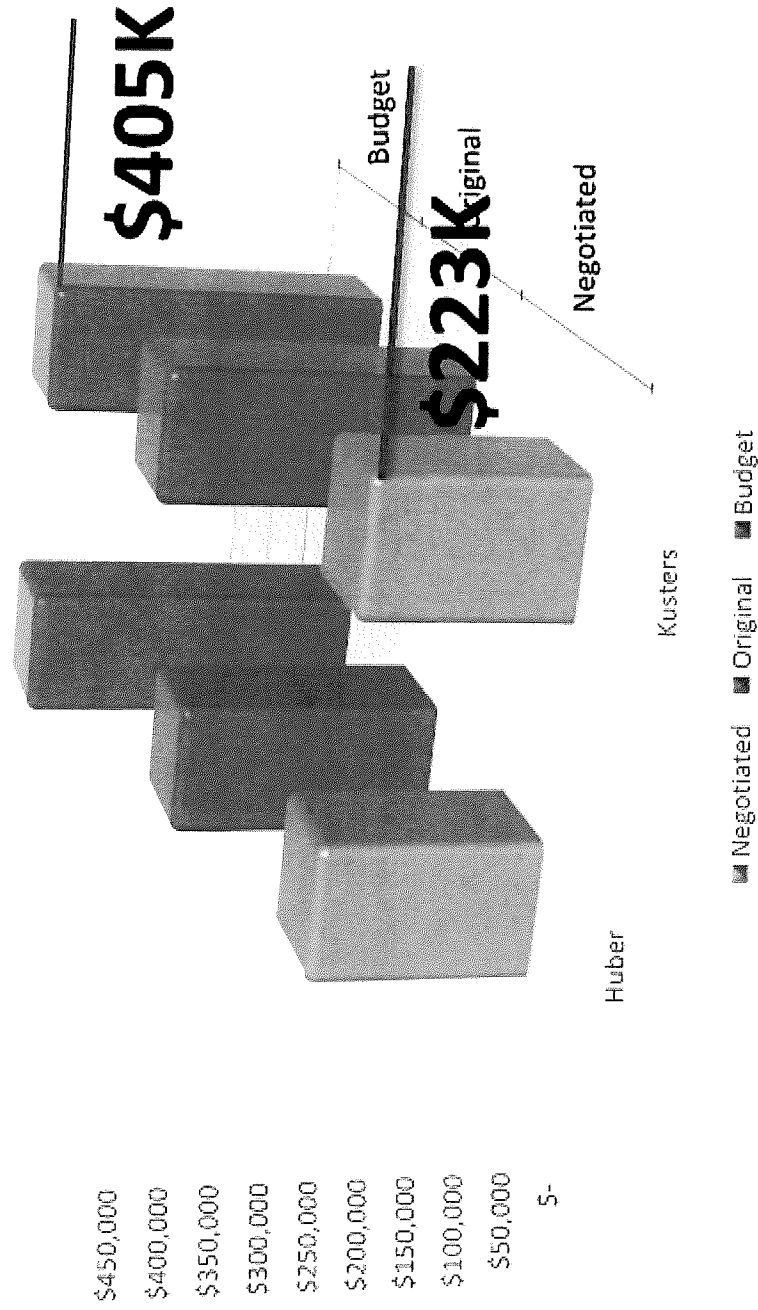
Equipment Pricing Review

- Power of the Progress Design-Build process
 - Allows for negotiated equipment pricing
 - Best Value
- Two Examples
 - Headworks Screens
 - Primary Filters

