# Summary on Funding of Capital Improvement Projects for Water, Wastewater, & Sustainable Water Facility (SWF)

Prepared for July 11, 2018 Special Board

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# Background

- Listing of CIP projects was developed to identify investment needs over multiple years to coordinate with financing & timing of projects
- Projects were identified based on discussions with operating staff over several years, as well as during earlier meetings with the Ad-hoc infrastructure committee
- Discussed during past standing Infrastructure Committee meetings.
- The purpose of this presentation is to provide a brief overview of the proposed capital improvements for Water, Wastewater, and the SWF, with an emphasis on which projects would not be completed without additional funding.

# Priority Levels Shown on Lists

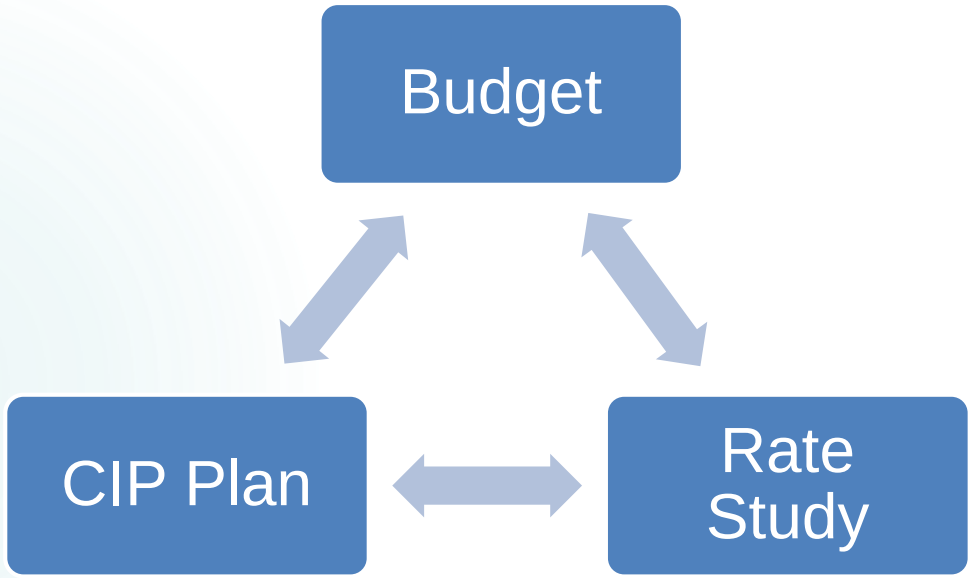
- Four priority levels shown with subtotals for each year.
- Level 1 is highest, level 4 is lowest.
- Project lists and priorities assigned are subject to future revision.
- Level 1 projects are the most urgently needed, often mandated by a law, regulation, or safety need.
- Level 2 projects are generally needed to improve operational efficiencies that will save on costs, including labor. May include replacing worn out equipment.
- Level 3 projects conserve or protect assets.  May enhance reliability, have a lower return on investment/take more years to pay back.
- Level 4 projects are more anticipatory, future projected needs.  (There are no level 4 projects.)

# Abbreviations Used within Project Lists

- BNR – biological nutrient removal
- CIP - Capital Improvement Program/Capital Improvement Project
- CVs – control valves
- DO – dissolved oxygen
- FY – fiscal year
- MCC – motor control center
- PS  - pump station
- SCADA – supervisory control & data acquisition
- WW – wastewater
- WWTP – wastewater treatment plant

# Overall Process

Coordination required between annual budgeting, rate study, and CIP planning



# From Rate Study Analysis

- Water:
  - Future Capital Expenses totaled $5.7 million (2nd Half FY18/19 though FY 27/28)
  - Equivalent Annual Cost of $5.7 million equates to approximately $580,000 per year
  - Three Bartle Wells Scenarios Identified

| Scenario 1 | CIP Funding | Projects Covered |
|---|---|---|
| Front-load | $700,000/year | All Projects |
| Phased Approach | $400K, 600K, then 700K | All projects, except FY 20/21 – FY22/23 will need to delay priority 2 & 3 projects |
| Reduced Phase | $300K, 400K, then 500K | All projects, except FY 19/20 – FY 22/23 will need to delay priority 2 and 3 projects. |

