

**Appendix D**  
**Capital Improvement**  
**Cost Estimates**

## Arbor Pump Station

### Capital Improvements Cost Estimate

| Deficiency   | Action Required   | Cost Estimate      |
|--|---|--------------------|
| Insufficient Pump Capacity, Operations and Maintenance Issues, Safety Issues | Demo Existing Station and Abandoned Dry Well  | \$54,000           |
|  | Construct New Station Structure (wet well, discharge, and trash rack structure)                               | \$367,000          |
|  | Install new pumps   | \$464,000          |
|  | Install New Pump Barrels, Piping, and Flap Gates. Install Backflow Preventer and Hose for Wash down           | \$111,000          |
|  | Install A.C Paving, Entire Site   | \$7,000            |
| Insufficient Outfall Capacity  | Install new 72-inch RCP outfall   | \$112,000          |
| Lacks Backup Power   | Install New Standby Generator and ATS   | \$155,000          |
| Labor intensive manual trash rack  | Install Automatic Trash Rack  | \$450,000          |
| Lacks Private Fence Around Entire Station                                    | Install New Site Fence  | \$20,000           |
| Electrical, Instrumentation, SCADA required for New Equipment                | Install new conduit, wiring, control panel, PLC, MCCs, site lighting (plus programming, testing and training) | \$363,000          |
| <b>Subtotal:</b>   |   | <b>\$2,103,000</b> |
| 30% Estimating Contingency:  |   | \$631,000          |
| 55% for Contingency, Admin., CM, and Engr:                                   |   | \$1,157,000        |
| <b>Total w/ Contingency:</b>   |   | <b>\$3,891,000</b> |

1. Cost estimate in April 2011 dollars.

## Central/Eastshore Pump Station

### Capital Improvements Cost Estimate

| Deficiency   | Action Required   | Cost Estimate      |
|--|---|--------------------|
| Insufficient Pump Capacity, Operations and Maintenance Issues, Safety Issues | Demo Existing Station and Abandoned Dry Well  | \$40,000           |
|  | Construct New Station Structure (wet well, discharge, and trash rack structure)                     | \$307,000          |
|  | Install new pumps   | \$180,000          |
|  | Install New Pump Barrels, Piping, and Flap Gates. Install Backflow Preventer and Hose for Wash down | \$79,000           |
|  | Install A.C Paving, Entire Site   | \$6,000            |
| Insufficient Outfall Capacity  | Install new 36-inch RCP outfall   | \$52,000           |
| Lacks Backup Power   | Install New Standby Generator and ATS   | \$119,000          |
| Labor intensive manual trash rack  | Install Automatic Trash Rack  | \$450,000          |
| Lacks Fencing Around Station   | Install Site Fence  | \$15,000           |
| Electrical, Instrumentation, SCADA required for New Equipment                | Install New Wiring, Motor Controls, New Transformer, Misc. Electrical Testing and Training          | \$268,000          |
|  | <b>Subtotal:</b>  | <b>\$1,516,000</b> |
|  | 30% Estimating Contingency:   | \$455,000          |
|  | 55% for Contingency, Admin., CM, and Engr:  | \$834,000          |
|  | <b>Total w/ Contingency:</b>  | <b>\$2,805,000</b> |

1. Cost estimate in April 2011 dollars.

## Golf Course Pump Station

### Capital Improvements Cost Estimate - Level 2 Projects

| Deficiency   | Action Required  | Cost Estimate  |
|--|--|----------------|
| Safety concerns (slippery floor, loose wires, lack of fire extinguisher) | Install Anti-Slip Coating to Floor, New Conduit for Loose Wires, Provide Fire Extinguisher | \$3,000        |
| <b>Subtotal:</b>   |  | <b>\$3,000</b> |
| 30% Estimating Contingency:  |  | \$1,000        |
| 55% for Contingency, Admin., CM, and Engr:                               |  | \$2,000        |
| <b>Total w/ Contingency:</b>   |  | <b>\$6,000</b> |