Multi-Rake



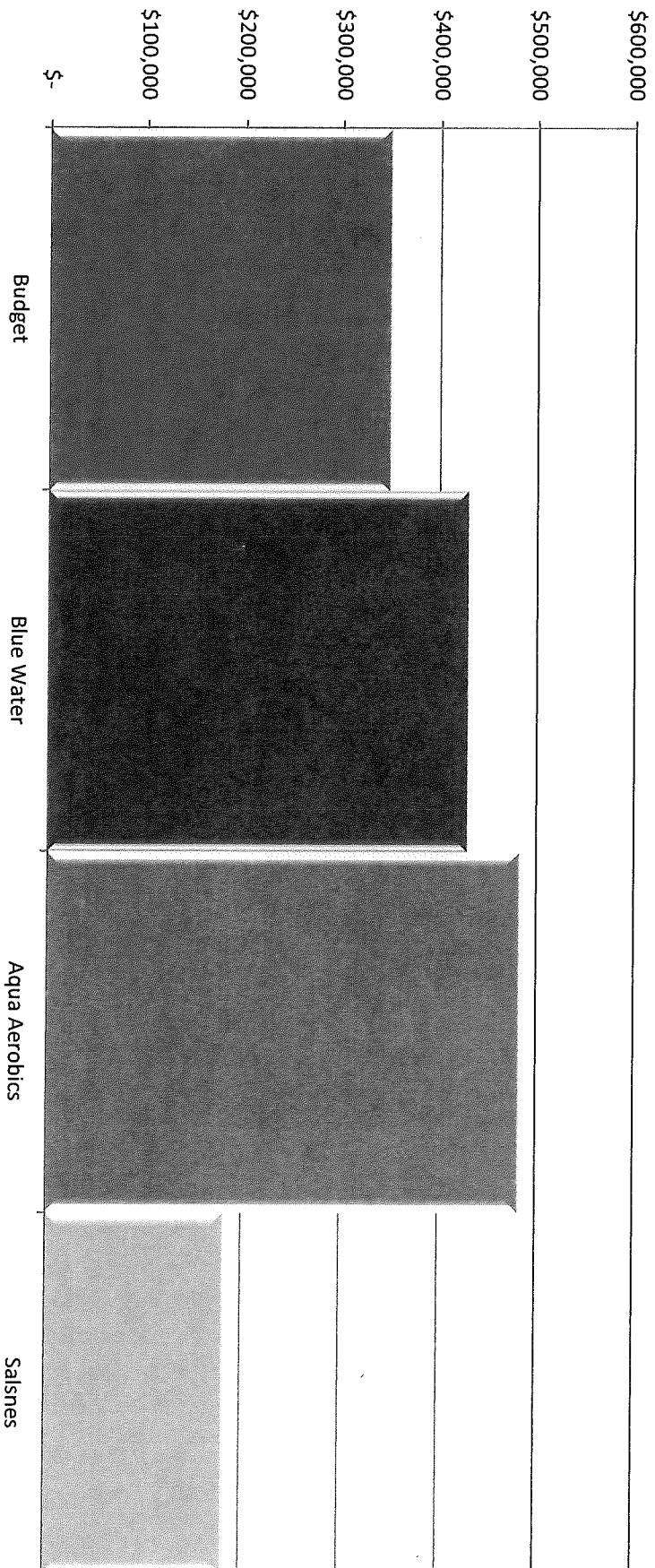
Multi-Rake Screens Quote Reduction



5-

Primary Filter Quote Packages

Primary Filters



Equipment Pricing Summary

Equipment Item	Cost
Initial Equipment Budget	\$1,810,690
Negotiated Equipment Pricing	\$1,524,507
Total Savings	\$286,183