# Water

| No. | Description | FY 18/19 - 1st half | FY18/19 - 2nd half | FY19/20 | FY20/21 | FY21/22 | FY22/23 | FY23/24 | FY24/25 | FY25/26 | FY26/27 | FY27/28 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | $ | $ | $ | $ | $ | | | | | | |
| | Annual Inflation (Percentage) | | 3% | 3% | 3% | 3% | 3% | | | | | | |
| | Cumulative Inflation (Percentage) | | 109% | 113% | 116% | 119% | 123% | | | | | | |
| | ***Water Distribution System Projects*** | | | | | | | | | | | | |
| 1 | Water Master Plan Amendment (revised fire flow modeling/tank sizing check) | | | $ 35,000 | | | | | | | | | $ 35,000 |
| 2 | Stuart Street Tank Replacement (125K gallon welded steel tank with new foundation) | | | | | | $ 458,000 | | | | | | $ 458,000 |
| 3 | Water pipelines, pumps, and PRV repairs and replacements | | $ 25,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 475,000 |
| 4 | Piney Way erosion control protection for existing pipeline | | | $ 10,000 | | | | | | | | | $ 10,000 |
| 6 | Study & predesign for pipeline in State Parks wetlands | | | $ 30,000 | | | | | | | | | $ 30,000 |
| 7A | Inspection & spot repair to water transmission main under S. Parks wetlands area; or do 7B | | | | $ 80,000 | | | | | | | | $ 80,000 |
| 7B | Lining of transmission main under S. Parks wetlands area (alt to relocate ~ $612K to $1.16 million), or do 7A | | | | $ 50,000 | $ 150,000 | $ 816,000 | | | | | | $ 1,016,000 |
| 8 | Pressure zone 2 to zone 7 transmission main @ SR Creek pedestrian bridge | $ 50,000 | $ 70,000 | | | | | | | | | | $ 120,000 |
| 9 | Subzone metering of distribution system | | | $ 50,000 | $ 50,000 | $ 50,000 | | | | | | | $ 150,000 |
| 10 | Pine Knolls - Iva Court zone 1 pipeline expansion | | | | $ 40,000 | $ 125,000 | | | | | | | $ 165,000 |
| 11 | Replacement of problematic service lines within Leimert | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 100,000 |
| 12 | Water Meter Replacements & Upgrades | $ 50,000 | | $ 200,000 | $ 200,000 | $ 200,000 | $ 200,000 | $ 200,000 | | | | | $ 1,050,000 |
| 13 | Annual GIS updating & upgrades | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 100,000 |
| 14 | Valve Replacements | $ 10,000 | $ 10,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 20,000 | $ 200,000 |
| 15 | Replacement of problematic service lines within Leimert | $ 40,000 | | | | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 100,000 |
| | ***Water Treatment*** | | | | | | | | | | | | |
| 16 | Electonic self monitoring reporting program (yr 1 is software + consulting, yrs 2 + are annual tech support) | | $ 10,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 1,000 | $ 19,000 |
| | ***Tank & Booster Pump Station Projects*** | | | | | | | | | | | | |
| 17 | Rodeo Grounds Pump Station Replacement (aka Zone 2 Booster pump station) | $ 15,000 | $ 10,000 | $ 101,000 | $ 500,000 | $ 400,000 | | | | | | | $ 1,026,000 |
| 18 | SCADA System - Long-term Water Portion | | $ 10,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | | | | | | $ 210,000 |
| 19 | Electrical transfer switch and conduit to well SS-3 | | | $ 25,000 | | | | | | | | | $ 25,000 |
| 20 | San Simeon well field generator replacement | | | | $ 100,000 | | | | | | | | $ 100,000 |
| | ***Water conservation*** | | | | | | | | | | | | |
| 21 | Database for water conservation program/tracking with parcel links & APN file conversion | | $ 10,000 | $ 10,000 | | | | | | | | | $ 20,000 |
| | ***Vehicles & Trailer Mounted-Equipment*** | | | | | | | | | | | | |
| 22 | Replacement Dump Truck (76 K purchase with 6 yr loan @ 5% assumed) | $ 13,000 | $ 13,000 | $ 13,000 | $ 13,000 | $ 13,000 | $ 13,000 | | | | | | $ 78,000 |
| 24 | Trailer Mounted Air Compressor | $ 22,700 | | | | | | | | | | | $ 22,700 |
| 23 | Trailer mounted, small capcity vactor | $ 48,000 | | | | | | | | | | | $ 48,000 |
| 24 | Vehicle Replacement Program | | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 250,000 |
| | ***Overhead Projects*** | | | | | | | | | | | | $ - |
| 25 | Finance/billing software upgrade (water est'd @ 50%) | | $ 50,000 | $ 25,000 | | | | | | | | | $ 75,000 |
| 26 | Contingency/reserves (amount remains TBD) | | | | | | | | | | | | $ - |
| 27 | User Fee study (water rates portion) | | | | | | | | | | | | $ - |
| | | $248,700 | $ 253,000 | $ 665,000 | $ 1,199,000 | $ 1,104,000 | $ 1,663,000 | $ 326,000 | $ 126,000 | $ 126,000 | $ 126,000 | $ 126,000 | $ 5,962,700 |