### Capital Improvements Cost Estimate - Level 3 Projects

| Deficiency   | Action Required                                    | Cost Estimate    |
|--|--|------------------|
| Existing Coating on Piping is Chalked and Cracking | Recoat Piping                                      | \$2,000          |
| Existing Check Valve is leaking                    | Repair Existing Check Valve                        | \$2,000          |
| Lacking Backup Power Supply                        | Install New Standby Generator and ATS              | \$75,000         |
| Muddy site that cannot be driven on                | Install Paved Driveway, Encase Existing Water Line | \$15,000         |
| Lacking Station wash down facilities               | Install Backflow Preventer and Hose                | \$4,000          |
| Lacking Fence Around Control Panel                 | Provide chain link fence with slats.               | \$6,000          |
| Lacking Site Lighting                              | Install Site Lighting                              | \$3,000          |
| <b>Subtotal:</b>                                   |  | <b>\$107,000</b> |
| 30% Estimating Contingency:                        |  | \$32,000         |
| 55% for Contingency, Admin., CM, and Engr:         |  | \$59,000         |
| <b>Total w/ Contingency:</b>                       |  | <b>\$198,000</b> |

1. Cost estimate in April 2011 dollars.

# Harbor Bay System I Pump Station

## Capital Improvements Cost Estimate

| Deficiency                                    | Action Required   | Cost Estimate   |
|---|---|-----------------|
| Minor Cracks in Structure, Fence Post Spalled | Inject Grout Into Cracks, Patch Concrete Fence Post                 | \$3,000         |
| Lacks Station Wash Down Facilities            | Provide Backflow Preventer and Hose bib                             | \$4,000         |
| Lacks Intrusion Alarm and Fire Extinguisher   | Install Intrusion Alarm on Control Panel, Provide Fire Extinguisher | \$2,000         |
|   | <b>Subtotal:</b>  | <b>\$9,000</b>  |
|   | 30% Estimating Contingency  | \$3,000         |
|   | 55% for Contingency, Admin., CM, and Engr:                          | \$5,000         |
|   | <b>Total w/ Contingency:</b>  | <b>\$17,000</b> |

1. Cost estimate in April 2011 dollars.

## Harbor Bay System II Pump Station

### Capital Improvements Cost Estimate

| Deficiency  | Action Required   | Cost Estimate    |
|---|---|------------------|
| Insufficient Pump Capacity  | Replace Pump  | \$53,000         |
| Lacks Backup Power  | Install New Standby generator and ATS                                     | \$45,000         |
| Existing Steel Plates on Valve Vault and Hatch on Discharge Structure are Heavy and Difficult to Open | Install Aluminum Hatches  | \$7,000          |
| Lacks Wash Down Facilities  | Install Backflow Preventer and Hose                                       | \$4,000          |
| Lacks Site Lighting   | Install Site Lighting   | \$3,000          |
| Misc. Electrical Work Required For New Pumps and Generator  | Install New Wiring, Motor Controls, Misc. Electrical Testing and Training | \$25,000         |
| Lacks Alarm on Control Panel  | Install Alarm on Control Panel  | \$2,000          |
|   | <b>Subtotal:</b>  | <b>\$139,000</b> |
|   | 30% Estimating Contingency:   | \$42,000         |
|   | 55% for Contingency, Admin., CM, and Engr:                                | \$76,000         |
|   | <b>Total w/ Contingency:</b>  | <b>\$257,000</b> |

1. Cost estimate in April 2011 dollars.

## Main Street Pump Station

### Capital Improvements Cost Estimate - Level 2 Projects

| Deficiency  | Action Required                                 | Cost Estimate   |
|---|---|-----------------|
| No Ventilation in Wetwell   | Install Ventilation in Wetwell                  | \$2,500         |
| Pump Controller Different from Standard Being Used by City. Existing Bubbler Level Controls Outdated. | Install New Pump Controller and Level Controls. | \$15,000        |
| No Ladder to Access Pump Side of Structure  | Install Ladder                                  | \$2,000         |
| Handrailing Required to Meet OSHA Requirements  | Install Handrailing Around Structure            | \$25,000        |
| No Fire Extinguisher  | Install Fire Extinguisher                       | \$250           |
| Install Anchors for Control Panel   | Provide Anchors for Control Panel               | \$500           |
|   | <b>Subtotal:</b>                                | <b>\$45,000</b> |
|   | 30% Estimating Contingency:                     | \$14,000        |
|   | 55% for Contingency, Admin., CM, and Engr:      | \$25,000        |
|   | <b>Total w/ Contingency:</b>                    | <b>\$84,000</b> |

### Capital Improvements Cost Estimate - Level 3 Projects

| Deficiency  | Action Required   | Cost Estimate    |
|---|---|------------------|
| Lacks Backup Power                                  | Install New Standby generator and ATS                   | \$70,000         |
| Existing Plates above Pumps are Difficult to Remove | Install New Aluminum Hatches                            | \$11,000         |
| Lacks Wash Down Facilities and Fire Extinguisher    | Install Backflow Preventer, Hose, and Fire Extinguisher | \$3,750          |
|   | <b>Subtotal:</b>  | <b>\$85,000</b>  |
|   | 30% Estimating Contingency:                             | \$26,000         |
|   | 55% for Contingency, Admin., CM, and Engr:              | \$47,000         |
|   | <b>Total w/ Contingency:</b>                            | <b>\$158,000</b> |