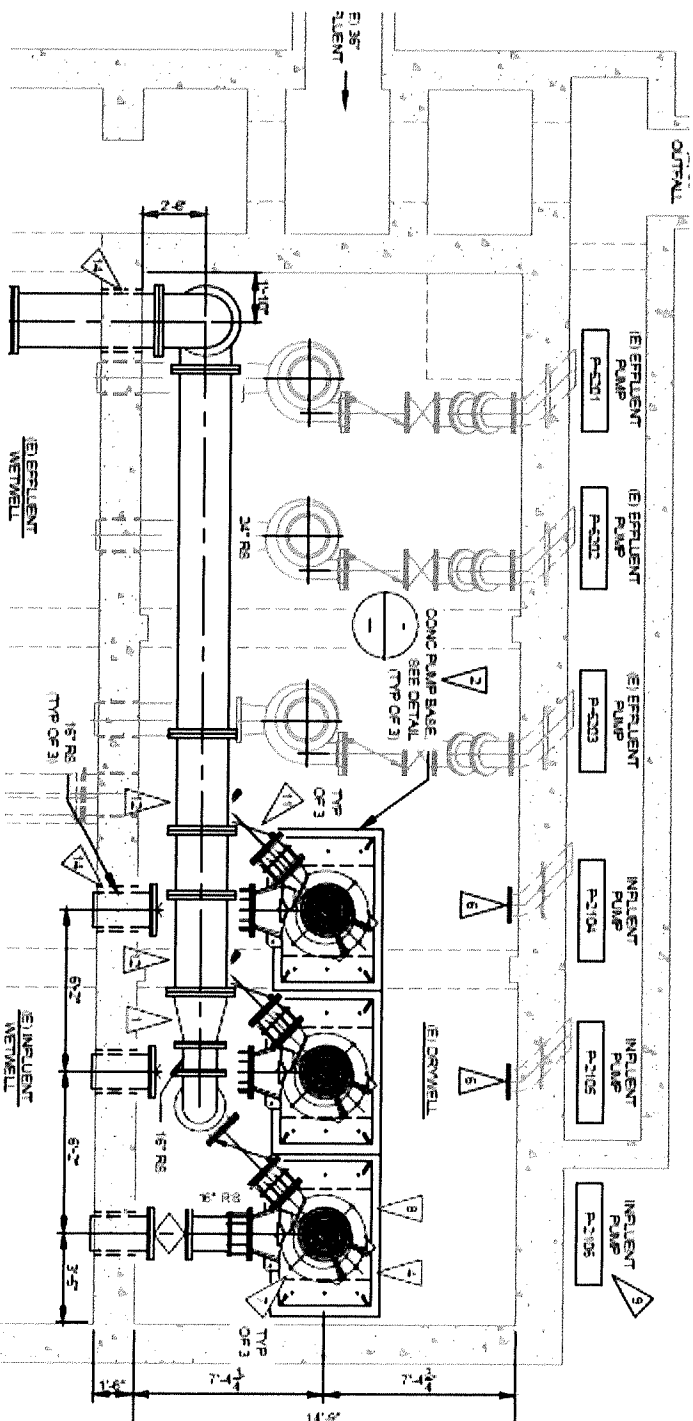
Other Benefits of the PDB Process

- Reduces cost of overall program
- Utilized equipment vendors in design to save \$\$
- Other Cost Savings
 - Electrical Contractor Quotes
 - I&C Contractor Quotes
 - Concrete pricing
- Committed to using local Contractors
 - East Cascade Electric
 - Hood River Sand and Gravel
 - Crestline Construction