# Projects that would require financing unless delayed until funds accrued

- Water
  - Rodeo Grounds Pump Station Replacement: push back 3 to 4 years
  - Stuart St. Tank Replacement: push back 2 to 3 years
  - **Water Meter Replacements**: cut in half and spread out over 5 additional years

# From Rate Study Analysis

- Wastewater
  - Future Capital Expenses totaled $8.7 million (2nd Half FY18/19 though FY 27/28)
  - Equivalent Annual Cost of $8.7 million equates to approximately $890,000 per year
  - Three Bartle Wells Scenarios Identified

| Scenario 1 | CIP Funding | Projects Covered |
|---|---|---|
| Front-load | $800,000/year | All Projects, with deferral of certain lift station and WWTP replacement/ upgrades to LS B-1, aeration, blowers, DO controls, tank baffles & manhole repairs |
| Phased Approach | $300K, 500K, then 800K | All projects, except FY 20/21 – FY22/23 will need to delay priority 2 & 3 projects |
| Reduced Phase | $150K, 400K, then 600K | All projects, except FY 19/20 – FY 22/23 will need to delay priority 2 and 3 projects. |

# Wastewater

| Line/Project No. | | | Projected | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1st Half FY18/19 | 2nd Half FY18/19 | FY19/20 | FY20/21 | FY21/22 | FY22/23 | FY23/24 | FY24/25 | FY25/26 | FY26/27 | Total |
| | **Wastewater Projects** | | | **Dependent on Proposed** | | | | | | | | | |
| 14 | Plant non-potable SW improvements & non-potable sprays for screw press | 1 | | | $ 15,000 | | | | | | | | $ 15,000 |
| 15 | Improve grit tank hydraulic capacity (placeholder, insert approx $10K cost if needed) | 1 | | | | | | | | | | | $ - |
| 16 | Repair or replace protective surge tank for plant effluent pipeline | 2 | | | $ 25,000 | | | | | | | | $ 25,000 |
| 17 | Long-term plant upgrades - new sludge digester, flow equalization improvements, denite/phosphorous remov | 3 | | | | $ 250,000 | $ 250,000 | $ 250,000 | $ 250,000 | $ 250,000 | $ 250,000 | | $ 1,500,000 |
| 18 | Demo and remove old flow equalization tanks in SW corner of plant | 3 | | | $ 40,000 | | | | | | | | $ 40,000 |
| 19 | Replace effluent pump (southern pump) | 1 | | $ 25,000 | | | | | | | | | $ 25,000 |
| 20 | Annual electrical & instrumentation improvements | 2 | | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | $ 60,000 | | | | $ 360,000 |
| 21 | SCADA System - WWTP - long-term improvements | 2 | | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 225,000 |
| 22 | Effluent P.S. bypass piping | 1 | | | $ 20,000 | | | | | | | | $ 20,000 |
| 23 | Miscl WWTP lab upgrades & investment in electronic self-monitoring reporting | 1 | | $ 10,000 | $ 10,000 | $ 3,000 | $ 3,000 | $ 3,000 | $ 3,000 | $ 3,000 | $ 3,000 | $ 3,000 | $ 41,000 |
| | ***Collection System Projects*** | | | | | | | | | | | | |
| 24 | SCADA System - Collections System - long-term improvements | 2 | | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 225,000 |
| 25 | Collection System smoke testing | 2 | | $ 50,000 | | | | | | | | | $ 50,000 |
| 26 | Annual manhole inspections and report on needed corrections (approx. 20% of system/yr) | 2 | | $ 40,000 | $ 40,000 | $ 40,000 | $ 40,000 | $ 40,000 | | | | | $ 200,000 |
| 27 | Collection System Phased televising & cleaning | 2 | | $ 100,000 | $ 100,000 | $ 100,000 | $ 100,000 | $ 100,000 | | | | | $ 500,000 |
| 28 | Collection System Assessment software (E.g. t4 Spatial or other) | 2 | | $ 10,000 | | | | | | | | | $ 10,000 |
| 29 | Collection System Assessment/engineering for repairs | 2 | | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 | $ 30,000 | | | | | $ 150,000 |
| 30 | Collection System Repairs to reduce I/I & damaged pipe sections | 2 | | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 50,000 | $ 450,000 |
| 31 | Manhole raising due to street overlays & roadway work | 1 | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 90,000 |