1. Cost estimate in April 2011 dollars.

## Northside Pump Station

### Capital Improvements Cost Estimate

| <b>Schaaf and Wheeler Designed Improvements</b>  | <b>Cost</b>      |
|--|------------------|
| Schaaf and Wheeler Designed Improvements, under construction (Cost from Schaaf and Wheeler): | <b>\$900,000</b> |

| <b>Additional Improvements</b>                         |   |                      |
|--|---|----------------------|
| <b>Deficiency</b>                                      | <b>Action Required</b>                                | <b>Cost Estimate</b> |
| Insufficient Pump Capacity                             | Install new pumps                                     | \$320,000            |
| Checker Plate with Lifting Eyes Presenting Trip Hazard | Replace with Checker Plate with Recessed Lifting Eyes | \$25,000             |
| <b>Subtotal:</b>                                       |   | <b>\$345,000</b>     |
| 15% Estimating Contingency:                            |   | \$52,000             |
| 55% for Contingency, Admin., CM, and Engr:             |   | \$190,000            |
| <b>Additional Improvements w/ Contingency:</b>         |   | <b>\$587,000</b>     |

|   |                    |
|---|--------------------|
| <b>Total Cost (Including Schaaf and Wheeler Improvements)</b> | <b>\$1,487,000</b> |
|---|--------------------|

1. Cost estimate in April 2011 dollars.

## Third Street Pump Station

### Capital Improvements Cost Estimate - Level 2 Projects

| Deficiency                                       | Action Required  | Cost Estimate   |
|--|--|-----------------|
| Lacks Backup Power                               | Install New Standby Generator and ATS  | \$13,000        |
| Hatch Access Does Not Meet OSHA Requirements     | Replace Hatch With Larger Hatch  | \$3,000         |
| Unsafe Confined Space Entry in Wet Well          | Install Sleeve for Removable Davit Arm. Provide Davit Arm For Fall Protection and Operator Removal | \$8,000         |
| Electrical Control Panel not Anchored Properly   | Anchor Electrical Control Panel to Concrete Base   | \$1,000         |
| Wet Well Piping is Corroded                      | Perform Pipe Corrosion Assessment. Recoat piping (replace if necessary)                            | \$3,000         |
| Existing Flap Gate Stuck Open                    | Replace Flap Gate  | \$4,500         |
| Lacks Wash down Facilities and Fire Extinguisher | Install Backflow Preventer and Hose bid, and Fire Extinguisher                                     | \$4,000         |
| Existing Fence is Falling Apart                  | Replace Fencing, Increasing Fenced Area to Include New Generator                                   | \$10,000        |
|  | <b>Subtotal:</b>   | <b>\$46,500</b> |
|  | 30% Estimating Contingency:  | \$14,000        |
|  | 55% for Contingency, Admin., CM, and Engr:   | \$26,000        |
|  | <b>Total w/ Contingency:</b>   | <b>\$86,500</b> |

1. Cost estimate in April 2011 dollars.

**Webster Street Pump Station**  
 Capital Improvements Cost Estimate

| Deficiency                                       | Action Required   | Cost Estimate      |
|--|---|--------------------|
| Operations and Maintenance Issues, Safety Issues | Demo Existing Station and Abandoned Dry Well                                    | \$40,000           |
|  | Construct New Station Structure (wet well, discharge, and trash rack structure) | \$239,000          |
|  | Install New Pump Barrels, Piping, and Flap Gates (Reuse existing pumps)         | \$69,000           |
|  | Install A.C Paving  | \$3,000            |
| Lacks Backup Power                               | Install New Standby Generator and ATS   | \$45,000           |
| Lacks Fencing Around Station                     | Install New Site Fence  | \$15,000           |
| Electrical & Instrumentation                     | Install new conduit, wiring, ATS, control panel, site lighting                  | \$153,000          |
| <b>Subtotal:</b>                                 |   | <b>\$564,000</b>   |
| 30% Estimating Contingency:                      |   | \$169,000          |
| 55% for Contingency, Admin., CM, and Engr:       |   | \$310,000          |
| <b>Total w/ Contingency:</b>                     |   | <b>\$1,043,000</b> |

1. Cost estimate in April 2011 dollars.