Major Design Challenges

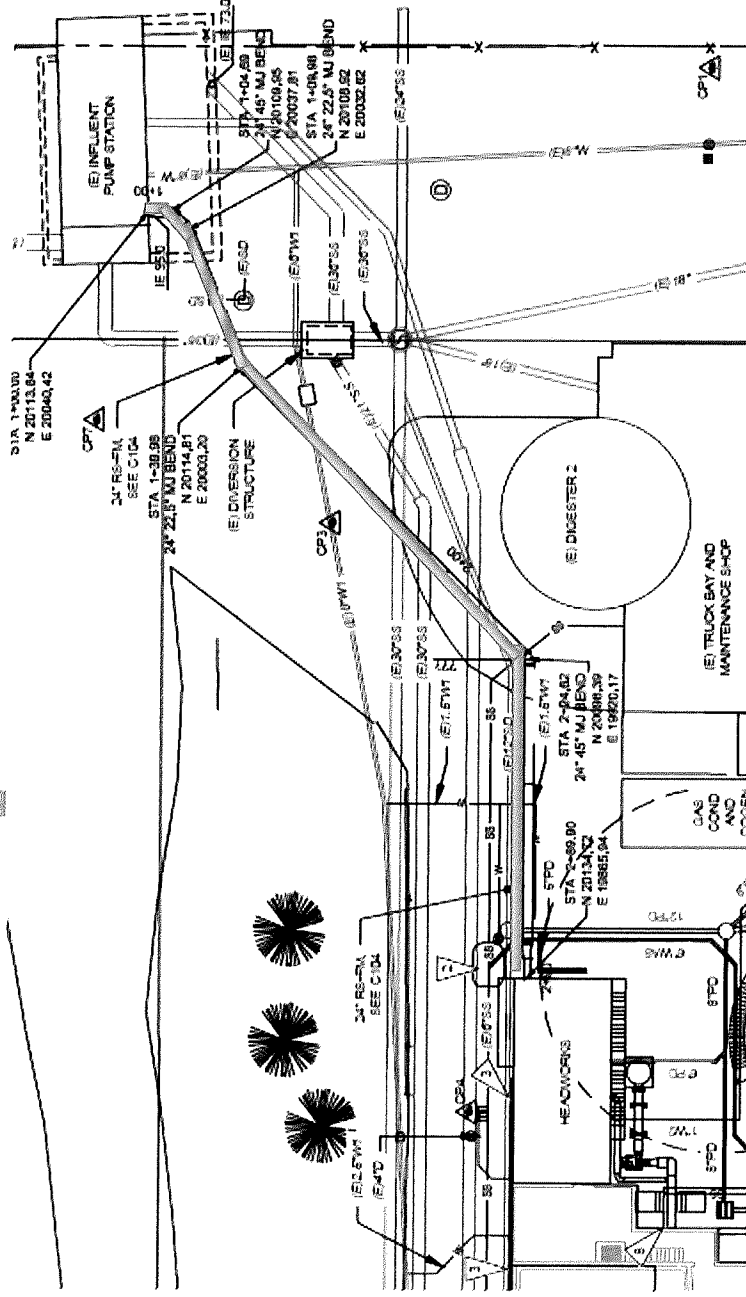
1. IPS Piping and HVAC
2. Existing force main from IPS to Headworks
3. Headworks and Primary Filter layout
4. Headworks Electrical Room
5. Existing Standby Generator sizing