| 32 | Lift Station A (Nottingham & Leighton/Park Hill) new control panel at grade el. | 1 | | $ 10,000 | $ 80,000 | | | | | | | | $ 90,000 |
| 33 | Lift Station A (Nottingham & Leighton/Park Hill) new submsersible pumps, MCC, bypass piping | 2 | | | | | $ 50,000 | $ 350,000 | | | | | $ 400,000 |
| 34 | Lift Station A-1 (Sherwood & Harvey/Marine Terrace) new control panel at grade el. | 1 | | $ 60,000 | | | | | | | | | $ 60,000 |
| 35 | Lift Station A-1 (Sherwood & Harvey/Marine Terrace) submersible pumps, MCC, bypass piping | 2 | | | | | $ 40,000 | $ 225,000 | | | | | $ 265,000 |
| 36 | Lift Sation 4 (DeVault Pl/Seaclift Estates) VFDs /new elect panel & 3 phase pump motors | 3 | | | $ 25,000 | $ 60,000 | | | | | | | $ 85,000 |
| 37 | Lift Sation B improvements (SR Creek/behind Park Hill) new control panel | 1 | | | $ 30,000 | | | | | | | | $ 30,000 |
| 38 | Lift Station B - new wet well, submersible pumps, and valve vault (placeholder) | 1 | | | | | | $ 300,000 | | | | | $ 300,000 |
| 39 | Lift Station B - replace existing generator | 2 | | | $ 60,000 | | | | | | | | $ 60,000 |
| 40 | Lift Station B-1 (Village Ln/Tin City) relocate away from Feb 2017 landslide area (potential 50% FEMA 406 fundi | 1 | | | $ 300,000 | | | | | | | | $ 300,000 |
| 41 | Lift Station B-2 (Wood Dr./E. Lodge Hill) new control panel at grade el. | 1 | | | $ 75,000 | | | | $ 35,000 | $ 315,000 | | | $ 425,000 |
| 42 | Lift Station B-3 (Green St./W. Lodge Hill) new control panel followed by future submserible pumps, MCC, bypas | 2 | | | $ 90,000 | | | $ 160,000 | | | | | $ 250,000 |
| 43 | Lift Station B-4 (Green & Gleason/W. Lodge Hill) new submserible pumps, bypass piping | 2 | | | | | $ 20,000 | $ 240,000 | | | | | $ 260,000 |
| 44 | Lift station 9 - replace corroded main incoming power breaker | 1 | | $ 8,000 | | | | | | | | | $ 8,000 |
| 45 | Replacement and New PCs for operators | 2 | | $ 10,000 | | | | | $ 10,000 | | | | $ 20,000 |
| 46 | Annual maintenance and upgrading to GIS | 3 | | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 10,000 | $ 95,000 |
| | ***Vehicles and Trailer- Mounted Equipment*** | | | | | | | | | | | | |
| 47 | Vactor truck - replace with new $450K truck that meets emssion requirements (10 yr loan @ 4.5%) | 2 | | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 56,000 | $ 504,000 |
| 48 | Vehicle Replacement Program | 3 | | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 25,000 | $ 250,000 |
| 49 | Portable equipment replacement program (backhos, generators and pumps) | 4 | | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 15,000 | $ 150,000 |
| | ***Overhead CIP Projects*** | | | | | | | | | | | | |
| 50 | Finance/billing software upgrade (wastewater est'd @ 50%) | 3 | | $ 25,000 | $ 50,000 | | | | | | | | $ 75,000 |
| 51 | Contingency/reserves (amount remains TBD) | 4 | | | | | | | | | | | $ - |
| | | | $ 195,000 | $ 864,000 | $ 1,981,000 | $ 969,000 | $ 809,000 | $ 1,974,000 | $ 574,000 | $ 784,000 | $ 469,000 | $ 219,000 | $8,883,000 |

# Projects that would require financing unless delayed until funds accrued

- Wastewater
  - Lift Station B-1 Replacement;  defer approximately 3 to 4 years
  - Lift Station B-3 : defer approximately 5 years
  - Aeration Blowers replacements & improved automation: defer approximately 5 years
  - Sludge Digester replacement; defer approximately 2 years
  - Main Motor Control Center – defer approximately 3 to 5  years

# Summary of SWF Projects

- SWF CIP
  - 2 projects to support the Regular CDP
  - 2 projects to support off hauling of RO concentrate (interim and long-term)
  - 3 AWTP projects
  - 4 long term projects to improve upon reliability
  - 2 projects to support closure of the surface water impoundment
- Some projects may be funded from existing Federal/Army Corps Prop 84 grant (e.g., solar array, future off-hauling station, plus others – all subject to ACE approval)
- For FY 18/19, SWF projects totaled 265,000.  Later years are subject to pending discussions with ACE.