1. IPS Piping and HVAC



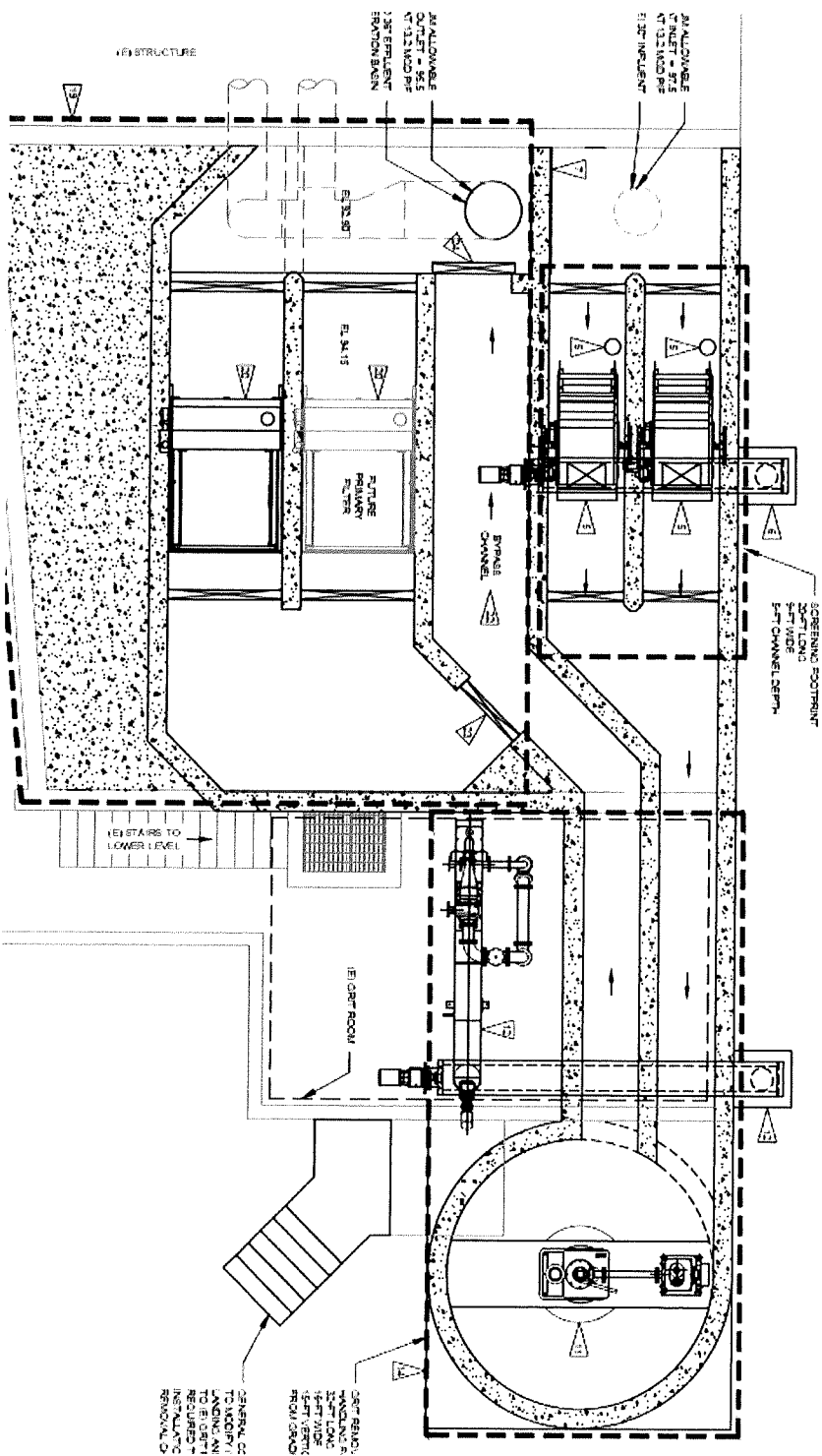
Additional Cost: \$332,000

2. Force Main Replacement

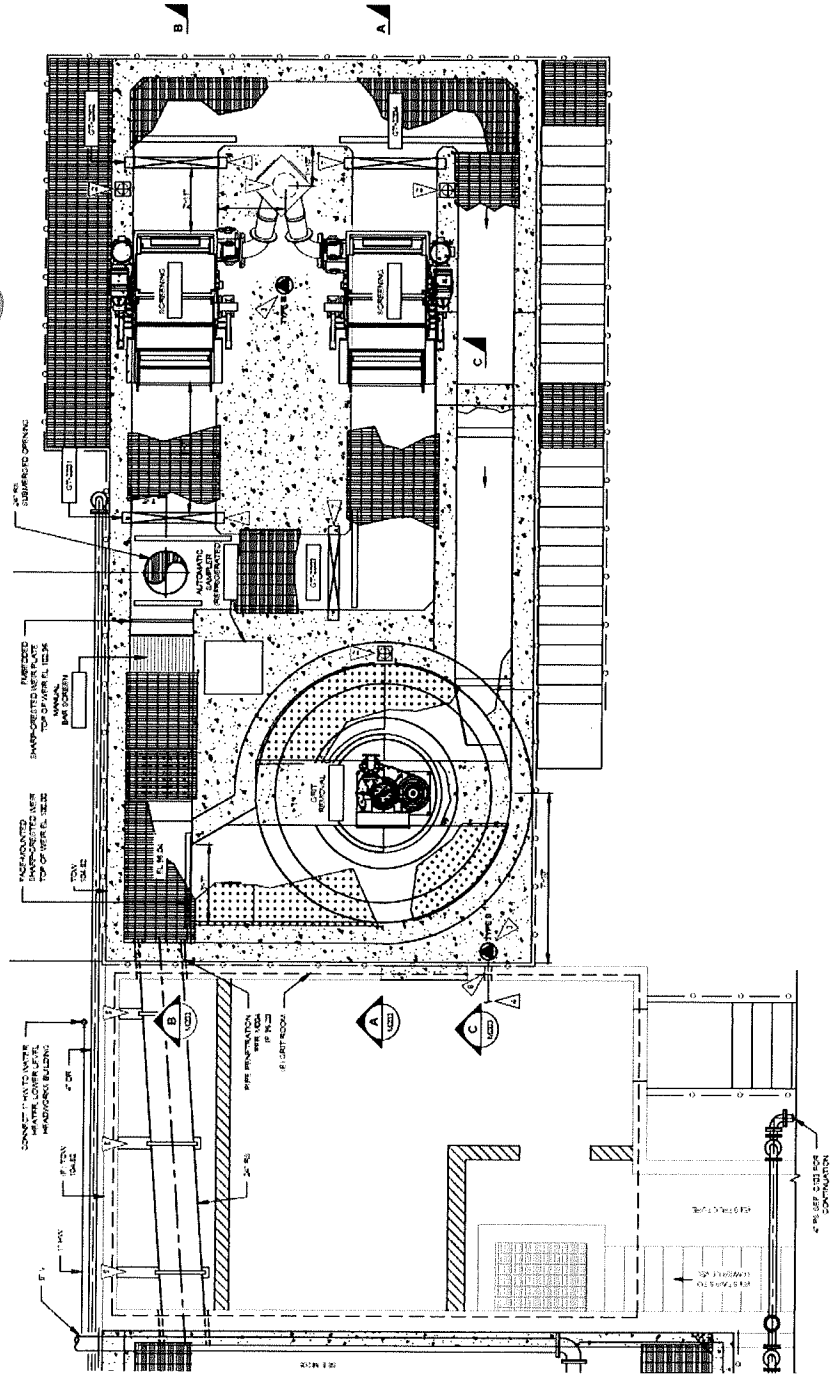


Additional Cost: \$197,000

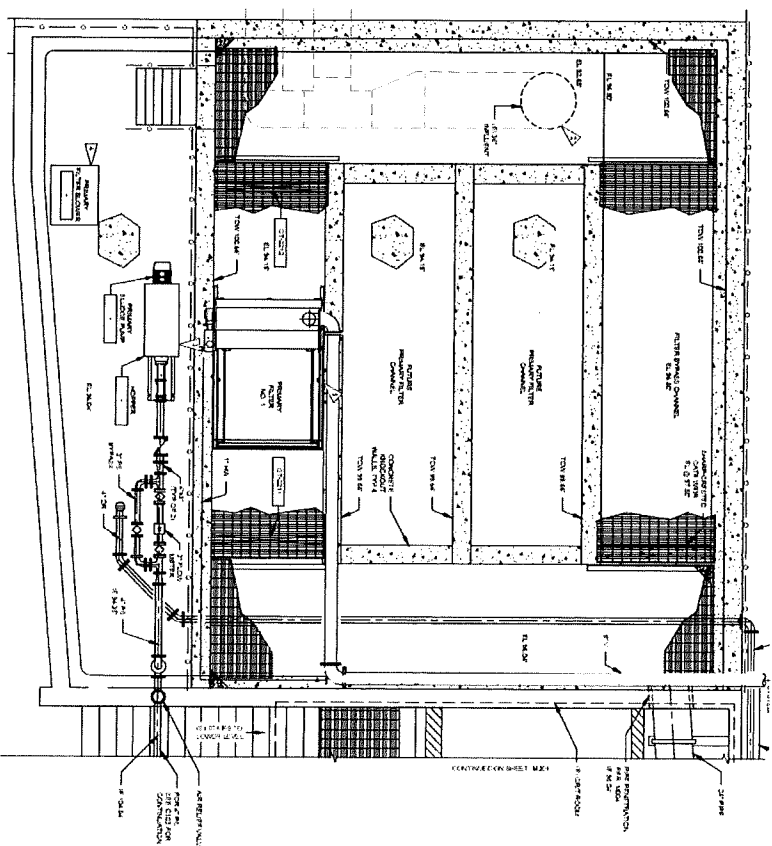
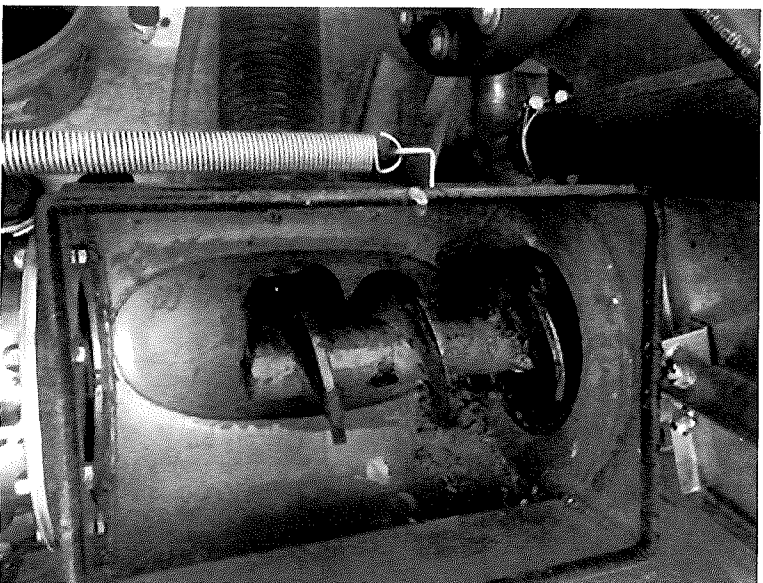
3. Original Headworks Concept