# Sustainable Water Facility

| No. | Description | FY18/19 | FY18/19 | FY19/20 | FY20/21 | FY21/22 | FY22/23 | FY23/24 | FY24/25 | FY26/27 | FY27/28 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $ | $ | $ | $ | $ | | | | | | |
| | Annual Inflation (Percentage) | 3.0% | 3.0% | 3.0% | 3.0% | 3.0% | | | | | | |
| | Cumulative Inflation (Percentage) | 112.55% | 112.55% | 115.93% | 119.41% | 122.99% | | | | | | |
| | **SWF Projects** | | | | | | | | | | | |
| | ***Regular Coastal Development Permitting Support*** | | | | | | | | | | | |
| 1 | EIR consulting (follow up agency discussions to support the SWF's Regular CDP) | $ 10,000 | | $ 10,000 | | | | | | | | $ 20,000 |
| 2 | Section 7 ESA consulting, annual AMP report, & AMP update | $ 125,000 | | | | | | | | | | $ 125,000 |
| 3 | Legal assistance for CEQA support and any subsequent appeals (amounts each year remain to be determined and are not shown) | | | | | | | | | | | |
| | ***Off-Site RO Concentrate Disposal Mods*** | | | | | | | | | | | |
| 4 | Interim Mods at SWF for trailer fill station (portable pump, rented spill contrainment/loading pad, reuse rented Baker tanks | $ 50,000 | | | | | | | | | | $ 50,000 |
| 5 | Future permanent mods at SWF for trailer fill station [piping & spill contrainment/loading pad] (1,2) | | | $ 200,000 | | | | | | | | $ 200,000 |
| | ***Advanced Water Treatment Plant Improvements*** | | | | | | | | | | | |
| 6 | AWTP pull-barn style covers for outdoor equipment & control panels (1,2) | | | $ 50,000 | | | | | | | | $ 50,000 |
| 7 | Miscelaneous instrumentation - monitoring upgrades, added effluent flow meter | $ 10,000 | | | | | | | | | | $ 10,000 |
| 8 | Sems, Hach WIMS, or custom programmer for logging/reporting software and tablets (yr 1 is software/programming assistance) | $ 4,000 | $ 6,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 2,000 | $ 26,000 |
| 9 | Installation of remote sensing instrumentation at SS creek (needs access agreement with State Parks) | | | $ 10,000 | | | | | | | | $ 10,000 |
| | ***Long-Term Improvement Modifications*** | | | | | | | | | | | |
| 10 | Surface Water Treatment Plant (SWTP) for Holding Basin and Well SS-1 treatment | | | | | | $ 150,000 | $ 600,000 | $ 600,000 | | | $ 1,350,000 |
| 11 | Pipeline from Well SS-1 to surface water treatment plant (SWTP) | | | | | | | $ 75,000 | $ 350,000 | | | $ 425,000 |
| 12 | Impoundment basin conversion to groundwater storage, pump station at storage basin , and connecting pipelines | | | | | | | $ 75,000 | $ 350,000 | | | $ 425,000 |
| 13 | Solar Array System(1,2) | | | $ 375,000 | | | | | | | | $ 375,000 |
| | ***2017 Cease & Desist Order Compliance - Non-capitalized Expenses*** | | | | | | | | | | | |
| 14 | Short term flood damage/CDO response - consultants for surveying , project mngt assistance& inspection, surface water hydrology & geohydrologica | | | | | | | | | | | $ - |
| 15 | Short term flood damage mitigation - drainage swale construction | | | | | | | | | | | $ - |
| 16 | Short term flood damage mitigation - closure plan equipment, installation, rentals, and temp power & controls | $ 10,000 | | | | | | | | | | $ 10,000 |
| 17 | Hauling off the last 18-inches of impoundment water & emptied impoundment cleaning | $ 35,000 | | | | | | | | | | $ 35,000 |
| | | $ 244,000 | $ 6,000 | $ 647,000 | $ 2,000 | $ 2,000 | $ 152,000 | $ 752,000 | $ 1,302,000 | $ 2,000 | $ 2,000 | $ 3,111,000 |

# Questions?