3. Current Headworks Design

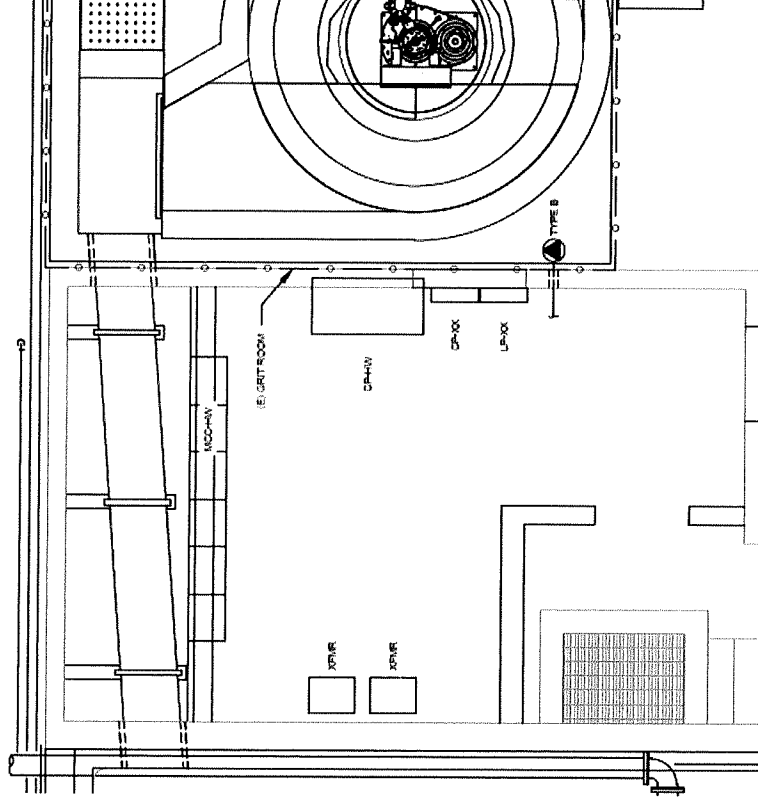


3. Current Primary Filter Design



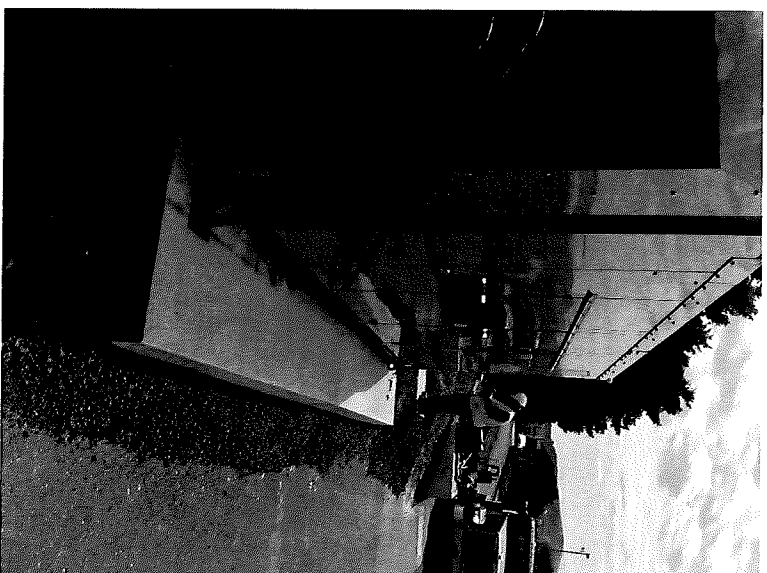
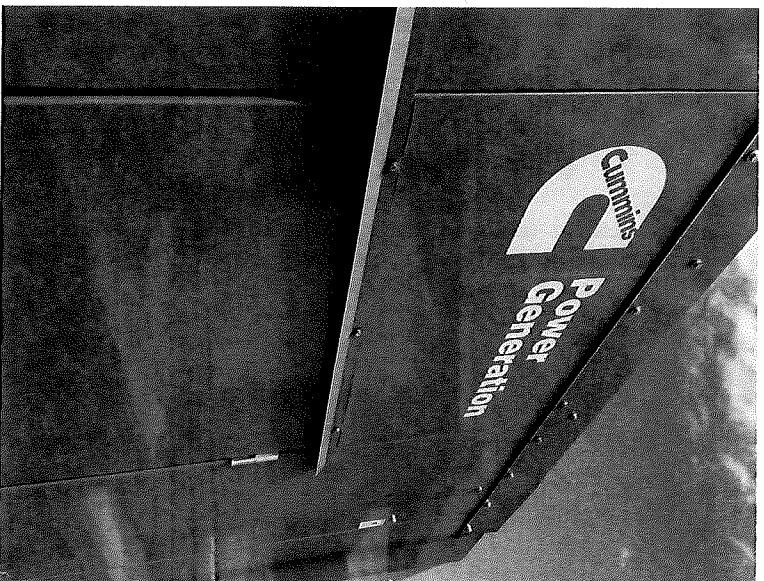
Additional
Cost: \$620,000

4. Headworks Electrical Room



Additional Cost:
\$240,000

5. Existing Standby Generator Sizing



Additional Cost:
\$251,000

Major Additional Cost Items

Item	Cost
IPS Piping and HVAC Modifications	\$332,000
New Force Main from IPS to Headworks	\$197,000
Headworks and Primary Filter Design	\$620,000
Headworks Electrical Room	\$240,000
New IPS Standby Generator	\$251,000
Total – Major Additional Cost Items	\$1,640,000

Guaranteed Maximum Price (GMP)

Item	Cost
Influent Pump Station and New Force Main	\$1,508,415
Headworks (Screens and Grit Removal)	\$2,951,071
Carbon Diversion (Prim. Filter/Cogen)	\$1,751,397
New Digester and Exist. Digester Mods	\$2,433,536
Site Work	\$990,081
Phase 1A/Phase 1B Preconstruction Services	\$1,022,274
Sub-Total	\$10,656,776
Design-Build Contingency	\$529,366
Total Design-Build GMP	\$11,186,143

Note: GMP under final development

Outside Funding Opportunities

1. DEQ CWSRF Program
 - Up to \$500,000 Loan Forgiveness for Cogen Projects
 - Would need to “federalize” entire project
 - \$200,000 in additional costs (SRF documentation)
 - Potential challenges with schedule and permitting
2. Oregon Dept. of Energy CHP Tax Credits
 - Could provide \$500,000 or more in outside funding
 - Sell 35% tax credits at up to 90% of face value
 - Requires Cogen completion by Dec. 2017
3. Energy Smart Industrial Incentives
 - Estimate \$25,000 to \$50,000 in outside funding
 - Working with ESI final incentive calculations

Considerations

1. If choose to pursue DEQ loan forgiveness need to submit application by 12/9/2016.
 - Plan to submit application to preserve opportunity
2. If/when to build FOG Receiving Station?
 - Improves Cogen economics and increases potential for outside funding
 - Feedstocks available locally, but need further evaluation
 - Could be considered if Project has unused Contingency

Next Steps

1. Prepare Final GMP
2. City Council presentation 12/12/2016
3. Finalize Phase 2 Contract in Dec. 2016
4. Groundbreaking in January 2017
5. Finalize design in Q1 2017
6. Substantial completion ~ Dec. 2017

Questions/Discussion

